

Shippensburg

UNIVERSITY

2005-2007 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



2005-2006 ACADEMIC CALENDAR

Fall Semester 2005

New faculty orientation	Tuesday	August 23
Faculty meetings	Wednesday	August 24
New students arrive	Thursday	August 25
Academic orientation day	Friday	August 26
New student orientation	Saturday - Sunday	August 27 - 28
Regular class schedule begins	Monday	August 29
Labor Day, university closed	Monday	September 5
Fall break begins, 4 P.M.	Friday	October 7
Classes resume, 8 A.M.	Wednesday	October 12
Thanksgiving break begins, 8 A.M.	Wednesday	November 23
Classes resume, 8 A.M.	Monday	November 28
Last day of classes	Friday	December 9
Final exams	Monday - Friday	December 12 - 16
Commencement	Saturday	December 17

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

Spring Semester 2006

New students arrive	Saturday	January 14
New student orientation	Saturday - Sunday	January 14 - 15
MLK Day, no classes held	Monday	January 16
Regular class schedule begins	Tuesday	January 17
Spring break begins, 8 A.M.	Thursday	March 9
Classes resume, 8 A.M.	Monday	March 20
Mini break begins, 4 P.M.	Friday	April 14
Classes resume, 8 A.M. (Follow <u>Monday</u> class schedule)	Wednesday	April 19
Last day of classes	Friday	May 5
Final exams	Monday - Friday	May 8 - 12
Commencement	Saturday	May 13

Summer 2006 – Term 3

Session opens	Monday	May 22
Memorial Day—university closed	Monday	May 29
Special make-up for Memorial Day	Saturday	June 3
Session ends	Friday	June 4

Summer 2006 – Term 4

Session opens	Monday	June 12
Special make-up for Independence Day	Friday	June 30
Independence Day—university closed	Tuesday	July 4
Session ends	Thursday	July 13

Summer 2006 – Term 5

Session opens	Monday	July 17
Session ends	Thursday	August 17

Tentative 2006-2007 ACADEMIC CALENDAR

Fall Semester 2006

New faculty orientation	Tuesday	August 22
Faculty meetings	Wednesday	August 23
New students arrive	Thursday	August 24
Academic orientation day	Friday	August 25
New student orientation	Saturday - Sunday	August 26 - 27
Regular class schedule begins	Monday	August 28
Labor Day, university closed	Monday	September 4
Fall break begins, 4 P.M.	Friday	October 6
Classes resume, 8 A.M.	Wednesday	October 11
Thanksgiving break begins, 8 A.M.	Wednesday	November 22
Classes resume, 8 A.M.	Monday	November 27
Last day of classes	Friday	December 8
Final exams	Monday - Friday	December 11 - 15
Commencement	Saturday	December 16

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

Spring Semester 2007

New students arrive	Saturday	January 13
New student orientation	Saturday - Sunday	January 13 - 14
MLK Day, no classes held	Monday	January 15
Regular class schedule begins	Tuesday	January 16
Spring break begins, 8 A.M.	Thursday	March 8
Classes resume, 8 A.M.	Monday	March 19
Mini break begins, 4 P.M.	Friday	April 6
Classes resume, 8 A.M. (Follow <u>Monday</u> class schedule)	Wednesday	April 11
Last day of classes	Friday	May 4
Final exams	Monday - Friday	May 7 - 11
Commencement	Saturday	May 12

* One Monday class will be made up at the discretion of the faculty.

Summer 2007 – Term 3

Session opens	Monday	May 21
Memorial Day—university closed	Monday	May 28
Special make-up for Memorial Day	Saturday	June 2
Session ends	Friday	June 8

Summer 2007 – Term 4

Session opens	Monday	June 11
Special make-up for Independence Day	Friday	June 29
Independence Day—university closed	Wednesday	July 4
Session ends	Thursday	July 12

Summer 2007 – Term 5

Session opens	Monday	July 16
Session ends	Thursday	August 16

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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 14 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 Association of Colleges and (Secondary) Schools.

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 Association of Colleges and Schools; the AACSB International; the American Chemical Society; the Council on Social Work Education; the Council for the Accreditation of Counseling and Related Educational Programs; the International Association of Counseling Services; the Council for Exceptional Children, the National Council for Accreditation of Coaching Education 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 a vast array of cultural and recreational sites.

Travel Times

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

Harrisburg	1 hour
Frederick	1 hour
Baltimore	2 hours
Washington, D.C.	2 hours
Philadelphia	3 hours
Pittsburgh	4 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 45 different 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 1996 to 1998.

Program*	No.	Avg. Years
<i>College of Arts & Sciences</i>		
Art	38	4.50
Biology	75	4.21
Chemistry	21	4.49
Communication/Journalism	174	4.27
Computer Science	71	4.23
English	99	4.48
Geography/Earth Science	119	4.40
History	75	4.38
Interdisciplinary	3	4.33
Mathematics	42	4.29
Modern Languages	31	4.33
Physics	4	4.85
Political Science	40	4.70
Psychology	134	4.30
Sociology	57	4.43
Speech Communications	72	4.49
<i>John L. Grove College of Business</i>		
Accounting	150	4.38
Economics	13	4.53
Finance, Information Management & Analysis, Information Technology for Business Education and Management Information Systems	176	4.29
Management/Marketing	299	4.29
<i>College of Education and Human Services</i>		
Criminal Justice	169	4.27
Social Work	87	4.40
Teacher Education	338	4.43
University Total	2287	4.36

* Four-year programs only

Statements of Compliance

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

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 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.

People with Disabilities

Shippensburg University in compliance with Section 504 of the *Rehabilitation Act of 1973* and the *Americans with Disabilities Act of 1990*, makes every effort to ensure that reasonable accommodations are made to meet the needs of individuals with disabilities.

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.

Veteran's Benefits

Shippensburg University complies with the requirements of Title 38, U.S. Code, Veteran's Benefits.

Nonimmigrant Alien Students

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

Educational Diversity

As part of a public system of higher education, Shippensburg University is responsible for educating students to face the challenges of our ever-changing global society. Shippensburg University aims to create a campus culture that offers opportunities for increasing knowledge, awareness and understanding of diversity and inclusiveness and promotes a climate 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 that 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 2005/2006 and 2006/2007 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.



Admissions 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 which 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 test 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 for admission to Shippensburg University should write, call 717-477-1231 or toll free 1-800-822-8028 or e-mail (admis@ship.edu) the Office of Admissions and request application forms. Follow directions carefully. Applicants may also visit our website at www.ship.edu for more information and to apply on-line.

2. Complete and submit application forms, together with a nonrefundable fee of \$30, early in the senior year. Freshman candidates are urged to initiate the application process as soon as possible for the fall semester. Candidates for spring semester are encouraged to submit applications by November 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 on-line applications. The time required for processing an application can be reduced if the application and transcript are mailed together, directly from the secondary school. 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. SAT II: Subject Tests are not required for admission. However, if submitted, these scores will be used to assist in course placement.

6. 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.

7. Applications will be considered by the Office of Admissions on a rolling basis. The applicant will be notified after the application is complete.

8. When approved for admission to the university, each student will be required to make a nonrefundable confirmation deposit. Those students admitted to the residence halls will make an additional nonrefundable 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: *April 1* or, if admitted after March 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.

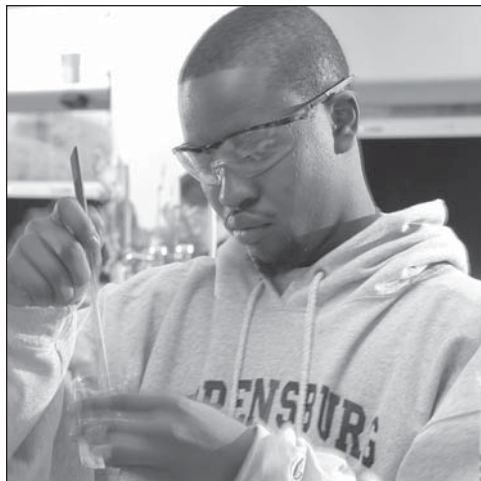
9. A personal interview is not required for admission but in some situations is advisable. Please call in advance to arrange an appointment.

10. 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.

11. 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.

12. 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.

13. 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. Complete and submit the application forms together with a nonrefundable fee of \$30 (payable to Shippensburg University). Applicants may also apply on-line at our website at www.ship.edu. Recommended time for submission of all application materials is early in the semester preceding the semester you hope to enroll.
2. Request high school records, SAT I (or ACT) test scores and all college transcripts to be sent to the Shippensburg University Office of Admissions. School transcripts must be sent directly from the school and/or college offices to the Shippensburg University Office of Admissions.

The Shippensburg University 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 30 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.

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 grade 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 college you will be entering will evaluate your transcript to determine the amount of transferable credits. In most cases, this official evaluation of your transcript will be mailed to you along with your letter of admission.

5. When admitted to the university, each student will be required to make a nonrefundable confirmation deposit. Those students admitted to the residence halls will make an additional nonrefundable 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: *April 1* or, if admitted after March 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 45 semester hours at Shippensburg.
- 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 page 23 for **important** additional information.

Transfer from Accredited Colleges

A minimum program of at least 45 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 at Shippensburg and has attained a cumulative quality point average of at least 2.2. 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 grade point average for consideration. Please consult with the Office of Admissions for details. Non-transferable courses are not used in calculating cumulative grade 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 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 a transfer program designed to promote and facilitate the transfer of students and to support the transfer of undergraduate courses earned by students at other universities. This encourages a seamless transfer for students into Shippensburg University.

You are eligible for the Passport if you are 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 are an incumbent student of a State System university with 12 credits or more of college-level work.

1. Students transferring with an Associate Degree

- a. All students must have a cumulative grade point average 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. Intra-System Transfer

- a. System university students who have attained a GPA 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 System 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 university general education requirements.

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 GPA of 2.2 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.

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

Dual Admission Programs

Shippensburg University maintains Dual Admission programs with the following community colleges: Harrisburg Area Community College, Hagerstown Community College, Frederick Community College, Carroll Community College 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. 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 your transcript will be mailed to you along with your 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.

If you feel the original evaluation of your transfer credit is not correct, you may request another review. Shippensburg University will work with transfer students to ensure credit is awarded in the most appropriate way possible.

For Degree Completion Program Applicants

Please be advised that the degree completion program leading to a Bachelor of Science in Health Care Administration is only offered in Harrisburg and Gettysburg.

Admission Requirements

1. Associate's degree or a minimum of 60 transferable college credits authenticated by official transcripts.*
2. Current resume 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 write, call 717-477-1231 or 1-800-822-8028, or e-mail (admiss@ship.edu) the Office of Admissions and request an application form. Applicants may also visit our website at www.ship.edu/DCP for more information and to download a PDF file.

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 Health Care Administration.
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 \$30 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 on-line at www.ship.edu or by contacting the Office of Admissions.



For Homeschooled Students

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 is 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

Shippensburg University has an Honors Program which accepts students for each entering class from those who formally apply. Entering university students should have a minimum 1200 SAT I score (ACT 25), be in the upper fifth of their high school class and have participated in a variety of extracurricular activities. If an entering freshman is not admitted to the program because of the limited space, but obtains a QPA of 3.25 the first semester, the student is encouraged to apply for acceptance. The Director of Honors interviews interested, currently enrolled students to determine if they meet the criteria for admissions and are able to complete 24 credits in General Education Honors courses.

Interested high school seniors, transfer students and undergraduates enrolled at Shippensburg University may obtain an application form on-line at www.ship.edu/~honors or call the Honors Program, Shippensburg University, 1871 Old Main Drive, Shippensburg, PA 17257-2299, 717-477-1604.

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 official and the university, are clearly out-

standing 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.

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

1. Rank in the upper 10 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 and at least two laboratory sciences, including biology, two social sciences and two years of the same foreign language.
4. A letter of recommendation from the high school guidance counselor or principal.
5. A letter from the candidate's parents supporting the application for early admission.
6. A personal interview with a member of the admissions staff.
7. The high school must agree to issuing a high school diploma to the student upon successfully completing the freshman year as a student at Shippensburg.

The Dean of Admissions may use early admission as a desirable option for those mature and 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 10th 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 which apply to regular freshmen.

Please write or call the Office of Admissions for information pertaining to application materials and procedures.

Summer Bridge/Academic Success Program (Act 101)

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 Summer Bridge/Academic Success Program (Act 101). Students who are offered this option enroll in two courses during the summer and are required to participate in Summer Bridge programming as assigned. This program is free to those students who meet ACT 101 (Pennsylvania's Higher Education Equal Opportunity Program) income guidelines. All students are required to pay for their textbooks.

Details are located under the School of Academic Programs and Services in this catalog on page 68 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 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 Registrar's Office 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.

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 one semester for the purpose of earning credit which is to be used for graduation at another institution. Please refer to Visiting Student Program in Academic Policies and Procedures for PASSHE participants. These students should contact the Office of the Registrar at Shippensburg University concerning application procedures.

International Students

Students from outside the United States who do not hold immigrant visas or permanent resident/resident alien status must complete a Shippensburg University international application for admission. You may complete an application on-line at www.ship.edu/admiss or by requesting an application from the Office of Admissions. For evaluation purposes, an official copy of the complete academic record (courses and grades) from the secondary school (and post-second-

ary school, if applicable) must be sent from your school directly to either:

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. A Document-by-Diploma (DxD) report is required of those applying to any of our programs. These documents include the complete record/transcript indicating receipt of the secondary school diploma or certificate. **In addition to the DxD report**, a Course-by-Course (CxC) report is required of any applicant who wishes to **transfer** credits (from post-secondary/undergraduate institution) into our degree programs. Finally, you, the applicant, to the Office of Admissions, must also submit unofficial copies of these same documents. This includes a record of courses taken and grades received, graduation date(s) and diploma or certificate. These copies must be in the original language.

Applicants must also supply official results (sent directly from Educational Testing Services, ETS) of the TOEFL examination. (Students whose native language is English must submit SAT scores instead of the TOEFL). Immigration regulations also require a Financial Support Statement and documentation to demonstrate the capacity to meet educational and related expenses. Once these documents have been processed and approved, the admissions office will notify the student of their status.

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 International Student Advisor, Student Life Center, McLean Hall, bringing with them their passport, I-94, I-20 and visa.

Further questions regarding international students at Shippensburg University should be addressed to the International Student Services Office, Student Life Center, McLean Hall, Shippensburg University, 1871 Old Main Drive, Shippensburg, PA 17257-2299 USA, 717-477-1279.

Commonwealth Tuition Waiver (John F. Kennedy) Scholarships

The Commonwealth of Pennsylvania grants a limited number of tuition waiver scholarships at each of the 14 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 quality point average and participation in the Shippensburg International Student Organization. If a student is seeking fall admission, application for the waiver should be made by March of the same year. If a student is seeking spring admission, application for the waiver should be made by October of the previous year. Applications for the scholarship can be obtained by contacting the International Student Services Office, Shippensburg University, 1871 Old Main Drive, Shippensburg, PA 17257-2299.

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 GPA 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 masters 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 the section "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, because of admissions standards will be permitted to choose another major. Those choosing to enter the university as an undeclared student must meet all departmental requirements and prerequisites for the major which 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 studies. 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 of the catalog explains the general academic policies. The next 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 2005/2006 and 2006/2007 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 (7) 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. Each student 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 current as well as future students at this institution.

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 that 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 and home directory on the Student Information System located at *info.ship.edu*. In particular, all students are expected to ensure that 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 that 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 that the e-mail is forwarded and working properly. They must also ensure that their e-mail account has adequate space available to accept new messages.

General Directions

Registered students are assigned an e-mail account on a server known as the "ARK." Prior to taking their first classes, all students will receive an identification card with a library number printed on it. Once they receive the library number, students can log into the Student Information System at the *http://info.ship.edu* website to activate an initial password. The second step is to select "Computer Services" and "Get E-mail Userid" to obtain an ARK userid and password. After activating an account, the ARK e-mail service is available from any web browser pointed to *http://webmail.ship.edu*. All campus e-mail may be forwarded to another e-mail address. To do this, login to the Student Information System and choose "Registrar" and "Change E-mail".

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 which you have repeated will have an impact on the way your QPA is calculated. See the section on *Repeated Courses* for details.

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

Course	Credits	Grade	Qty. Pts. Earned
1st subject	3	B-	$3 \times 2.7 = 8.1$
2nd subject	3	A	$3 \times 4.0 = 12.0$
3rd subject	3	F	$3 \times 0.0 = 0.0$
4th subject	4	B	$4 \times 3.0 = 12.0$
5th subject	3	B	$3 \times 3.0 = 9.0$
<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 3 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 end 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 which 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 semester. No changes may be made after the deadline. Only full-time students are eligible.

- * The maximum number of credits you may schedule under the satisfactory-unsatisfactory option while attending Shippensburg University will not exceed 10.
- * 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 grade 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.



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 which you earn at another institution which 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 section *Withdrawal from a Class*.

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 freshman year, you will receive early warning reports. These reports, which do not become part of your academic record, are intended to warn you about classes which you are in danger of failing. The early warning reports are mailed to you at your local and your permanent addresses. Certain groups of students will continue to receive these reports after their freshman year.

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 3.30 or better. Only the course work completed in the current term is considered in computing this score. It does not include the grade made in student teaching. 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 3.30 or better in the last 15 or more consecutive credits of part-time work. These credits must have been earned since your last inclusion on the dean's list. You must apply to your academic dean to have part-time dean's list honors recorded on your academic record.

Grade Appeals Procedure

I. Introduction

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

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

II. Basis for Appealing a Final Course Grade

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

- A. The course instructor miscalculated the final course grade.
- B. The course instructor committed an oversight in calculating the final course grade.
- C. The course instructor acted in a discriminatory, arbitrary, and/or capricious manner in assigning grades to the student, including the final course grade.

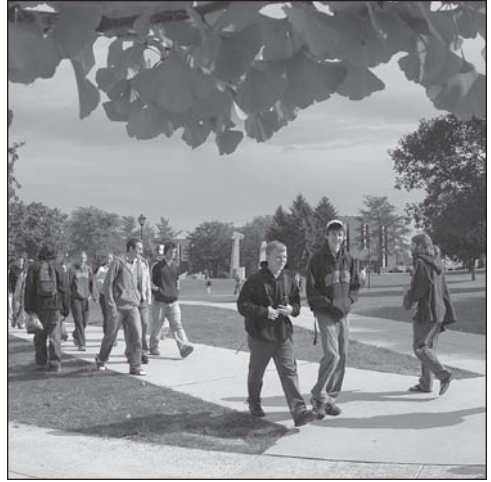
For an instructor to act in an arbitrary and/or capricious manner in assigning grades is defined as follows:

1. The instructor assigned a course grade to a student on some basis other than performance in the course;
2. 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; or
3. The instructor assigned a course grade to a student in a manner that represented a substantial, unreasonable and unannounced departure from the instructor's previously articulated standards.

III. Selection and Composition of the Academic Appeals Committee

1. 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 that 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.

2. Selection of Academic Appeals Committee Members — Within the first week of the Fall semester, each academic department shall elect at least three faculty members and one faculty member alternate to serve on the Academic Appeals Committee for the academic year and designate three undergraduate students and one undergraduate alternate enrolled in the academic department to serve on the Academic Appeals Committee. Each academic department shall develop a standard process for selecting student members for the Academic Appeals Committee. By the end of the first full week of the Fall semester, the names of the faculty and student members of the Academic Appeals Committee and alternates selected for each academic year shall then be forwarded to the dean's office of the college within which the department is located within by the end of the first full week of the Fall semester. In the event that a department lacks sufficient faculty to staff the Academic Appeals Committee and provide a faculty alternate



member it shall notify the Dean of the College in which the Department is located. The Dean's office shall provide assistance in identifying a suitable pool of faculty from the College to staff the Academic Appeals Committee and provide an alternate member for the Committee if the need should arise.

IV. Timetable and Procedures for the Grade Appeal Process

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

A student may initiate a grade appeal 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 that 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 that 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 shall determine that 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 following 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 that 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.

** **Note:** 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 Section II. Basis for Appealing a Final Course Grade, must file a written appeal with the Chairperson of the academic department home to the course whose grade they are seeking to appeal no later than thirty (30) calendar days 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.

*** **Note:** 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 Departmental Chairperson — Within seven (7) calendar days of receiving a completed grade appeal form, the Departmental 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 departmental 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 in Paragraph IV.



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.

V. Request for Reconsideration

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

- A. A demonstration of substantial procedural irregularities or inequities in the conduct of the hearing.
- B. 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.
- C. The student is able to demonstrate that the Academic Appeals Committee's decision was erroneous or unfair.

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

VI. Reconsideration of the Academic Appeals Committee Determination

Within seven (7) calendar days of the request for reconsideration, the 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 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 Office of the Registrar reviews the academic progress of students at the end of each semester and places those students who fail to

maintain a cumulative quality point average 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 grade 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, he/she is ineligible for readmission to the university.

Notice and Appeal

If you are placed in one of these categories (probation or dismissal), you will be notified in writing 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 2.00 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 which 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. Readmission may be denied or deferred if university enrollment is full or if you are applying for a program which 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. Students who have been dismissed twice for academic reasons are ineligible for readmission to the university.

Readmission is never guaranteed following academic dismissal. It may be granted only if you present compelling evidence of some fundamental change which 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 which 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 Bankruptcy

Former Shippensburg University students may request consideration for academic bankruptcy by appealing to the Academic Review Committee. 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 bankruptcy, 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 the administration. Specific requirements relating to general education and individual majors may be found in the next 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.
- * 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 45 credit hours of work at Shippensburg, including 30 credit hours among the last 60 credit hours earned. 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.

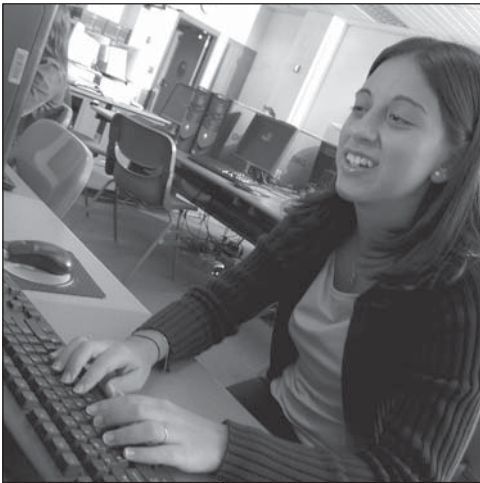
Commencement ceremonies are generally held on the Saturday at the end of final examination week. A graduate of the university is expected to participate in the commencement ceremonies at the end of the semester in which they complete all requirements for graduation. Students who meet those requirements in August have the option to participate in either the preceding spring commencement ceremony or the following winter commencement ceremony. Students who, at the completion of either the fall or spring semester, are within six credits of completing their degree requirements may apply to participate in the preceding semester’s com-



mencement ceremony. Applications to participate in a ceremony prior to completion of all requirements are to be made to the dean of the student's college with final action by the Provost's Office. Approval will be granted only when warranted by unusual or exceptional circumstances, such as a student who will be studying abroad and unable to attend the appropriate ceremony.

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 will be eligible for graduation honors. Transfer students with 45-60 semester hours at Shippensburg may petition the appropriate academic dean for graduation honors if their transferred grades from other institutions were similar to those received at Shippensburg. Students with fewer than 45 credits from Shippensburg University may not receive graduation honors.

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 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.

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/~aps.

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

The Raider Plan is a voluntary agreement or contract with the university that helps and encourages students to graduate within four years of their initial enrollment. Students 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. This generally entails continuous full-time enrollment during regular semesters and the maintenance of minimum university academic and co-curricular requirements. The university agrees to provide knowledgeable and available academic advice throughout the four years and to offer the courses or satisfactory alternatives that allow students to graduate within that time frame.

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 that have special requirements that may not be achievable in four years. All entering first-year students are eligible for the Raider Plan. Specific details are available in all academic departments and deans' offices and on the university website. 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.

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 requests for and processing of changes in and declarations of majors and minors must take place between the beginning of each regular semester until two weeks before the start of scheduling for the next semester (typically about a five to

six 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.

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.

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, biology, coaching, communication/journalism, computer science, chemistry, early childhood education, economics, English, ethnic studies, French, geography-earth science, German, gerontology, history, international studies, mathematics, music, philosophy, physics, political science, public administration, psychology, reading, sociology, Spanish, speech, theater and women's 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.

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.

Scheduling Classes

The normal semester hour work load varies between 15 and 18 credit hours. Students with less than 12 credit hours are classified as part-time. To take more than 18 credit hours in a semester, you must have approval of your aca-

demically and you must pay an additional per credit fee (see section on fees). Freshmen may not take more than 16 credit hours during their first semester.

Current students may schedule classes at the university during the scheduling period held each semester for the next semester or during official schedule adjustment periods. New students (freshmen and transfers) will have their first semester scheduled by the university. Copies of these schedules will be distributed at new student orientation held at the start of the semester.

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 which placed the hold before you will be allowed to schedule.

Even though you may be scheduled for classes, you are not officially registered at the university until you have met all financial obligations by returning your semester bill with full payment or by notifying the Student Accounts Office of any anticipated financial aid. If you do not return your bill by the stated deadline, your schedule of classes may be canceled.

Registration

Registration is the process wherein students make payment for scheduled classes. 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 rescheduling.

Students who have not registered 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 or to the academic department secretary. 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 are removed from that class you are still responsible for dropping the class during the schedule adjustment period.

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 which 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 and will be the longer of the following: the end of the first week of the semester or the day after all classes have had the opportunity to meet at least once.

You may withdraw from a class through the eighth week of the semester subject to the restrictions listed here. 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 drop or withdraw from the following courses: ENG050 Basic Writing; ENG101 College Writing; ENG110 Advanced Placement Writing; MAT060 Introductory Algebra; RDG050 Developmental Reading & Study Skills; SPE100 Basic Oral Communication; HIS105 World History I and HIS106 World History II.

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. 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

A course in which you receive a grade of C or higher may not be repeated. Courses in which you receive D or F grades may be repeated, but you may only avail yourself of the repeat option three times without the prior grade being included in the QPA calculation. Your cumulative QPA includes all grades earned except for the first three repeats of D or F grades, in which case



the higher grade counts. After the third time, any course you repeat will involve the calculation of the previous grade with your QPA. Three repeats may include repeating three courses one time each, repeating a single course three times or any combination which adds up to three.

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.

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.

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 \$25 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, Cumbelaires, 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 www.ship.edu/admin/registrar/forms.html. Include the following information:

- * full name and social security number—in-clude 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.

An unofficial transcript is sent to the student automatically following graduation. This transcript is sent after grades are verified and degrees posted. Unofficial transcripts are also sent after individual students have had a grade change made to their academic records.

Questions regarding this process should be directed to the Office of the Registrar, 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 which 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 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 Office of the Provost for the name of the THIS campus coordinator.

Honors Program in General Education

The Honors Program is designed for academically motivated students who thrive in an atmosphere of creative learning and intellectual exploration. The program, which is open to all majors, offers courses within the general education curriculum. Honors courses differ from regular offerings by their small enrollment and an emphasis on student participation. First semester students generally enter the program through a group of two or three courses which might include World History I, Honors English and a social science course such as World Geography or Cultural Anthropology. Second semester students might take World History II, Basic Oral Communication and a humanities course in music or literature. At sophomore and junior levels there are course offerings such as Justice in America and Chemistry in the Modern World. Other Honors elective courses often develop around topics to encourage in-depth examination of a central theme or concept. The Honors Program offers experimental courses such as Exploring Innovation and Invention, which provides students the opportunity for independent application of their academic background.

Students are expected to maintain a minimum 3.25 overall QPA and 3.25 QPA in Honors courses. Graduation from the Honors Program requires 24 hours of Honors credits in general education.

Honors students also receive special advising and priority scheduling to ensure them access to appropriate courses and professors. To broaden professional experiences, many Honors students volunteer time to a variety of campus and community organizations. Some Honors students organize a Saturday school for middle school students. Honors students have the opportunity to meet in discussion groups with internationally known figures. The State System also offers a six credit honors summer program with a thematic focus. Shippensburg University provides two students with a full scholarship to participate in this special intensive program.

To assure student involvement in the direction of the program, two Honors students serve on a faculty steering committee. The students also choose representatives for a student steering committee which plans social events, supports discussions with distinguished speakers who visit the campus, coordinates the volunteer program and helps provide mentors for incoming students. *Honorable Intentions*, the program newsletter and regularly scheduled meetings keep participants informed and allow for discussion of issues that relate to the program.

Additional information and the application for the Honors Program can be obtained from the director of honors, Shippensburg University, telephone 717-477-1604.

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 on 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 approval of your department chair, your college dean and the dean of Graduate Studies. 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 admission to graduate study, although you will not be charged the 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.

Full-time undergraduate seniors taking graduate courses within the 12 to 18 semester credit hour range pay no additional fees; undergraduate seniors taking graduate courses beyond 18 semester credit hours pay the graduate course fee for each such course.

Undergraduate part-time seniors taking a mix of undergraduate and graduate courses pay at the undergraduate rate and the graduate rate respectively 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 graduate rate.

Second Baccalaureate Degree

It may be desirable for certain students to obtain a second baccalaureate degree in a different or related field rather than progress to the master's level. 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. 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 others' 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 which is 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 for a semester at one of the thirteen other schools in the Pennsylvania State System of Higher Education. Under the Visiting Student Program, courses you take will be recorded on your academic record at Shippensburg and the grades you receive will be included in your QPA calculation. This program is intended to allow you to take advantage of academic programs at other PASSHE schools which are not available at Shippensburg.

To participate in the Visiting Student Program you must have completed at least 27 credits and be in good academic standing. 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 that violation has occurred, he/she will complete the form "Settlement of a Charge of Academic Dishonesty." This form will include the penalty that the faculty member will apply.

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

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

Formal Resolution

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

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

If there is sufficient information to proceed with the complaint, the steps outlined in the Student Code of Conduct and Judicial Process section of the student handbook *Swatoney* will

be followed. Academic dishonesty cases must be heard by the university judicial hearing board; the judicial officer option is not available for these cases. Appeals of academic dishonesty decisions will be handled by the Vice President for Student Affairs and the Provost.

Penalties

The Student Code of Conduct contains a list of sanctions 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 prop-

ositions 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 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.

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.

Undergraduate Degrees

Shippensburg University provides undergraduate curricula leading to four 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. You may not work on two different degrees at the same time, although it is possible to have a double major for one degree.

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 you can make normal progress toward a degree while exploring your 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 the School of Academic Programs and Services is the academic dean for all undeclared students.

Details are located under the School of Academic Programs and Services on page 65 in this catalog or at the www.ship/~aps.

School of Academic Programs and Services

The School of Academic Programs and Services supports collaboratively the mission and goals of Shippensburg University by providing a myriad of 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 several 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.

The School is responsible for the following: Undeclared Students, Placement Testing, Advising Support for Student Athletes, Academic Success Program/Summer Bridge, the Learning Center, the Martin Luther King Academic Retention Program, and Advisor Development.

For further details, see page 68 in this catalog or at www.ship/~aps.

Academic Advising

Good academic advising contributes significantly to student satisfaction and retention. Your academic advisor is your link to the academic system and its rules and regulations. Advisors know the requirements of the General Education Program, as well as the general requirements within each major. They can enhance your collegiate experience, refer you to campus resources to help you with problems and they can save you from wasting time, effort, and/or money. Good academic advising involves more than just scheduling classes. Your advisor is your significant other on campus, the person who can help you realize your full potential by helping you establish important career, personal and life goals.

All students at Shippensburg University are assigned to an academic advisor. Faculty within the academic departments provide academic advisement for students in their major programs. The Office of Undeclared Students assigns undeclared students to specially-trained faculty and administrators who volunteer to advise them.

Advising is a joint responsibility. It is your advisor's job to be knowledgeable about the university programs and services, to be available to you at scheduled times and to assist you with your academic concerns. It is your responsibility to know your advisor's office hours, to make and keep advising appointments, to prepare questions and bring any appropriate materials or concerns to the meetings and to see your advisor whenever you have questions.

You should see your advisor regularly.

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 Department

Art B.A.

Art B.A. with Certification

Art Minor

Biology Department

Biology B.S.

(Biotechnology)

(Ecology and Environmental Biology)

(Health Professions)

(Medical Technology)

Biology B.S. with Certification

(Environmental Education)

Biology Minor

Chemistry Department

Chemistry B.S.

(Biochemistry)

(Health Professions)

(Medical Technology)

Chemistry B.S. with Certification

Chemistry Minor

Communication/Journalism Department

Communication/Journalism B.A.

(Print Media)

(Public Relations)

(Electronic Media)

Communication/Journalism Minor

Computer Science Department

Computer Science B.S.

(Computer Graphics)

(Embedded Programming)

(Related Discipline)

(Software Engineering)

(Systems Programming)

Computer Science Minor

English Department

English B.A.

English B.A. with Writing Emphasis

English B.A. with Certification

English Minor

Ethnic Studies Program

Ethnic Studies Minor

Geography/Earth Science Department

Geography B.S.

(Geographic Information Systems-GIS)

(Land Use)

(Regional Development and Tourism)

Geoenvironmental Studies B.S.

Comprehensive Social Studies B.S.Ed.

(Geography)

Earth and Space Science B.S.Ed.

Geography/Earth Science Minor

History/Philosophy Department

History B.A.

(Public History)

Comprehensive Social Studies B.S.Ed.

(History)

History Minor

Philosophy Minor

Health Care Administration Degree Completion

Health Care Administration B.S.

Interdisciplinary Arts Program

Interdisciplinary Arts B.A.

International Studies Program

International Studies Minor

Mathematics Department

Mathematics B.A.

Mathematics B.S.

(Applied Mathematics)

(Computer Science)

(Secondary Education Certification)

(Statistics)

Mathematics Minor

Modern Languages Department

French B.A.

French B.A. with Certification

French Minor

Spanish B.A.

Spanish B.A. with Certification

Spanish Minor

German Studies Minor

Music & Theatre Arts Department
Music Literature Minor
Theatre Minor

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

Political Science Department
Political Science B.A.
Public Administration B.S.
Comprehensive Social Studies B.S.Ed.
(Political Science)
Political Science Minor
Public Administration Minor

Psychology Department
Psychology B.A.
Psychology Minor

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

Speech Department
Speech Communication B.A.
Speech Minor

Women's Studies Program
Women's 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 Certification
Management Information Systems B.S.B.A.

Economics Department
Economics B.A.
Economics B.S.B.A.
Comprehensive Social Studies B.S.Ed.
(Economics)
Economics Minor

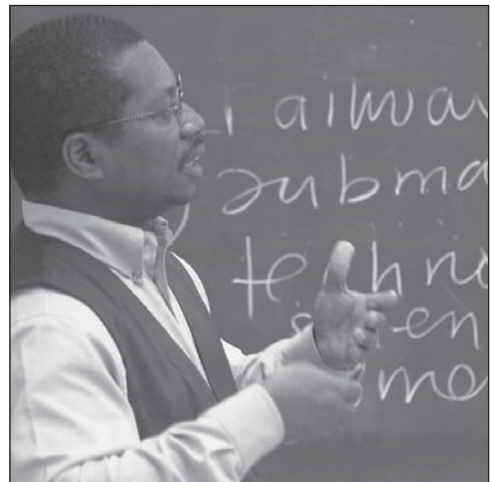
Finance and Information Management and
Analysis Department
Information Management & Analysis
B.S.B.A.
(Supply Chain Operations &
Management)
Finance B.S.B.A.
(Personal Financial Planning)

Management and Marketing Department
Management B.S.B.A.
(General Management)
(Human Resource Management)
(International Management)
Marketing B.S.B.A.
Business Minor

College of Education and Human Services

Criminal Justice Department
Criminal Justice B.S.
Exercise Science Department
Coaching Minor
Gerontology (Aging) Program
Gerontology Minor
Social Work Department
Social Work B.S.W.
Teacher Education Department
Elementary Education B.S.Ed.
Early Childhood Minor
Reading Minor

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 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: ENG101 College Writing or ENG110 Advanced Placement Writing.

Fluency in Speaking. Students must take SPE100 Basic Oral Communication for 3 credit hours.

Mathematical Competency. Students must take one mathematics course listed below in Category A, Logic and Numbers for Rational Thinking, for 3 credit hours or must place in the Advanced College Level through the university mathematics examination.

Historical Perspectives. Students must take the following two courses for a total of 6 credit hours: HIS105 World History I and HIS106 World History II.

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), mathematics and foreign language placement tests. SAT scores are used to determine if students must take the math, 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 ENG101 College Writing, successful completion of which fulfills the university writing competency requirement. Those who would benefit from smaller classes and more attention to the develop-

ment 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 ENG101 College Writing. 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 & Study Skills.

Mathematics

Shippensburg University requires all students to satisfy a college-level mathematics competency in order to qualify for graduation. Students who test are placed at one of the following levels:

Advanced: Students who place at the advanced level, based on SAT scores or the placement test, have fulfilled the university competency requirement.

College High or Low: Students who place at the college level, based on SAT scores or the placement test, must pass at least one college-level math course. Some majors require a particular course. Some majors require or suggest a second course as a prerequisite dependent on the individual student's score.

Further, some students, based on their placement test and/or completion of developmental coursework, will be required to take a prerequisite course before taking the first math course required by their major. Please contact the mathematics department for more information.

Developmental: Students who score at the developmental level are required to improve their proficiency in mathematics. The work toward the satisfaction of this requirement must begin within one calendar year of enrollment at Shippensburg. Students who fail to meet this requirement will not be permitted to register for classes the follow-

ing academic year. There are a variety of options available for meeting this requirement. Students who test at the developmental level will receive information about these options.

Developmental Courses

Courses numbered below 100 are considered developmental in nature and cover material at a pre-college level. Credits earned in developmental classes are included in determining a student's class standing and the grades are computed in the student's quality point average. However, these credits **do not count** toward the total number of credits required for graduation. Students earning credits in developmental courses will be required to complete additional courses to meet the minimum of 120 credit hours required for graduation.

Retests

Under certain circumstances, students may retake a placement test. Students who qualify for this option will be notified. The writing placement may also be appealed through the director of composition, Department of English.

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

MAT102 Introduction to Statistics
MAT105 Mathematics for Liberal Studies
MAT108 Finite Math
MAT110 Fundamentals of Mathematics I
MAT120 Basic Mathematics Models
MAT124 Precalculus
MAT170 Elementary Statistics for Social Science
MAT181 Applied Calculus I
MAT211 Calculus I

PHL101 Introduction to Philosophy
PHL102 Critical Thinking
PHL103 Introduction to Philosophy of Mind
PHL105 Introduction to Ethics



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 which 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 19th & 20th Century 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
- 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 French Conversation
- FRN204 Ideas & Cultures From the French-Speaking World
- FRN320 Commercial French

- GER101 Beginning German I
- GER102 Beginning German II
- GER103 Intermediate German
- GER150 German Civilization & Culture
- GER203 Intermediate German Conversation
- GER204 Ideas & Cultures From the German-Speaking World
- GER215 Commercial German

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

- SOC370 Sociology of the Arts

- SPE240 The Dramatic Narrative Film

- 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 Commercial Spanish
- SPN385 Aspectos de la civilizacion hispana

- THE121 Introduction to Theater

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

Category C—Biological & 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 — 1) 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 2) 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

BIO105 Biological Sciences: A Laboratory Approach

BIO115 Principles of Biology I

BIO145 Problems of the Environment

BIO150 Human Biology

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

PHY115 Physical Science: A Laboratory Approach

PHY121 Introduction to Physics I

PHY205 Intermediate Physics I

**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 which 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 which 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 which 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.

ECN101 Principles of Macroeconomics

ECN102 Principles of Microeconomics

ECN113 Principles of Economics

GEO101 World Geography

GEO103 Geography of the United States & Canada

PLS100 U.S. Government & Politics

PLS141 Introduction to International Politics

Category E—Social and Behavioral Sciences

(Two courses – 6 credit hours)

An awareness and recognition of the disciplines which 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

GEO140 Cultural Geography

PSY101 General Psychology

SOC101 Introduction to Sociology: Society & Diversity

WST100 Introduction to Women's Studies

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, on-line tutorial which provides hands-on experience in finding scholarly information. All students enrolled in 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, & Crime
 ECH460 Family, School, & Community Partnerships
 EEC411 Introduction to Exceptionality
 ENG248 Introduction to Culturally Diverse Literature of the United States
 GEO103 Geography of the U.S. & Canada
 GEO140 Cultural Geography
 MGT447 Business & Society
 SOC101 Introduction to Sociology: Society & 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 English Composition *or* ENG110 Advanced Placement English *or* ENG112 The Documented Essay
Speaking—SPE100 Basic Oral Communication
Mathematics—One mathematics course from Category A *or* placement in the Advanced College Level through the Mathematics Exam.
History—HIS105 World History I *and* HIS106 World History II

Category A—Logic and Numbers for Rational Thinking

One course (3 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 Business Administration (M.B.A.)

Master of Education (M.Ed.)

Master of Science (M.S.)

Master of Public Administration (M.P.A.)



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.)
Computer Science (M.S.)
Counseling (M.S. and M.Ed.)
College
Community
Elementary
Mental Health
Secondary
Student Personnel
Curriculum and Instruction (M.Ed.)
Biology
Early Childhood Education
Elementary Education
English
Geography/Earth Science
History
Mathematics
Middle-Level Education
Educational Leadership and Policy (M.Ed.)
Geoenvironmental Studies (M.S.)
Information Systems (M.S.)
Organizational Development & Leadership (M.S.)
Business
Communications
Educational Leadership and Policy
Individual and Organizational Development
Public Organizations
Psychology (M.S.)
Public Administration (M.P.A.)
Reading (M.Ed.)
Special Education (M.Ed.)
Behavior Disorders
Comprehensive
Learning Disabilities
Mental Retardation

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.

School of Academic
Programs and
Services

School of Academic Programs and Services

The School of Academic Programs and Services supports collaboratively the mission and goals of Shippensburg University by providing a myriad of 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 seven 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 the website at www.ship.edu/~undecmaj.

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 you can make normal progress toward a degree while exploring your 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 the School of Academic Programs and Services 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 enroll in PACES, a personal, academic and career exploration seminar.

Office of Advising and Advisor Development

One of your most important resources at Shippensburg University is your academic advisor. Good academic advising contributes significantly to student satisfaction and retention. Your academic advisor is your link to the academic system and its rules and regulations. Advisors know the General Education Program, as well as the general requirements within each major. They can enhance your collegiate experience, refer you to campus resources to help you with any issue that may be impacting your academic performance, listen to your concerns and help you determine the best course of action, serve as a mentor and friend and save you from wasting time, effort and/or money. Your advisor is your "significant other" on campus, the person who can help you realize your full potential by helping you establish important career, personal and life goals.

All students at Shippensburg University are assigned to an academic advisor. Faculty within the departments provide academic advisement for students in their major programs. The Office of Undeclared Students assigns undeclared students to specially-trained faculty and others who volunteer their time to advise them.

Good academic advising involves more than just scheduling classes, and advising is a joint responsibility. It is your advisor's job to be knowledgeable about the university programs and services, to be available to you at scheduled times and to assist you with your academic concerns. It is your responsibility to know your advisor's office hours, to make and keep advising appointments, to prepare questions and bring any appropriate materials or concerns to the meetings and to see your advisor whenever you have questions.

The Office of Advising and Advisor Development supports advising by developing advising materials for faculty and students and by sponsoring programs and workshops for faculty and students about the advising process.

The Learning Center

The Learning Center is the campus' academic support and tutoring center located in the lower level of the Ezra Lehman Library. This center serves the entire university community and is available to all students who wish to improve their academic performance and learning skills, thus making the most of their university experience. The Learning Center works with the faculty and student affairs offices to provide the following services and resources.

Tutoring Services

Free one-on-one tutoring is available for writing and many subject areas, such as math, history, biology, economics and modern languages. Learning Center tutors—peer, graduate and professional tutors—are carefully selected, trained and regularly evaluated. Tutoring is available by appointment and, in some cases, on a drop-in basis. Some small group tutoring, in some subject areas, is also available, and as the central resource for tutoring information, Learning Center staff members are able to direct persons to other tutoring options on campus. Professional learning specialists are also available to help students with significant learning difficulties develop effective learning strategies.

Study Skills Resources

In addition to the tutoring services available in the Learning Center, the Learning Center offers a variety of learning and study skills resources for individuals and groups. Students may make an appointment to complete a study skills assessment or work with a learning specialist on a specific skill (e.g. textbook reading, note-taking).

The Learning Center website (<http://www.ship.edu/~learning/>) provides around-the-clock access to academic resources. Please check this resource for information about tutoring, writing resources, time management, note-taking, test-taking and tips on reading, science and math skills.

The Learning Center also offers study skills workshops for classes, teams, residence halls, or other campus organizations. Supplemental Instruction, a program designed to help students in historically difficult classes, is also offered in select courses. These groups are led by students who have previously successfully completed the course and who lead review sessions by focusing on the difficult portions of the course. The Learning Center staff is also available to help

organize and/or facilitate more informal study groups of interested students.

Additionally, the Learning Center offers a structured program for students on academic probation or students who have been readmitted to the University. This program is designed to give students skills in studying, self-management, emotional intelligence and personal responsibility—the skills students need to improve their academic performances.

The staff of the Learning Center strives to be a central resource for all learners in the university community. To learn more about tutoring and other 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 mission of the Office of Academic Support Services for Student Athletes, under the auspices of the School of Academic Programs and Services, is to assist in the development of educated, responsible, self-reliant men and women as they pursue collegiate athletics, their baccalaureate degree and prepare 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, monitoring academic records, academic counseling and referral and assisting graduating 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 that support the academic well being of student athletes. Furthermore, all incoming first-year student athletes have the opportunity to participate in the PACES program. PACES (The Personal, Academic and Career Exploration Seminar) is a non-credit course open to all incoming first-year athletes who want to gain greater insight into campus majors, possible careers paths, campus resources, technology, scheduling concerns and wellness issues.

The Office of Academic Support for Student Athletes is committed to cooperation and communication with those invested in the overall success of students participating in the university's intercollegiate athletics program. The fulfillment of the mission and values of our work are especially contingent on the strong and supportive relationships with the faculty, administration and staff of Shippensburg University and the Department of Athletics.

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 the 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: (1) the Summer Bridge Program, and (2) the Academic Year Support Programs.

Summer Bridge Program

The Summer Bridge program is a mandatory five-week program, the focus of which 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 SU for the fall semester.

The program provides:

- * An extensive orientation to college life.
- * An assessment of academic strengths and areas needing improvement.
- * An opportunity to develop academic skills in reading, writing and mathematics.
- * An opportunity to explore and improve attitudes and expectations about the nature of college-level work.
- * An opportunity to take two credit-bearing courses taught by university faculty.

Summer Bridge students will:

- * Take courses appropriate for their academic skill level and major areas of interest.
- * 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 free 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 to evaluate 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: Identity and Connection

This is a credit-bearing course 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.

ASSET Program

The ASSET Program is a peer-mentoring program. The program unites academically successful sophomore, junior and senior Academic Success Program students with first-year ASP students. The ASSET Leaders (Peer Mentors) meet with their assigned students on a regular basis and are trained to assist with social and academic issues.

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, academic monitoring, academic incentives, Sunday Sit-down activities, a fall retreat and regular study sessions. All activities are designed to provide students with academic support and the cooperative environment they need to succeed and excel.

The 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, academic advisors, personal counselors, tutors and friends.

The 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.

Degree Completion Program

Shippensburg University's degree completion program (DCP) is designed to provide expanded educational opportunities for working adults who have earned 60 or more college credits, especially in high demand fields of study. The curriculum promotes development of critical thinking skills, effective communication, problem solving, and ethical decision-making. Students will be encouraged to apply theories and concepts to everyday concerns through internships and capstone experiences. The degree completion program offered in Harrisburg and Gettysburg will allow adults to complete their coursework on a part-time basis by attending classes in the evening.

The first degree completion program being offered is a Bachelor of Science in Health Care Administration at Harrisburg Area Community College's Penn Center location in Harrisburg and at its Gettysburg campus. Classes are taught by Shippensburg University faculty and are conveniently offered in the evenings. Graduates will be prepared for entry-level managerial positions, with strong backgrounds in health care economics and finance, law, human resources, and strategic management.

Additional degree completion programs in other high demand fields of study are being developed.

Admission Requirements

1. Associate's degree or a minimum of 60 transferable college credits authenticated by official transcripts.*
2. Current resume 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 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 write, call 717-477-1231 or 1-800-822-8028, or e-mail (admiss@ship.edu) the Office of Admissions and request an application form. Applicants may also visit our website at www.ship.edu/DCP for more information and to download a PDF file.

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 Health Care Administration.
2. Current resume 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 \$30 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 on-line at www.ship.edu or by contacting the Office of Admissions.

Health Care Administration (B.S.)

The program's core courses will give you the opportunity to explore how a liberal arts education can enhance your career opportunities. These courses will help you 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 allow you to explore the legal, financial, resource, and strategic issues of health care management and administration. The electives give you the opportunity to enhance your 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. Additional questions should be directed to the degree completion program coordinator (www.ship.edu/DCP).

Please be advised that the degree completion program leading to a Bachelor of Science in Health Care Administration is only offered in Harrisburg and Gettysburg.

Degree Requirements

- Completion of the 45-credit Health Care Administration program with a minimum of a 2.0 cumulative GPA;
- Fulfillment of 48 credits of general education requirements;
- Attainment of a minimum of 120 college/university credits.

Foundation and Core Courses

- 3 credits in the foundation course
 - *HCA400 Introduction to Health Care Systems*
- 12 credits of core courses
 - *ENG438 Technical Professional Writing II*
 - *ISM300 Information Technology and Business Operations*
 - *MGT305 Organizational Behavior*
 - *SPE375 Resolving Conflict through Communications*

- 12 credits in health care professional courses
 - *HCA451 Legal Aspects of Health Care*
 - *HCA452 Health Care Financial Management*
 - *HCA453 Human Resources Management for Health Care Administrators*
 - *HCA454 Health Care Strategic Management*
- 12 credits of health care professional electives selected with advisement from an approved list of courses
- 6 credits of internship or completion of a professional research project

Schedule of Courses

The Bachelor of Science in Health Care Administration is organized so you can take six (6) credits of core courses, professional courses, or health care professional electives during the evening each academic semester.

You may complete your remaining required general education or free elective courses at HACC or at Shippensburg University. You may continue to take general education courses while you are matriculated in the Health Care Administration program or you may complete them after you finish your major courses. There are no prerequisite courses required prior to enrollment in HCA400. It is recommended you take algebra or economics as part of your general education courses prior to enrollment in HCA courses. HCA400, the foundation course, is a prerequisite for all other HCA courses.

College of Arts
and Sciences

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 Arts and Humanities Outreach, the Center for Local and State Government and the SU Fashion Archives.

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.

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	Mathematics
Biology	Modern Languages
Chemistry	Music and Theatre
Communication/ Journalism	Arts
Computer Science	Physics
English	Political Science
Geography and Earth Science	Psychology
History and Philosophy	Sociology and Anthropology
	Speech

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. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Bachelor of Arts Degree Programs

Art	Political Science
Communication/ Journalism	Psychology
English*	Sociology
French*	Spanish*
Geography	Speech Communication
History	
Mathematics	

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

Bachelor of Science Degree Programs

Applied Physics (Cooperative Engineering 3-2 program)	Geoenvironmental Studies
Biology*	Geography
Chemistry*	Mathematics*
Computer Science	Physics
	Public Administration

**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

Political Science 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, geoenvironmental studies and psychology programs.

Students interested in law school should consult with the chair 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 Department

The Department of Art 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 (#5 pertains to the B.A. in Art Education Certification, K-12):

1. Promote visual literacy; e.g., the understanding of a work of art through its connections with history, criticism, aesthetics, culture, style and the formal elements.
2. Demonstrate the ability to create and solve the production of original, visual forms of expression in different media designed around a theme and to promote the interdisciplinary importance of art making as a method of knowing.
3. Develop critical thinking in strategies of inquiry, iconology and comparative studies that will promote cross-cultural and ethnically diverse methods of art making.

4. Establish methods of working and understanding the creative process and production in a variety of two- and three-dimensional media—graphics, computers, painting, ceramics, sculpture, printmaking and conceptual/interdisciplinary work styles.
5. Develop methodology for effective teaching; creating lesson plans appropriate for a variety of academic venues; learn how to communicate effectively; be able to demonstrate effective technical skills; and understand the role of art education in human development.

Foundation Portfolio Requirements

After admission to the art major and art education certification, K-12, programs, students must present a portfolio of their original artwork for review to the art 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 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.

Features

The Department of Art offers an undergraduate program leading to a Bachelor of Art degree in Art or Bachelor of Art in Art Education Certification, K-12 and an interdisciplinary concentration in Computer Graphics with the Department of Computer Science. 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 art department 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 students 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 their career options. New programs such as the Interdisciplinary Arts minor 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 GPA 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. 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, layout work, in the art department's Golden Apple Computer Lab, in the art department's 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 art department 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 Creative Compost 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.

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 direc-

tors, 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 communica-

tion, 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 art department chair) 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, NY. 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 (<i>offered in fall only</i>)	3 crs.
ART218 Three-Dimensional Design (<i>offered in spring only</i>)	3 crs.

Additional Foundation Courses (12 crs.)

ART210 Drawing II	3 crs.
ART232 Art History II (<i>offered in fall only</i>)	3 crs.
ART233 Art History III (<i>offered in spring only</i>)	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 credits) 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. Art Education Certification students are required to take courses shown in bold/italics. Additional general education and education courses are required for this major. 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 (<i>offered in "even year" fall only</i>)	3 crs.
ART217 Computer Design I (Page Composition)	3 crs.
ART231 Art History I (<i>offered in "even year" fall only</i>)	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) (<i>offered in spring only</i>)	3 crs.
ART309 Independent Studio/Other Courses <i>(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.)</i>	3 crs.
ART319 Computer Design III (Painting & Photo Manipulation)	3 crs.
ART321 Watercolor I (<i>offered in spring only</i>)	3 crs.
ART322 Watercolor II (<i>offered in fall only</i>)	3 crs.
ART326 Painting I (<i>offered in fall only</i>)	3 crs.
ART327 Painting II (<i>offered in spring only</i>)	3 crs.
ART339 History of American Art (<i>offered in "odd year" fall only</i>)	3 crs.
ART340 Ceramics	3 crs.
ART341 Advanced Ceramics (<i>offered in spring only</i>)	3 crs.
ART356 Social Structures of Aesthetics: Philosophy & Criticism in the Arts	3 crs.
ART370 Sculpture (<i>offered in fall only</i>)	3 crs.

ART380 Printmaking I (<i>offered in spring only</i>)	3 crs.
ART381 Printmaking II (<i>offered in spring only</i>)	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) (<i>offered in spring only</i>)	3 crs.
ART430 Computer Design V (Web Design) (<i>offered in spring only</i>)	3 crs.
ART435 Computer Design VI (Book & Portfolio Design) (<i>offered in spring only</i>)	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. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language or four years of a foreign language in high school or satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language or three years of a foreign language in high school or satisfactory completion of a proficiency exam.

Requirements for the Art Minor – 21 crs.

<i>Foundation Courses (12 crs.)</i>	
ART101 Art Appreciation	3 crs.
ART110 Basic Drawing	3 crs.
ART215 Color & Two-Dimensional Design (<i>offered in fall only</i>)	3 crs.
ART218 Three-Dimensional Design (<i>offered in spring only</i>)	3 crs.

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

Art Electives (6 crs.)

ART210 Drawing II (<i>offered in spring only</i>)	3 crs.
ART211 Figure Drawing (<i>offered in "even year" fall only</i>)	3 crs.
ART217 Computer Design I (Page Composition)	3 crs.
ART274 Introduction to Cultural Studio (<i>required for elementary educ. art minors</i>)	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) (<i>offered in spring only</i>)	3 crs.
ART309 Independent Studio/Other Courses	3 crs.
ART319 Computer Design III (Painting & Photo Manipulation)	3 crs.
ART321 Watercolor I (<i>offered in spring only</i>)	3 crs.
ART322 Watercolor II (<i>offered in fall only</i>)	3 crs.
ART326 Painting I (<i>offered in fall only</i>)	3 crs.
ART327 Painting II (<i>offered in spring only</i>)	3 crs.
ART340 Ceramics	3 crs.
ART341 Advanced Ceramics (<i>offered in spring only</i>)	3 crs.
ART356 Social Structures in Aesthetics: Philosophy & Criticism in the Arts	3 crs.
ART370 Sculpture (<i>offered in fall only</i>)	3 crs.
ART380 Printmaking I (<i>offered in spring only</i>)	3 crs.
ART381 Printmaking II (<i>offered in spring only</i>)	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) (<i>offered in spring only</i>)	3 crs.
ART430 Computer Design V (Web Design) (<i>offered in spring only</i>)	3 crs.
ART435 Computer Design VI (Book & Portfolio Design) (<i>offered in spring only</i>)	3 crs.
ART490 Selected Topics in Art	3 crs.

Biology Department

The Department of Biology offers undergraduate programs leading to the Bachelor of Science degree with programs in biology, biology-ecology and environmental, biology-medical technology, biology-health professions, biology-biotechnology and biology with 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. Majors in this subject will develop an understanding of significant core areas such as genetics/cellular biology, morphology/systematics/evolution, ecology and physiology. In addition to the core curriculum, students will choose from a broad selection of courses that focus more intensely on the various structural, functional and taxonomic levels of this wide-ranging discipline. The program features exposure to biological science through observation, description, investigation and integrative reasoning, provided by experiences in a combination of classroom, laboratory and field studies. Studies in cognate areas such as chemistry, math and physics are an integral and significant component of contemporary biological education.

Features

In addition to programs leading to the Bachelor of Science (B.S.) degree in biology, students may also earn a dual baccalaureate degree in biology and medical technology. The B.S. degree in biology also provides the opportunity to tailor the curriculum along a track leading to one of the health professions or as a secondary school teacher, including an optional course sequence that earns an environmental education certification. Facilities, courses and faculty expertise combine to provide for a strong commitment to education in organismic biology, environmental science and field studies, as well as in the more technologically oriented laboratory disciplines such as physiology, cell biology, microbiology and biotechnology. There is ample opportunity to engage in a wide variety of off-campus internships as well as independent study and research projects under the direction of individual faculty members. Collections housed in the Vertebrate Museum, greenhouse and herbarium add significantly to the variety of educational experiences possible in this department. Opportunity exists

for studies in marine science through our affiliation with the Marine Science Consortium at Wallops Island, Virginia.

Career Opportunities

Undergraduate degree programs in the Department of Biology make possible a multitude of career options. Students begin professions as secondary school teachers, medical technologists or enter health science schools to train for careers in medicine, veterinary science, optometry, dentistry, podiatry, chiropractic, physical therapy or pharmacy. Students with an interest in field studies and environmental science can consider careers such as conservation, wildlife biology, fisheries management, forestry, horticulture and wetlands management. Industries and pharmaceutical companies recruit students with a background in cell biology, microbiology and biochemistry/physiology for sales and/or research positions. Careers in clinical or academic research, biotechnology, college teaching, food science/nutrition, epidemiology, public health, marine science, etc., 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 most of the other State System 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 are operated 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 are offered regularly during the summer at the station:

Introduction to Oceanography
Field Methods of Oceanography
Chemical Oceanography
Coastal Sedimentation
Marine Biology
Marine Invertebrates

Marine Botany
Marine Ecology
Marine Ichthyology
Ornithology
Behavior of Marine Organisms
Ecology of Marine Plankton
Management of Wetland Wildlife
Marine Micropaleontology
Marine Geology
Coastal Geomorphology
Problems in Marine Sciences
Marine Microbiology

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 (12 crs.)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO260 Genetics	3 crs.
BIO300-302 Biology Seminar*	1 cr.

(Only 2 semesters can be used for Biology credit.)

Upper Division Electives (12-13 crs.)**

Ecology/Evolution elective:

BIO242 Ecology 3 crs.

or

BIO430 Principles of Evolution 3 crs.

Physiology elective:

BIO351 Animal Physiology 3 crs.

or

BIO350 Human Physiology 4 crs.

or

BIO352 Plant Form & Function 3 crs.

Organismal elective:

BIO317 Parasitology 3 crs.

or

BIO462 Invertebrate Zoology 3 crs.

or

BIO463 Vertebrate Zoology 3 crs.

or

BIO448 Field Botany & Plant Taxonomy 3 crs.

or

BIO455 Algae & Aquatic Plants 3 crs.

Cellular elective:

BIO220 Microbiology 3 crs.

or

BIO385 Cell Biology 3 crs.

Additional Biology Electives (10-11 crs.)

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

Allied Fields (31 crs.)

Mathematics

MAT102 Introduction to Statistics	3 crs.
MAT211 Calculus I***	4 crs.

Physics

PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II	4 crs.

Chemistry

CHM121 Chemical Bonding and	
CHM125 Laboratory IB Stoichiometry & Reactions	4 crs.
CHM122 Chemical Dynamics and	
CHM126 Laboratory IIB Equilibrium & Instrumentation	4 crs.
CHM221 Modern Organic Chemistry I and	
CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
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.

* BIO396-398 Research may be substituted for this requirement. 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 at least a 2.0 average in BIO115 and 116 before upper-level Biology electives may be taken.

*** Students unable to start at the level of Calculus I will take MAT124 Pre-Calculus.

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 jobs can 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 attain the minimum QPA.

**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 15 credits of criminal justice courses as free electives. Students completing this option will graduate with 124 credits instead of 120 credits.

CRJ100 Introduction to Criminal Justice	3 crs.
CRJ211 Criminal Law & Procedure	3 crs.
CRJ309 Theories of Crime & Crime Control	3 crs.
CRJ336 Introduction to Forensic Science	3 crs.
CRJ456 Forensic Science: Evidence Analysis	3 crs.

Biology Core Courses (27 crs.)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO201 Introduction to Biotechnology	1 cr.
BIO220 Microbiology	3 crs.
BIO260 Genetics	3 crs.
BIO385 Cell Biology	3 crs.
BIO409 Immunology	3 crs.
BIO418 Molecular Biology	3 crs.
BIO461 Techniques in Biotechnology	3 crs.

Upper Division Electives (6-7 crs.)*

Physiology elective:

BIO351 Animal Physiology	3 crs.
or	
BIO350 Human Physiology	4 crs.
or	
BIO352 Plant Form & Function	3 crs.

Experiential elective:

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

Additional Biology Electives (4-5 crs.)

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

Allied Fields (37-38 crs.)*Mathematics*

MAT102 Introduction to Statistics 3 crs.
MAT211 Calculus I*** 4 crs.

Physics

PHY121 Introductory Physics I 4 crs.
PHY122 Introductory Physics II 4 crs.

Chemistry

CHM121 Chemical Bonding
and
CHM125 Laboratory IB Stoichiometry &
Reactions 4 crs.
CHM122 Chemical Dynamics
and
CHM126 Laboratory IIB Equilibrium &
Instrumentation 4 crs.
CHM221 Modern Organic Chemistry I
and
CHM225 Laboratory IIIB Basic Organic
Techniques 4 crs.
CHM222 Modern Organic Chemistry II
and
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 at least a 2.0 average in BIO115 and 116 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 MAT124 Pre-Calculus.

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 (18 crs.)

BIO115 Principles of Biology I 4 crs.
BIO116 Principles of Biology II 4 crs.
BIO242 Ecology 3 crs.
BIO260 Genetics 3 crs.
BIO430 Principles of Evolution 3 crs.
BIO300-302 Seminar 1 cr.

(Only 2 semesters can be used for Biology credit.)

Upper Division Electives (15-16 crs.)***Physiology elective:**

BIO351 Animal Physiology 3 crs.
or
BIO350 Human Physiology 4 crs.
or
BIO352 Plant Form & Function 3 crs.

Zoology elective:

BIO317 Parasitology 3 crs.
or
BIO462 Invertebrate Zoology 3 crs.
or
BIO463 Vertebrate Zoology 3 crs.

Botany elective:

BIO448 Field Botany & Plant Taxonomy 3 crs.
or
BIO455 Algae & Aquatic Plants 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 (4-5 crs.)

Electives should be selected with advisement. Biology credits should total at least 38. Courses from the following list are recommended. Only seniors with a cumulative QPA of 2.75 or higher may take 500 level courses.

BIO210 Field Zoology 3 crs.
BIO310 Mammalogy 3 crs.
BIO311 Ornithology 3 crs.
BIO316 Entomology 3 crs.
BIO317 Parasitology 3 crs.
BIO330 Animal Behavior 3 crs.
BIO370 Comparative Vertebrate Anatomy 3 crs.
BIO398 Research II 1-3 crs.
BIO417 Herpetology 3 crs.
BIO425 Biota of Florida (also counts
towards 1 cr. seminar credit) 2 crs.

BIO442 Hydrobiology	3 crs.
BIO444 Conservation Biology	3 crs.
BIO448 Field Botany & Plant Taxonomy	3 crs.
BIO455 Algae & Aquatic Plants	3 crs.
BIO462 Invertebrate Zoology	3 crs.
BIO491 Selected Topics in Biology	3 crs.
BIO501 Topics in Evolutionary Biology	3 crs.
BIO514 Aquatic Entomology	3 crs.
BIO547 Wetland Ecology	3 crs.
BIO555 Comparative Animal Physiology	3 crs.
BIO558 Microbial Ecology	3 crs.
BIO559 Evolutionary Ecology	3 crs.
BIO576 Structure of Vascular Plants	3 crs.
BIO581 Topics in Mammalian Biology	3 crs.
BIO593 Biometry	3 crs.
Courses at Wallops Island	

Allied Fields (31 crs.)

MAT102 Introduction to Statistics	3 crs.
MAT211 Calculus I	4 crs.
PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II	4 crs.
CHM121 Chemical Bonding <i>and</i>	
CHM125 Laboratory IB Stoichiometry & Reactions	4 crs.
CHM122 Chemical Dynamics <i>and</i>	
CHM126 Laboratory IIB Equilibrium & 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.

* Students must earn at least a 2.0 average in BIO115 and 116 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.

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 the 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 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 Podiatric Medicine, Temple University School of Dentistry, University of Pittsburgh School of Pharmacy, New York Chiropractic College and Thomas Jefferson University – Jefferson College of Health Professions. An articulation program also exists with Arcadia University’s Masters of Physician Assistant 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 (15 crs.)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO220 Microbiology	3 crs.
BIO260 Genetics	3 crs.
BIO300-302 Biology Seminar*	1 cr.

(Only 2 semesters can be used for Biology credit.)

Upper Division Electives (9-11 crs.)**

Physiology elective:

BIO351 Animal Physiology	3 crs.
or	
BIO350 Human Physiology***	4 crs.

Anatomy elective:

BIO370 Comparative Vertebrate Anatomy	3 crs.
or	
BIO371 Human Anatomy***	4 crs.
or	
BIO375 Histology	3 crs.

Molecular/Cellular elective:

BIO385 Cell Biology	3 crs.
or	
BIO418 Molecular Biology	3 crs.

Additional Biology Electives (12-14 crs.)

Electives should be selected with advisement. Biology credits should total at least 38. The following is a list of biology courses that may be required for certain professional schools.

BIO317 Parasitology	3 crs.
BIO324 Pathogenic Microbiology	3 crs.
BIO330 Animal Behavior	3 crs.
BIO373 Vertebrate Embryology	3 crs.
BIO374 Hematology	2 crs.
BIO375 Histology	3 crs.
BIO408 Principles of Virology	3 crs.
BIO409 Immunology	3 crs.
BIO450 Endocrinology	3 crs.

Allied Fields (35 crs.)

Mathematics

MAT211 Calculus I****	4 crs.
MAT102 Introduction to Statistics	3 crs.

Physics

PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II	4 crs.

Chemistry

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

* BIO396-398 Research may be substituted for this requirement. 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 at least a 2.0 average in BIO115 and 116 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 MAT124 Precalculus.

Biology (B.S.)—Medical Technology Concentration

The student completes the pre-clinical requirements and the requirements for the major in biology in a four-year period and receives the B.S. degree in biology. When the student completes a year of clinical education at one of the affiliated hospitals they receive a B.S. degree in medical technology.

Students aspiring to a career in medical technology will be admitted to the program on a provisional basis. After the completion of the sophomore year, individuals with at least a 2.5 quality point average overall and a 2.5 quality point average in the sciences will be granted full status in the Medical Technology Program. (This quality point average requirement must be maintained throughout the remainder of the program).

The clinical year may be taken at any of the hospital schools of medical technology which are affiliated with Shippensburg University or at any other hospital school of medical technology 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 for the clinical year.

The list of current hospital affiliations of Shippensburg University is as follows: Abington Memorial Hospital; Altoona Hospital; Augusta Medical Center, Fishersville, Va.; Lancaster General Hospital; Reading Hospital and Medical Center; Saint Vincent Health Center, Erie; Williamsport Hospital; and York Hospital.

Biology Core Courses (33 crs.)*

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO220 Microbiology	3 crs.
BIO260 Genetics	3 crs.
BIO317 Parasitology	3 crs.
BIO324 Pathogenic Microbiology	3 crs.
BIO350 Human Physiology	4 crs.
BIO374 Hematology	2 crs.
BIO385 Cell Biology	3 crs.
BIO409 Immunology	3 crs.
BIO300-302 Seminar**	1 cr.

(Only 2 semesters can be used for Biology credit.)

Additional Biology Electives (5 crs.)

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

Allied Fields (39 crs.)

Mathematics

MAT102 Introduction to Statistics	3 crs.
MAT211 Calculus I***	4 crs.

Physics

PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II	4 crs.

Chemistry

CHM121 Chemical Bonding	
<i>and</i>	
CHM125 Laboratory IB Stoichiometry & Reactions	4 crs.
CHM122 Chemical Dynamics	
<i>and</i>	
CHM126 Laboratory IIB Equilibrium & 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.

* Students must earn at least a 2.0 average in BIO115 and 116 before upper-level Biology electives may be taken.

** BIO396-398 Research may be substituted for this requirement. 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 MAT124 Precalculus.

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 (15 crs.)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO208 Field Biology	3 crs.
BIO260 Genetics	3 crs.
BIO300-302 Biology Seminar*	1 cr.

(Only 2 semesters can be used for Biology credit.)

Upper Division Electives (15-16 crs.)

Ecology/Evolution elective:

BIO242 Ecology	3 crs.
<i>or</i>	
BIO430 Principles of Evolution	3 crs.

Physiology elective:

BIO351 Animal Physiology	3 crs.
<i>or</i>	
BIO350 Human Physiology***	4 crs.
<i>or</i>	
BIO352 Plant Form & Function	3 crs.

Organismal elective:

BIO317 Parasitology	3 crs.
<i>or</i>	
BIO462 Invertebrate Zoology	3 crs.
<i>or</i>	

BIO463 Vertebrate Zoology	3 crs.	Professional Education Requirements** (34 crs.)	TCH310 Educational Psychology	3 crs.
<i>or</i>			TCH205 The American School	3 crs.
BIO448 Field Botany & Plant Taxonomy	3 crs.		EDU340 Teaching of Science in Secondary Schools###	4 crs.
<i>or</i>			EDU341 Curriculum & Evaluation in the Secondary Science Classroom###	3 crs.
BIO455 Algae & Aquatic Plants	3 crs.		EDU495 Student Teaching & Professional Practicum	15 crs.
Cellular elective:			EEC411 Introduction to Exceptionality	3 crs.
BIO220 Microbiology	3 crs.			
<i>or</i>				
BIO385 Cell Biology	3 crs.			

* BIO396-398 Research may be substituted for this requirement. 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 at least a 2.0 average in BIO115 and 116 before upper-level Biology electives may be taken.

*** BIO350 Human Physiology is strongly recommended.

Additional Biology Electives (7-8 crs.)

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

Allied Fields (31 crs.)

Mathematics

MAT102 Introduction to Statistics	3 crs.
MAT211 Calculus I #	4 crs.

Physics

PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II (<i>not required but strongly recommended</i>)	4 crs.

Chemistry

CHM121 Chemical Bonding <i>and</i>	
CHM125 Laboratory IB Stoichiometry & Reactions	4 crs.
CHM122 Chemical Dynamics <i>and</i>	
CHM126 Laboratory IIB Equilibrium & 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.

Other Required Courses

PSY101 General Psychology	3 crs.
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Students unable to start at the level of Calculus I will take MAT124 Pre-Calculus.

In addition to the Professional Education courses listed here, all secondary biology majors must complete a 30-hour freshman-sophomore field experience directed by their advisor.

These two courses must be taken concurrently and are only offered in the fall semester.

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 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.

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.

I. REQUIRED COURSE – EDU410

Environmental Education Practicum (3 crs.)

II. CORE COURSES – 12 credits 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 in III.

A. BIO242 Ecology

B. BIO208 Field Biology

BIO210 Field Zoology

BIO448 Field Botany & 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

III. RELATED ELECTIVES

Any remaining credits must be selected from the courses listed below. It is recommended that 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*

BIO455 Algae & 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

ECN310 Public Finance

ECN340 Introduction to Regional Economics

ECN345 The Economics of Growth &

Development

ESS220 Oceanography

ESS355 Meteorology

ESS413 Mineral & Rock Resources

ESS442 Environmental Geology

GEO103 Geography of the U.S. & Canada

GEO140 Cultural Geography

GEO203 Climatology

GEO224 Soils

GEO226 Hydrology

GEO244 Land Use

GEO440 Field Techniques

GEO444 Environmental Land Use Planning

PLS331 Municipal Government &

Administration

PLS371 Public Management

PLS384 Regional & Urban Planning

MAT102 Introduction to Statistics

MAT170 Elementary Statistics for Social Science

* 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 hours required)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	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 & Plant Taxonomy	3 crs.

Chemistry (8 hours required)

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

Physics (8 hours required)

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

Mathematics (6 hours required)

MAT102 Introduction to Statistics	3 crs.
MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.

Computer Science (3 hours required)

CPS103 Overview of Computer Science	3 crs.
CPS180 Introduction to Microcomputer BASIC	3 crs.
EDU420 Microcomputers in the Classroom	3 crs.

Earth-Space Science (3 hours required)

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 – 20 crs.**Required (8 crs.)**

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.

Electives* (12 crs.)

*Electives are to be selected from courses intended for biology majors. At least 2 three-credit hour courses must be at the 300-level or above.

Chemistry Department

The Department of Chemistry offers undergraduate programs leading to the Bachelor of Science degree with programs in chemistry, chemistry-biochemistry, chemistry-health professions, chemistry-medical technology 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. Students will receive a solid foundation in the basic areas of inorganic, organic, 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 wed the theoretical and experi-

mental aspects of chemistry through a series of laboratory courses designed to augment classroom work.

Features

The chemistry program is certified by the American Chemical Society (ACS). The chemistry major allows for a B.S. in medical technology as well as for tracks in health sciences and biochemistry. 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 will complete the required core curriculum and in addition take three credits in Introduction to Research and one credit in Chemistry Seminar. All chemistry majors take a comprehensive exam after completion of their junior year.

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. There is a critical need and 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 (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 plan 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 satisfactorily complete the following chemistry courses and the additional requirements listed

under ACS Certification. All chemistry majors will take a comprehensive examination in the spring semester of their junior 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 (42 crs.)

CHM121 Chemical Bonding <i>and</i>	
CHM123 Laboratory IA Chemical Systems	5 crs.
CHM122 Chemical Dynamics <i>and</i>	
CHM124 Laboratory IIA Experimental Quantitative Analysis	5 crs.
CHM221 Modern Organic Chemistry I <i>and</i>	
CHM223 Laboratory IIIA Experimental Organic Techniques	5 crs.
CHM222 Modern Organic Chemistry II <i>and</i>	
CHM224 Laboratory IVA Qualitative Organic Analysis	5 crs.
CHM301 Biochemistry I	3 crs.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Advanced Inorganic Chemistry	4 crs.
CHM4XX Any 400-level course	3 crs.

Allied Fields (19 crs.)

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

MAT211 Calculus I <i>and</i>	
MAT212 Calculus II	8 crs.
PHY205 Intermediate Physics I <i>and</i>	
PHY313 Intermediate Physics II	8 crs.
A computer skills course meeting the requirements as specified by the department (<i>CPS103 does not satisfy this requirement.</i>)	3 crs.

Chemistry (B.S.)—Biochemistry Concentration

Students seeking a preparation in biochemistry may elect the biochemistry concentration within the chemistry program. 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 of Biological Chemists and the American Chemical Society. In addition to the course requirements listed below and as a requirement for graduation with a degree in chemistry, all chemistry majors will take a comprehensive examination after the completion of their junior 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 for graduate study. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

Chemistry (42 crs.)

CHM121 Chemical Bonding <i>and</i>	
CHM123 Laboratory IA Chemical Systems	5 crs.
CHM122 Chemical Dynamics <i>and</i>	
CHM124 Laboratory IIA Experimental Quantitative Analysis	5 crs.
CHM221 Modern Organic Chemistry I <i>and</i>	
CHM223 Laboratory IIIA Experimental Organic Techniques	5 crs.
CHM222 Modern Organic Chemistry	3 crs.
CHM301 Biochemistry I	3 crs.
CHM420 Biochemistry II	3 crs.
CHM421 Biochemistry Laboratory	1 cr.
CHM312, 313, 314 or 315 Chemistry Seminar	1 cr.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Advanced Inorganic Chemistry	4 crs.

Allied Fields (32 crs.)

Required

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
PHY205 Intermediate Physics I	4 crs.
PHY313 Intermediate Physics II	4 crs.

Biology Requirements (13 crs.)

BIO116 Principles of Biology II	4 crs.
BIO260 Genetics	3 crs.
BIO385 Cell Biology	3 crs.
BIO418 Molecular Biology	3 crs.

Biology Electives (3 crs.)

(Choose one)

BIO220 Microbiology	3 crs.
BIO408 Principles of Virology	3 crs.
BIO409 Immunology	3 crs.

Pre-Forensic Sciences Option

Students interested in declaring the Pre-Forensic Sciences option of the biochemistry concentration must complete the biochemistry curriculum as outlined and add the following 15 credits of criminal justice courses as free electives. Students completing this option will graduate with 128 credits instead of 120 credits.

CRJ100 Introduction to Criminal Justice	3 crs.
CRJ211 Criminal Law & Procedure	3 crs.
CRJ309 Theories of Crime & Crime Control	3 crs.
CRJ336 Introduction to Forensic Science	3 crs.
CRJ456 Forensic Science: Evidence Analysis	3 crs.

Chemistry (B.S.)—Health Professions Concentration

Students seeking preparation in the health sciences including pre-medicine, pre-dentistry, pre-optometry, pre-podiatry, pre-veterinary medicine, pre-pharmacy and pre-physical therapy may elect the health professions concentration within the chemistry program. In addition to the course requirements listed below and as a requirement for graduation with a degree in chemistry, all chemistry majors will take a comprehensive examination after the completion of their junior 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. Students desiring certification by the American Chemical Society

should also meet the requirements listed under ACS Certification.

Students seeking a less intensive preparation without the degree in chemistry for schools of pharmacy may complete 60 credits of pre-pharmacy studies. Courses required include ENG101, SPE100, SOC101, PSY101, CHM121, CHM122, CHM123, CHM124, CHM221, CHM222, CHM223, CHM224, MAT211, MAT212, PHY205, PHY313, BIO115, BIO116, BIO120 and BIO260. Students in pre-pharmacy must also take ECN101 but may substitute BIO220 for BIO260. Free electives are taken to complement preparation for these disciplines.

A committee, consisting of members of the biology and chemistry departments, provides students in the health professions concentration with advisement on such matters as course selection, professional school admission test information and professional school interviews. The Health Sciences Club has been formed by the students of both the biology and chemistry departments.

Students in any of the pre-professional programs in the health sciences will be expected to have a minimum QPA of 2.8 by the end of the sophomore year. (Some pre-professional programs will require a considerably higher QPA to be competitive for admission to a professional school.)

Chemistry (39 crs.)

CHM121 Chemical Bonding	
<i>and</i>	
CHM123 Laboratory IA Chemical Systems	5 crs.
CHM122 Chemical Dynamics	
<i>and</i>	
CHM124 Laboratory IIA Experimental Quantitative Analysis	5 crs.
CHM221 Modern Organic Chemistry I	
<i>and</i>	
CHM223 Laboratory IIIA Experimental Organic Techniques	5 crs.
CHM222 Modern Organic Chemistry II	
<i>and</i>	
CHM224 Laboratory IVA Qualitative Organic Analysis	5 crs.
CHM301 Biochemistry I	3 crs.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Advanced Inorganic Chemistry	4 crs.

Allied Fields (33 crs.)

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
PHY205 Intermediate Physics I	4 crs.
PHY313 Intermediate Physics II	4 crs.
BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO260 Genetics	3 crs.
BIO220 Microbiology	3 crs.
BIO385 Cell Biology	3 crs.

Additional Biology Electives

All students electing the chemistry-health professions concentration should also select, with advisement, courses listed below which accommodate specific professional requirements.

BIO317 Parasitology
BIO324 Pathogenic Microbiology
BIO350 Human Physiology
BIO351 Animal Physiology
BIO370 Comparative Vertebrate Anatomy
BIO371 Human Anatomy
BIO373 Vertebrate Embryology
BIO374 Hematology
BIO375 Histology
BIO409 Immunology
BIO450 Endocrinology

Chemistry (B.S.)—Medical Technology Concentration

The Department of Chemistry also offers an optional medical technology concentration in combination with its major. The student completes the pre-clinical requirements and the requirements for the major in chemistry in a four-year period and receives the B.S. degree in chemistry. Then the student completes the year of clinical education at one of the 6 affiliated hospitals and receives a B.S. degree in medical technology. In addition to the course requirements listed below and as a requirement for graduation, all chemistry majors will take a comprehensive examination after the completion of their junior 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 for graduate study.

Chemistry Requirements (39 crs.)

CHM121 Chemical Bonding	
and	
CHM123 Laboratory IA Chemical Systems	5 crs.
CHM122 Chemical Dynamics	
and	
CHM124 Laboratory IIA Experimental Quantitative Analysis	5 crs.
CHM221 Modern Organic Chemistry I	
and	
CHM223 Laboratory IIIA Experimental Organic Techniques	5 crs.
CHM222 Modern Organic Chemistry II	
and	
CHM224 Laboratory IVA Qualitative Organic Analysis	5 crs.
CHM301 Biochemistry I	3 crs.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Advanced Inorganic Chemistry	4 crs.

Biology Requirements (23 crs.)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO260 Genetics	3 crs.
BIO220 Microbiology	3 crs.
BIO324 Pathogenic Microbiology	3 crs.
BIO317 Parasitology	
or	
BIO350 Human Physiology	3 crs.
BIO409 Immunology	3 crs.

Allied Fields (19 crs.)

MAT211 Calculus I	
and	
MAT212 Calculus II	8 crs.
PHY205 Intermediate Physics I	
and	
PHY313 Intermediate Physics II	8 crs.
A computer skills course meeting the requirements as specified by the department (<i>CPS103 does not satisfy this requirement.</i>)	3 crs.

Students wishing to complete requirements for degree certification by the American Chemical Society must also meet those requirements listed under ACS Certification.

Chemistry (B.S.) with Secondary Certification

Students enrolled in a program of studies leading to the degree of Bachelor of Science with secondary certification will fulfill the requirements listed below. In addition to these course requirements and as a requirement for graduation with a degree in chemistry, all chemistry majors will take a comprehensive examination after the completion of their junior 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 for graduate study as well as for ACS certification. Students are expected to graduate with a minimum QPA of 3.0 as required by the state of Pennsylvania for certification.

Required (39 crs.)

CHM121 Chemical Bonding <i>and</i>	
CHM123 Laboratory IA Chemical Systems	5 crs.
CHM122 Chemical Dynamics <i>and</i>	
CHM124 Laboratory IIA Experimental Quantitative Analysis	5 crs.
CHM221 Modern Organic Chemistry I <i>and</i>	
CHM223 Laboratory IIIA Experimental Organic Techniques	5 crs.
CHM222 Modern Organic Chemistry II <i>and</i>	
CHM224 Laboratory IVA Qualitative Organic Analysis	5 crs.
CHM301 Biochemistry I	3 crs.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Advanced Inorganic Chemistry	4 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>	4 crs.
MAT212 Calculus II	4 crs.
PHY205 Intermediate Physics I <i>and</i>	4 crs.
PHY313 Intermediate Physics II	4 crs.
BIO115 Principles of Biology I	4 crs.

Professional Education Requirements (27 crs.)

TCH310 Educational Psychology	3 crs.
TCH205 The American School	3 crs.
EDU340 Teaching Science in the Secondary School	3 crs.
EDU341 Curriculum & Evaluation in the Secondary Science Classroom	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.
EEC411 Introduction to Exceptionality	3 crs.

Shippensburg University offers a program of study in chemistry that has been 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. Any student enrolled in chemistry secondary education desiring the additional preparation for this program and certification by the American Chemical Society should satisfactorily complete in addition to the above requirements those additional requirements as specified under ACS certification.

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. Any student desiring departmental recommendation for graduate work and certification by the American Chemical Society should satisfactorily complete the following chemistry courses: 121, 122, 123, 124, 221, 222, 223, 224, 301, 361, 362, 371, 381, 4XX (any 400-level course), 3 credits in Introduction to Research and one credit in Chemistry Seminar. Additional requirements are mathematics through MAT212, a computer skills course meeting the requirements as specified by the department (CPS103 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 spring semester of their junior 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 – 28 crs.**Required (28 crs.)**

CHM121 Chemical Bonding
 CHM122 Chemical Dynamics
 CHM123 Laboratory IA Chemical Systems
 CHM124 Laboratory IIA Experimental
 Quantitative Analysis
 CHM221 Modern Organic Chemistry I
 CHM222 Modern Organic Chemistry II
 CHM223 Laboratory IIIA Experimental Or-
 ganic Techniques
 CHM224 Laboratory IVA Qualitative Organic
 Analysis
 CHM361 Physical Chemistry I
 CHM371 Analytical Chemistry

- * *Cumberland*, student yearbook
- * *Shippensburg Partners*, 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 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.

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

Career Opportunities

A career in communication/journalism offers the dynamic challenges of working in today's media: the excitement of breaking the 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 on-line 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 courses towards the 120 needed for graduation. The 33–39 credits consist of common theory core (12 crs.), a professional emphasis core (9 crs.) and departmental electives (12–18 crs.).

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

A. Theory and Writing Core (10 crs.)

1. Each student must complete the following two courses with a C or better grade before taking any other Communication/Journalism courses:

COM211 Introduction to Mass Communication
COM212 Media Writing

2. Each student must complete COM211 and COM212 with a C or better grade and have the appropriate class standing before taking the final two core courses (6 crs.):

COM320 Communication Law (*junior or senior*)
COM499 Communication/Journalism Senior Capstone (*senior only*)

B. Professional Emphasis

(9 crs. in one of the following areas)*

Public Relations

COM380 Public Relations
COM381 Promotional Publication Design
COM400 Public Relations Writing

Print Media

COM285 News Writing & Reporting
COM293 Editing
COM375 Public Affairs Reporting

Electronic Media

COM224 Writing for the Electronic Media
COM325 Current Strategies in Electronic Media Programming
COM338 Electronic Media Management & Regulation

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

*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 department chair.

SU students wishing to transfer into the Department of Communication/Journalism need a 2.3 cumulative QPA, a B or higher grade in College Writing or other English composition class and a C grade on an objective and essay-based writing exam given each semester by the department. Students will be admitted based on the above criteria and space availability in the professional emphasis the student selects. Students transferring from another institution should contact the department chair.

C. Communication/Journalism Electives (12-18 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 electives courses listed below:

COM205 International Media
COM290 Advertising Copy Writing
COM331 Radio Production & Performance
COM335 Media Advertising & Sales
COM360 Introduction to Photography
COM362 Photojournalism
COM370 Television Production
COM376 Feature Writing
COM378 Computer-assisted Reporting

The following courses require junior or senior status:

COM395 Internship I
COM396 Internship II
COM450 Radio & Television News
COM451 Electronic News Gathering & Field Production
COM460 Case Studies in Public Relations
COM470 Digital Photography
COM475 Magazine & Book Production
COM481 Interactive Media Design
COM490, 491, 492 Selected Topics

Note: Internships (1-6 crs.) may be scheduled through the department secretary by qualified juniors/seniors who have a 2.3 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.

Communication/Journalism Minor –18 crs.

Required Core Courses (9 crs.)

COM211 Introduction to Mass Communication
COM212 Media Writing
COM320 Communication Law

Elective Courses (9 crs.)

Students enrolled in the minor may take any three additional courses from the communication/journalism course offerings, provided they meet course prerequisites.

Note: The Department of Communication/Journalism does not permit **any** transfer courses to be counted toward fulfillment of minor requirements.

Computer Science Department

The Department of Computer Science offers an undergraduate program leading to a Bachelor of Science degree with a major in computer science. 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.

Features

The Bachelor of Science degree program in computer science includes a concentration in an application area. Students may choose from a pre-approved concentration or seek departmental approval for a concentration of their own design. The decision on the concentration is typically made during the sophomore year.

The pre-approved concentrations include:

- * *systems programming*, for computer generalist;
- * *embedded programming*, for developing software for embedded controllers;
- * *software engineering*, for specializing in design and development of large systems;
- * *computer graphics*, for the development of graphics intensive software;
- * A related discipline concentration for those students who would like to combine computer science with another discipline such as business, science, etc. In addition, a student

may submit a proposal for an individualized program of concentration.

Internships and co-ops are available for students to gain practical experience, and students are highly encouraged to participate in them.

Languages

At Shippensburg University, the study of computer science as an intellectual discipline 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.

Major languages used include: Java as the vehicle for the first half of the introductory programming sequence (CS I and II); C/C++ for the second half of this sequence (CS II, Object Oriented Programming). These languages are used in many courses throughout the remainder of the curriculum. SQL is utilized for the Database Management Systems course. In addition, all students will gain some knowledge of a variety of other languages.

Career Opportunities

Career opportunities in software development as a programmer 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.

Computer Science (B.S.)

Core Requirements (42 crs.)

Mathematics

MAT211 Calculus I	4 crs.
MAT225 Discrete Mathematics	3 crs.
MAT313 Applied Statistics	3 crs.

Computer Science

CPS110 Computer Science I	4 crs.
CPS111 Computer Science II	4 crs.
CPS210 Data Structures	4 crs.
CPS220 Computer Organization	4 crs.
CPS310 Design & Analysis of Algorithms	4 crs.
CPS320 Operating Systems	4 crs.
CPS371 Database Management	4 crs.
CPS499 Research & Development Project	4 crs.

Concentration Requirements (approx. 27 crs.)

Each student must complete a cohesive course of additional study consisting of advanced computer science courses and courses from related or application areas. The student's course of study must be approved by the department in writing. Any student choosing one of the pre-approved five concentrations receives automatic approval. However, a student may, with his or her advisor, draw up a customized concentration which the advisor will then submit to the department for approval. Interested students may examine the department's website at www.ship.edu/~compsci to see the five pre-approved concentrations.

Course Sequence

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.

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

Semester I

Computer Science I	4 crs.
Discrete Mathematics	3 crs.
Three general education courses	9 crs.

Semester II

Computer Science II	4 crs.
Calculus I*	4 crs.
Two general education courses	6 crs.

*Students unable to begin with Calculus I may be required to take MAT124 Pre-Calculus.

Computer Science Minor – 20-21 crs.

Core Courses (14–15 crs.)

CPS253 Computer Science I	4 crs.
CPS254 Computer Science II	4 crs.
CPS255 Object Oriented Programming	3 crs.
CPS257 Computer Organization	4 crs.
or	
CPS344 Database Management Systems	3 crs.

Electives (6 crs.)

Choose from

Computer Science Courses (300–400 level)	
MAT410 Numerical Analysis I	
MAT456 Mathematics of Operations Research I	

Economics Department Economics (B.A.)

The economics department, located in the John L. Grove College of Business, offers a traditional arts and science major in economics. Details about this major may be found in the John L. Grove College of Business section.

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.

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.

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 (36 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, ENG323, ENG343 or ENG466.

Designated courses may double-count for the literary traditions 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. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Core Courses (all required) (18 crs.)

ENG107 Introduction to Literary Studies	3 crs.
ENG233 American Writers I	3 crs.
ENG234 American Writers II	3 crs.
ENG236 British Writers I	3 crs.
ENG237 British Writers 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 Gay & Lesbian Literature	3 crs.
ENG375 African-American Literature	3 crs.

Language, Writing, & Criticism (3 crs.)

ENG209 Creative Nonfiction Writing	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.
ENG343 Film Criticism	3 crs.

ENG366 History & Structure of English	3 crs.
ENG420 Teaching Writing (<i>summer only</i>)	3 crs.
ENG428 Advanced Creative Writing	3 crs.
ENG438 Technical/Professional Writing II	3 crs.

Literary Traditions (9 crs.)

(select at least one Pre-1800)

ENG256 Introduction to Mythology	3 crs.
ENG379 The Bible in Literature	3 crs.
ENG376 Studies in Medieval Literature	3 crs.
ENG318 Studies in English Renaissance 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 20th Century World Literature	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 (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, ENG323, ENG343 or ENG466.

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of

course work in a foreign language or four years of a foreign language in high school or satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language or three years of a foreign language in high school or satisfactory completion of a proficiency exam.

Designated courses may double-count for the Literary Traditions 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.

Core Courses (18 crs.)

ENG107 Introduction to Literary Studies	3 crs.
ENG233 American Writers I	3 crs.
ENG234 American Writers II	3 crs.
ENG236 British Writers I	3 crs.
ENG237 British Writers 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 Gay & Lesbian Literature	3 crs.
ENG375 African-American Literature	3 crs.

Writing (9 crs.)

ENG209 Creative Nonfiction Writing	3 crs.
ENG238 Technical/Professional Writing I	3 crs.
ENG307 Poetry Writing	3 crs.
ENG308 Fiction Writing	3 crs.
ENG323 Reviewing the Arts	3 crs.
ENG420 Teaching Writing (<i>summer only</i>)	3 crs.
ENG428 Advanced Creative Writing	3 crs.
ENG438 Technical/Professional Writing II	3 crs.

Literary Traditions (6 crs.)

(select at least one 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.
ENG379 The Bible in 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 20th Century World Literature	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 (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).

Students must take one theory-criticism course, choosing among ENG304, ENG323, ENG343 or ENG466.

Designated courses may "double-count" for the Literary Traditions 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. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language or four years of a foreign language in high school or satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language or three years of a foreign language in high school or satisfactory completion of a proficiency exam.

Core Courses (24 crs.)

ENG107 Introduction to Literary Studies	3 crs.
ENG233 American Writers I	3 crs.
ENG234 American Writers II	3 crs.
ENG236 British Writers I	3 crs.
ENG237 British Writers II	3 crs.
ENG330 Shakespeare	3 crs.
ENG366 History & Structure of English	3 crs.
ENG426 Teaching Adolescent Literature	3 crs.

Multicultural Literature (3 crs.)

ENG240 World Literature	3 crs.
ENG345 Women's Literature	3 crs.
ENG358 Ethnic Literature	3 crs.
ENG370 Gay & Lesbian Literature	3 crs.
ENG375 African-American Literature	3 crs.

Writing & Criticism (3 crs.)

ENG209 Creative Nonfiction Writing	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.
ENG343 Film Criticism	3 crs.
ENG420 Teaching Writing (<i>summer only</i>)	3 crs.
ENG428 Advanced Creative Writing	3 crs.
ENG438 Technical/Professional Writing II	3 crs.

Literary Traditions (9 crs.)

(select at least one Pre-1800)

ENG256 Introduction to Mythology	3 crs.
ENG379 The Bible in Literature	3 crs.
ENG376 Studies in Medieval Literature	3 crs.
ENG318 Studies in English Renaissance 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 20th Century World Literature	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.

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Professional Education Requirements (34 crs.)

TCH310 Educational Psychology	3 crs.
TCH205 The American School	3 crs.
EDU321 Teaching English in the Secondary School I	4 crs.
EDU322 Teaching English in the Secondary School II	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.
EEC411 Introduction to Exceptionality	3 crs.
RDG329 Reading in the Content Area	3 crs.

English Minor – 18 crs.

Required (3 crs.)

ENG107 Introduction to Literary Studies
Introduction to Literary Studies 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.

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.)

ANT341 North American Indians	
ART274 Introduction to Cultural Studio	
CRJ452 Race, Ethnicity, & Crime	
ENG248 Introduction to Culturally Diverse Literature of the U.S.	
ENG358 Ethnic Literature	
ENG375 African-American Literature	
ENG468 Seminar in Fiction	
HIS341 African-American History	
MUS261 World Music	
SWK265 Understanding Diversity for Social Work Practice	
SOC243 Minority Groups	
SOC351 Race Relations	
SPE256 African-American Communication	
SPE356 Contemporary African-American Public Address	
SPE358 African-American Public Address	
TCH255 Multicultural Issues & Strategies in Basic Education	

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.

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 environmental conservation issues in Salzburg, Austria. 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.

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, travel and tourism, 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 with graduates to assist majors in the job selection process.

Geography (B.S.)

Land Use, Geographic Information Systems (GIS) and Regional Development and Tourism Concentrations. A 12-credit Geographic Information Systems (GIS) Certificate Program is also offered.

Geography (13 crs.)

Core courses required for all concentrations—Land Use, Regional Development and Tourism and GIS.

Core courses (required):

GEO105 Physical Geography	3 crs.
GEO202 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 Seminar in Geography	1 cr.

Land Use Concentration (18 crs.)

Required

GEO444 Environmental Land Use Planning	3 crs.
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Select five of the following:

ESS214 Geology of National Parks	3 crs.
ESS442 Environmental Geology	3 crs.
GEO326 Political Geography	3 crs.
GEO310 Transportation Geography	3 crs.
ESS413 Mineral & Rock Resources	3 crs.
GEO445 Remote Sensing	3 crs.
GEO314 Industrial Geography	3 crs.
GEO322 Urban Geography	3 crs.
GEO244 Land Use	3 crs.
GEO401 Geography of Tourism	3 crs.
GEO320 Historical Geography	3 crs.

Internship (at least 3 credits required)

Allied Courses (15 crs.)

Political Science (6 crs.)

PLS231 State & Local Government	3 crs.
PLS331 Municipal Government & Administration	3 crs.
PLS384 Regional & Urban Planning	3 crs.
PLS431 Pennsylvania Local Government	3 crs.
PLSxxx Political Science course by advisement	

Math-Computer Science (6 crs.)

Select one:

MAT102 Introduction to Statistics	3 crs.
MAT170 Elementary Statistics for Social Sciences	4 crs.

Select one:

CPS103 Overview of Computer Science	3 crs.
CPS180 Microcomputer Basic	3 crs.
CPS253 Structured Computer Programming	4 crs.

Psychology (3 crs.)

PSY105 Research-Design & Statistics for Behavioral Sciences	3 crs.
<i>or</i>	
GEO441 Quantitative Methods	3 crs.

Regional Development and Tourism Concentration (21 crs.)

Required

ESS214 Geology of National Parks	3 crs.
GEO103 Geography of the United States & Canada	3 crs.
GEO244 Land Use	3 crs.
<i>or</i>	
GEO322 Urban Geography	3 crs.

GEO401 Geography of Tourism	3 crs.	Internship (at least 3 credits required)	
GEO444 Environmental Land Use Planning	3 crs.	Allied Courses (15 crs.)	
Select two of the following:		Select one:	
GEO201 Geography of Latin America	3 crs.	BIO100 Basic Biology	3 crs.
GEO213 Geography of South & Southeast Asia	3 crs.	BIO115 Principles of Biology I	4 crs.
GEO214 Geography of East Asia	3 crs.	BIO116 Principles of Biology II	4 crs.
GEO305 Geography of Europe	3 crs.	Select one:	
GEO307 Geography of Middle East & North Africa	3 crs.	CHM105 Chemistry: Observational Approach	3 crs.
GEO316 Geography of Africa	3 crs.	CHM121 Chemical Bonding	3 crs.
		PHY121 Introductory Physics I	4 crs.
		Select one:	
Internship (at least 3 credits required)		CPS103 Overview of Computer Science	3 crs.
Allied Courses (12 crs.)		CPS180 Microcomputer Basic	3 crs.
Math-Computer Science (6 crs.)		CPS253 Structured Computer Programming	4 crs.
Select one:		CPS254 Data Structures & Abstract Data Types	4 crs.
MAT102 Introduction to Statistics	3 crs.	Select one:	
MAT170 Elementary Statistics for Social Science	4 crs.	MAT102 Introduction to Statistics	3 crs.
PSY105 Research Design & Statistics for the Behavioral Sciences I	3 crs.	MAT105 Math for Liberal Studies	3 crs.
Select one:		MAT211 Calculus I	4 crs.
CPS103 Overview of Computer Science	3 crs.	MAT212 Calculus II	4 crs.
CPS180 Microcomputer Basic	3 crs.		
CPS253 Structured Computer Programming	4 crs.	Geoenvironmental Studies (B.S.)	
Economics (3 crs.)		Geography-Earth Science (37 crs.)	
Select one:		Required Core Courses (13 crs.)	
ECN101 Principles of Macroeconomics	3 crs.	ESS207 Atmospheric Studies	3 crs.
ECN102 Principles of Microeconomics	3 crs.	ESS210 Physical Geology	3 crs.
ECN319 International Economics: Theory	3 crs.	GEO224 Soils	3 crs.
ECN321 International Economics: Policy	3 crs.	GEO226 Hydrology	3 crs.
Anthropology-Government (3 crs.)		GEO391 Geography Seminar	1 cr.
ANT220 Anthropology for International Studies	3 crs.	Geography Electives (6 crs. min.)	
PLS384 Regional & Urban Planning	3 crs.	GEO230 Economic Geography	3 crs.
		GEO244 Land Use	3 crs.
Geographic Information Systems (GIS) Concentration (18 crs.)		GEO310 Transportation Geography	3 crs.
Required		GEO314 Industrial Geography	3 crs.
GEO251 Cartography	3 crs.	GEO320 Historical Geography	3 crs.
GEO363 Computer Mapping	3 crs.	GEO322 Urban Geography	3 crs.
GEO420 Geographic Info. Systems	3 crs.	GEO401 Geography of Tourism	3 crs.
Select three		* Regional geography courses may also be counted as electives by advisement.	
GEO222 Map & Photo Analysis	3 crs.	Geoenvironmental Complex System Electives (9 crs. min.)	
GEO440 Field Techniques	3 crs.	GEO301 Biogeography	3 crs.
GEO441 Quantitative Methods	3 crs.	GEO306 Geomorphology	3 crs.
GEO445 Remote Sensing	3 crs.	GEO402 Environmental Health	3 crs.
400-level Geography elective	3 crs.	GEO403 Natural Hazards & Hostile Environments	3 crs.
		GEO444 Environmental Land Use Planning	3 crs.

GEO446 Water Resources Management	3 crs.
ESS404 Applied Meteorology & Climatology	3 crs.
ESS413 Mineral & Rock Resources	3 crs.
ESS442 Environmental Geology	3 crs.
ESS490 Selected Topics: Energy Systems	3 crs.
GEO491 Selected Topics: Environmental Law	3 crs.
Technique Course Electives (6 crs. min.)	
GEO202 Introduction to Geographic Information Systems	3 crs.
GEO222 Map & Air Photo Analysis	3 crs.
GEO251 Cartography	3 crs.
GEO363 Computer Mapping	3 crs.
GEO420 Geographic Info. Systems	3 crs.
GEO440 Field Techniques	3 crs.
GEO441 Quantitative Methods	3 crs.
GEO445 Remote Sensing	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.
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.
ESS355 Meteorology	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 (23 crs.)

Biology (9 credits by advisement)

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

BIO100 Basic Biology	3 crs.
BIO115 Principles of Biology I*	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO145 Problems of the Environment*	3 crs.
BIO210 Field Zoology	3 crs.
BIO242 Ecology* (Prereq.: BIO115)	3 crs.
BIO248 Field Natural History*	3 crs.
BIO442 Hydrobiology (Prereq.: BIO115)	3 crs.
BIO448 Field Botany & Plant Taxonomy* (Prereq.: BIO116, BIO100 or instructor's permission)	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 & 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 & Reactions	1 cr.
CHM126 Lab IIB Equilibrium & Instrumentation	1 cr.
PHY121 Introductory Physics I	4 crs.

Computer Science (3 credits by advisement)

CPS103 Overview of Computer Science	3 crs.
CPS180 Microcomputer Basic	3 crs.
CPS253 Structured Computer Programming	4 crs.
CPS254 Data Structures & Abstract Data Types	4 crs.
BIS142 Introduction to Business Computer Systems	3 crs.

Mathematics (3 credits by advisement)

MAT102 Introduction to Statistics	3 crs.
MAT108 Finite Math	3 crs.
MAT124 Pre-Calculus	3 crs.
MAT170 Elementary Statistics for Social Science	4 crs.
MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.

Recommend background course:

GEO105 Physical Geography

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

Required Courses in Geography (12 crs.)

GEO101 World Geography	3 crs.
ESS110 Introduction to Geology	3 crs.
<i>or</i>	
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 (45 crs.)**Economics (9 crs.)**

ECN101 Principles of Macroeconomics	3 crs.
ECN102 Principles of Microeconomics	3 crs.
GEO230 Economic Geography	3 crs.

History (9 crs.)

HIS104 Recent History of the U.S.	3 crs.
HIS105 World History I	3 crs.
HIS106 World History II	3 crs.

Political Science (Government) (9 crs.)

PLS100 Government & Politics	3 crs.
PLS141 Introduction to International Relations	3 crs.
PLS231 State & Local Government	3 crs.

Psychology (3 crs.)

PSY101 General Psychology	3 crs.
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Cognate Field: Two 200-level or above courses from one of the following areas: history, political science, economics.

Required Professional Courses (30 crs.)

TCH205 The American School	3 crs.
TCH310 Educational Psychology	3 crs.
EDU310 Teaching of Social Studies I	3 crs.
EDU311 Teaching of Social Studies II	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.
EEC411 Introduction to Exceptionality	3 crs.

Required Field Experience

(See advisor)

Earth and Space Science (B.S.Ed.)**Major – 30 crs.****Required (15 crs.)**

ESS210 Physical Geology	3 crs.
ESS212 Historical Geology	3 crs.
ESS355 Meteorology	3 crs.
ESS220 Oceanography	3 crs.
PHY108 Astronomy	3 crs.

Electives in Earth Science (15 crs.)**Allied Fields (31-34 crs.)**

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

Biology (9 hours by advisement)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
BIO145 Problems of the Environment	3 crs.
BIO242 Ecology	3 crs.
BIO248 Field Natural History	3 crs.
BIO311 Ornithology	3 crs.
BIO448 Field Botany & Plant Taxonomy	3 crs.

Chemistry (8 hours for General Science)

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

Physics (8 hours for General Science)

PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II	4 crs.

Math-Computer Science (6-9 hours by advisement)

MAT102 Introduction to Statistics	3 crs.
MAT124 Pre-Calculus	3 crs.
MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
CPS103 Overview of Computer Science	3 crs.
CPS253 Structured Computer Program	4 crs.
CPS254 Data Structures & Abstract Data Types	4 crs.

Professional Education Requirements (34 crs.)

TCH310 Educational Psychology	3 crs.
TCH205 The American School	3 crs.
EDU340 Teaching Science in the Secondary School	3 crs.
EDU341 Curriculum & Evaluation in the Secondary Science Classroom	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.
EEC411 Introduction to Exceptionality	3 crs.
RDG329 Reading in the Content Areas	3 crs.

Environmental Education (3 crs.)

EDU410 Environment Education Practicum	3 crs.
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Geographic Information Systems (GIS) Certificate (12 crs.)

Required

GEO202 Introduction to Geographic Information Systems (GIS) 3 crs.

GEO420 Geographic Information Systems 3 crs.

Select two:

GEO222 Map & Photo Analysis 3 crs.

GEO251 Cartography 3 crs.

GEO363 Computer Mapping 3 crs.

GEO440 Field Techniques 3 crs.

GEO441 Quantitative Methods 3 crs.

GEO445 Remote Sensing 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.

Health Care Administration Degree

Please refer to the Degree Completion Program chapter beginning on page 73.

Regularly-admitted students with an interest in this major must meet the degree completion program admissions requirements as outlined on page 25. Questions should be directed to the degree completion program coordinator (www.ship.edu/~DCP).

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.

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. 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.

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.

History (B.A.)

History-Field of Specialization (36 crs.)

Required (18 crs.)

HIS105 World History I 3 crs.

HIS106 World History II 3 crs.

HIS201 Early History of U.S. 3 crs.

HIS202 Recent History of U.S. 3 crs.

HIS203 Theory & 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

History–Public History Concentration (42 crs.)

Required (18 crs.)

HIS105 World History I	3 crs.
HIS106 World History II	3 crs.
HIS201 Early History of U.S.	3 crs.
HIS202 Recent History of U.S.	3 crs.
HIS203 Theory & 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

HIS418 Introduction to Applied History	3 crs.
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Select one

HIS419 Advanced Topics in Public History	3 crs.
HIS494 Introduction to Archives	3 crs.
HIS490 Selected Topics (with advisement)	3 crs.

Required Internship (6 crs.)

HIS391 History Internship	6 crs.
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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. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Social Studies Education (B.S.Ed.)–History

A 3.0 QPA will be required for entrance into the B.S. in Ed. program and for matriculation to professional standing. The requirements for the B.S. in 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 (60 crs.)

History (30 crs.)

Required (12 crs.)

HIS105 World History I	3 crs.
HIS106 World History II	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.

Free Electives (6 crs.)

at 300 level or above

Required Allied Social Studies (30 crs.)

Political, Economic & Geographic Science (6 crs.)

ECN101 Principles of Macroeconomics	3 crs.
GEO101 World Geography	3 crs.

Social & Behavior Science (6 crs.)

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

Social Studies Certification Requirements (18 crs.)

ANT111 Cultural Anthropology	3 crs.
ECN101 Principles of Macroeconomics	3 crs.
GEO103 Geography of U.S. & Canada	3 crs.
PLS100 U.S. Government & Politics	3 crs.
PLS electives	3 crs.
PLS141 or 200- or 300-level. Suggested courses PLS231, 251 and 300.	
GEO/PLS/ECN elective	3 crs.
This elective must be at 300 level or above.	

Specific General Education Courses for Certification

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 (30 crs.)

TCH205 The American School	3 crs.
TCH260 Educational Psychology	3 crs.
Courses TCH205 and TCH260 must be completed before EDU412 and EDU413.	
EEC411 Introduction to Exceptionalites	3 crs.
EDU412 Teaching of Social Studies I*	3 crs.
EDU413 Teaching of Social Studies II*	3 crs.
*These two courses must be taken simultaneously.	
EDU495 Student Teaching & Professional Practicum	15 crs.
Required Field Experience	
Required: 50 Level I hours by the time one attains 75 credits. See B.S.Ed. advisor.	

Portfolio Requirement: For assessment and career development purposes, all B.A. and B.S.Ed. majors are required to assemble and submit a portfolio documenting their academic growth and their major accomplishments.

History Minor – 18 crs.

Required (9 crs.)

- HIS105 World History I
- HIS106 World History II
- 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 & Medieval Philosophy
- or
- PHL249 History of Modern Philosophy (3 crs.)
- PHL210 Ethics (3 crs.)
- PHL200 level course except PHL248 or PHL249 (3 crs.)
- PHL300 level course (3 crs.)
- Remaining courses at any level (9 crs.)

Interdisciplinary Arts Program

The Interdisciplinary Arts Program (IAP) at Shippensburg University is the only one of its kind among the 14 universities in the Pennsylvania State System of Higher Education. The B.A. degree program includes the performing arts (art, creative writing, music, theater) and criticism written about them.

Much of what's done in art, literature and music is a combination of some or all of the others at once. "Amadeus," for example, combines music with stage design and writing. If you were going to put on a production of the play or were going to write a critical study about the movie version—you would be doing interdisciplinary work. The Interdisciplinary Arts Program is for all students who have personal or career interests in such work.

IAP majors select one primary and two auxiliary areas of concentration. The selections are made from the art, English and music and theatre departments. A primary area is one in which at least six courses (18 credit hours) are taken. An auxiliary area is one in which at least four courses (12 credit hours) are taken. Selections should be made with a specific project in mind. A student wanting to direct a production of selected scenes from "Amadeus" as a project would probably select theater as a primary area with art and music as auxiliary areas. A student wanting to write a critical study of the movie version would probably select English as a primary area with music and theater as auxiliaries.

Each IAP major's project is to be completed in the senior year. It can be in performance or in criticism. Some further examples are: (*performance*) an exhibition of artwork, a music recital, a manuscript of fiction or poetry; (*criticism*) an extended essay on the influence of literature and music in the work of a relevant visual artist, an extended essay on the interaction of the arts in a recent musical or opera, an extended essay on art and music references in a work of literature. The project counts for six credit hours and is to be done in coordination with the two-semester senior seminar (IAP 303-304).

Adding up the requirements for primary and auxiliary areas along with the senior seminar, the IAP major requires a minimum of 48 credit hours of course work. When general education requirements are taken into consideration and staying within the 120 credit hours for graduation, an

IAP major will have 12 credit hours of free electives. It is strongly recommended all IAP majors use at least six credit hours of their free electives to further their study of a foreign language.

It should be understood not all courses counting toward a primary or auxiliary area need to be taken in the specific academic department for that area. An example of this is PHL225 Philosophy of Art. Offered by the history/philosophy department, the course should be relevant for most IAP majors as counting toward at least their auxiliary areas. Exactly which courses may be so counted is to be determined by the program director in consultation with the dean of Arts and Sciences. It is the responsibility of the student and the student's advisor to contact the director concerning such determinations before going through registration.

To declare the IAP major, students should submit an application (1-2 pp., typed) to the program director during the second semester of their sophomore year. Each application should include current quality point average, a statement of interest in a particular combination of primary and auxiliary areas and some indication of the student's anticipated senior project. The project may have to be described in general terms, but some indication or description must be included in each application. (Before submitting applications, students should feel free to consult the program director, who will be glad to answer any questions they may have.) The application should be sent to the IAP Director, Department of English. The IAP major may be declared only if the application is approved by the director in consultation with the IAP committee of representatives.

Interdisciplinary Arts (B.A.)

The following are some examples of possible combinations of areas and of senior projects for IAP majors. Keep in mind they are examples of what's possible rather than pre-set arrangements. Each IAP major has an individual combination based on the major's senior project.

Ex. A. *Major area: Music*

Auxiliary areas: Art & Literature

Senior project: voice recital of 20th c. art songs

18 crs.: Music Sight Reading
 Music Theory I & II
 Voice Class, Level I & II
 20th Century Music

12 crs.: Art History II
 History of American Art
 Reviewing the Arts
 Independent Study

12 crs.: Modern Poetry
 Contemporary British & American Literature
 Contemporary World Literature
 Readings in 19 & 20 c. German Literature

Ex. B. *Major area: Literature (theatre)*

Auxiliary areas: Art & Music

Senior project: production of a one act play

18 crs.: Play Production
 Directing
 Costumes & Make-Up
 Theatre History
 Modern Drama
 Seminar in Drama

12 crs.: Art History I & II
 History of American Art
 Independent Study

12 crs.: Music in the U.S.
 20th Century Music
 Opera & Music Theater
 Sociology of the Arts

Ex. C. *Major area: Art*

Auxiliary areas: Literature & Music

Senior project: exhibition of a collection of original paintings

18 crs.: Art History I & II
 Watercolor Painting
 Creating Painting
 Oil Painting
 Independent Studio

12 crs.: Reviewing the Arts
 Contemporary British & American Literature
 Sociology of the Arts
 Philosophy of the Arts

12 crs.: 20th Century Music
 Opera & Music Theater
 Independent Study
 Independent Study

Ex. D. *Major area: Literature (creative writing)*

Auxiliary areas: Art & Music

Senior project: manuscript of original fiction

18 crs. The English Novel
 The American Novel
 Contemporary American & British Literature
 Contemporary World Literature
 Creative Writing: Fiction
 Advanced Creative Writing

12 crs.: Art History I & II

Studies in the History & Criticism of Art
Independent Study

12 crs.: Music Sight Reading

Music in the U.S.
20th Century Music
Independent Study

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

International Studies

The International Studies minor is an interdisciplinary program that enhances knowledge of the various countries and cultures of the world. Minor (21 crs.) and Certificate (12 crs.) programs are offered. The minor's required core provides an overview of international studies while 9 credits of elective courses give students flexibility to pursue their own international interests. The certificate concentrates on a particular area of study (Asia, Europe and Russia, Latin America, Africa and Middle East or global issues).

The International Studies curriculum is designed to increase awareness of international issues and prepare students for an ever-changing, interdependent world. The program promotes understanding of cultural differences that can hinder cross-cultural communication and international relations. Emphasis also is placed upon global linkages in the world's economy, politics, media and culture that create international interdependence and tension. The program uses an interdisciplinary approach. Courses that fulfill program requirements are offered in the departments of Economics, English, Geography, History, Management & Marketing, Modern Languages, Political Science, Sociology/Anthropology and others. Study abroad and foreign language learning are highly encouraged but not required.

International Studies Minor – 21 crs.

Required (12 crs.)

ANT220 Anthropology for International Studies
ECN321 International Economics

or

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, depending on a student's interests. A complete list of approved courses is available on the International website at <http://www.ship.edu/~ism>. Study abroad and advanced language study are strongly encouraged and can count toward elective credit.

International Studies Certificate – 12 crs.

Required Core Course (3 crs.)

Students must take one of the following four core courses:

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

Electives (9 crs.)

Three elective courses are chosen to develop a field of specialized expertise. Electives are selected from within one of five focus areas (Asia, Europe and Russia, Latin America, Africa and Middle East or global) and 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 website at <http://www.ship.edu/~ism>. Study abroad and advanced language study are strongly encouraged and may count toward elective credit.

As the catalog was going to press, requirements for the International Studies Minor and International Studies Certificate were being revised. For information on current requirements consult the International Studies website at <http://www.ship.edu/~ism>.

Mathematics Department

The Department of Mathematics offers two undergraduate programs leading to either a Bachelor of Arts (B.A.) or a Bachelor of Science (B.S.) degree. One of the "concentrations" within the Bachelor of Science degree program includes certification for teaching mathematics at the secondary school level.

Both degrees are 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 and actuarial science, physical and biological sciences and teacher certification 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.

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.A.)

The Bachelor of Arts degree contains a significant core of required mathematics courses, designed to provide a broad knowledge of mathematics and quantitative reasoning. At the same time, the B.A. program is flexible, allowing students to determine their own emphasis; students complete a quantitative sequence which will enable them to apply their mathematical knowledge to a particular area. Thus students are prepared to enter a career field or to continue their studies in the mathematical sciences.

Required Mathematics (34 crs.)

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
MAT213 Multivariate Calculus	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT320 Introduction to Abstract Algebra	3 crs.
MAT322 Differential Equations	3 crs.
MAT329 Elementary Linear Algebra	3 crs.
MAT400 History of Mathematics	3 crs.

MAT441 Advanced Calculus I	3 crs.
MAT476 Probability	3 crs.

Mathematics Electives (6 crs.)

MAT300 or 400 level	3 crs.
MAT300 or 400 level	3 crs.

Required Computer Science (4 crs.)

CPS180 Microcomputer Basic	3 crs.
or	
CPS253 Computer Science I	4 crs.

Quantitative Sequence (8-9 crs.)

One of the following sequences:

Chemistry	
CHM121 Chemical Bonding	3 crs.
CHM122 Chemical Dynamics	3 crs.
CHM125 Lab IB	1 cr.
CHM126 Lab IIB	1 cr.

Economics (9 credits from:)

ECN102 Principles of Microeconomics	3 crs.
ECN260 Intermediate Microeconomics Theory	3 crs.
ECN484 Mathematical Economics	3 crs.
ECN485 Econometrics	3 crs.

Physics

PHY205 Intermediate Physics I	4 crs.
PHY206 Intermediate Physics II	4 crs.
Pre-graduate School	
MAT400-level	3 crs.
MAT400-level	3 crs.
MAT400-level	3 crs.

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Mathematics (B.S.)

The Bachelor of Science degree is designed to give the student a broad knowledge of mathematics while focusing on its applications. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

This degree program includes a concentration in an application area. Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision on the concentration is typically made during the sophomore year.

Concentrations

Currently there are four pre-approved concentrations: computer science, statistics, applied math and secondary education certification. Several of the concentrations allow for a minor in a related discipline in place of additional math courses.

In addition to the pre-approved concentrations, a student may submit a proposal for an individualized program of concentration. Proposals must include a minimum of 30 credits of advanced mathematics courses and courses from application or related areas. Such proposals must be approved, in writing, by the department.

Interdisciplinary Sequences and Allied Electives

Some concentrations involve an interdisciplinary sequence and/or 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, CPS, ECN, ESS, MAT, PHY; the department list includes a few additional courses which may be used for this purpose.

Required Mathematics (28 crs.)

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
MAT213 Multivariate Calculus	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT313 Applied Statistics I	3 crs.
MAT320 Introduction to Abstract Algebra	3 crs.
MAT329 Elementary Linear Algebra	3 crs.
MAT441 Advanced Calculus I	3 crs.

Required Computer Science (4 crs.)

CPS180 Microcomputer Basic	3 crs.
or	
CPS253 Computer Science I	4 crs.

Concentration Requirements (min. 30 crs.)

Following are the four concentrations pre-approved at the time the catalog went to press:

Computer Science Concentration (31-32 crs.)

MAT322 Differential Equations	3 crs.
MAT410 Numerical Analysis	3 crs.
MAT400-level elective	3 crs.
<i>CPS minor</i> ¹	16-17 crs.
<i>Allied Electives</i>	6 crs.

Statistics Concentration (29-30 crs.)

MAT413 Applied Statistics II	3 crs.
MAT456 Deterministic Methods of Operations Research	3 crs.
MAT476 Probability	3 crs.
MAT486 Mathematical Statistics	3 crs.
MAT400-level elective	3 crs.
<i>Allied Electives & Interdisciplinary Sequence</i> ²	14-15 crs.

Applied Math Concentration (29-30 crs.)

MAT322 Differential Equations	3 crs.
MAT326 Mathematical Modeling	3 crs.
MAT410 Numerical Analysis	3 crs.
MAT400-level elective	3 crs.
MAT400-level elective	3 crs.
<i>Allied Electives & Interdisciplinary Sequence</i> ²	14-15 crs.

Secondary Education Certification (45 crs.)

MAT326 Mathematical Modeling	3 crs.
MAT333 Euclidean/Non-Euclidean Geometry	3 crs.
MAT400 History of Mathematics	3 crs.
MAT300- or 400-level elective	3 crs.
<i>Professional Sequence</i> ³	
EEC411 Introduction to Exceptionalities	3 crs.
TCH205 The American School	3 crs.
TCH260 Educational Psychology	3 crs.
EDU371 Technology in the Mathematics Classroom ³	3 crs.
EDU434 Teaching of Mathematics in the Middle Grades & High School I ³	3 crs.
EDU435 Teaching of Mathematics in the Middle Grades & High School II ³	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.

Notes:

¹ *These courses are in addition to CPS253 already taken. They may not be MAT courses, nor be the same as the courses counted as the Allied Electives.*

² *These may be replaced by a minor in any discipline.*

³ *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 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 is available in the department office.

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

Semester I

MAT211 Calculus I

CPS180 or CSC253

Three or 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 Department of Modern Languages offers undergraduate programs leading to the Bachelor of Arts degree with majors in French and Spanish. The French or Spanish graduates will: be knowledgeable in the subject area; demonstrate good abilities in the active skills (reading, speaking, listening, writing) of the language they are studying; reach a level of cultural awareness that allows sensitivity to the different manifestations of culture in the countries where each language is spoken; utilize those skills and knowledge gained from modern language, cultural and literary studies to develop a critical mind, to analyze objectively and to synthesize clearly; utilize those skills and knowledge from modern language study necessary to be aware of the meaning of the international community and to appreciate the international nature of social, political and economic decisions.

Features

The Pennsylvania University System offers Junior Year Abroad programs in a variety of non-English speaking countries. The Shippensburg University study abroad advisor can place you in one of these locations. During the year there are optional field trips to Washington, D.C. and other metropolitan areas to attend regional or national language association meetings, to see foreign language plays or movies and to visit consulates and embassies. Independent study provides the opportunity to do graduate-level research in a topic of your choice, working with a faculty specialist in that area. Internships are available as are opportunities to tutor peers or local high school students. There are occasional opportunities for highly qualified students to translate for local businesses.

The Department of Modern Languages has a 35-position computerized multimedia audio-video language-learning center for both classroom sessions and individualized work. 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 Memorial Library maintain an excellent collection of books, magazines, maps, tapes, records, slides and films on the language, literature and culture of foreign countries.

The clubs and societies bring guest speakers and foreign films to campus, plan trips to nearby cities that offer other language events and provide a social and cultural milieu in which you can get the most from your language studies. The International Students' Club develops and fosters interaction between Shippensburg University's international and American students. Club activities help you attain a greater appreciation for the cultures of other countries. Members of the modern language faculty have spent a great amount of time living, studying and traveling in countries whose languages they teach. Courses range from those for beginners to those for students who are adept in a language. Your faculty advisor will find the courses that best match your command of a language.

Career Opportunities

Students who earn the B.A. degree with secondary certification in modern languages usually enter secondary school teaching or go on to graduate school to earn an advanced degree. You can increase your job opportunities by earning certification in more than one language or in more than one academic area (French-Spanish, Spanish-English). With a B.A. degree your career options multiply: you can use your skills in speaking, reading and writing a modern language in such careers as foreign service, international business, communications (particularly in bilingual regions of the country), science, travel/tourism, airlines work, translation and interpretation and United Nations or Peace Corps work. It is advisable, however, to take a second major or a minor in a professional field where facility with a foreign language is advantageous.

Placement System

The placement of students is done according to a system combining high school years of foreign language study with a placement test. The placement system does not address exclusively the needs of students pursuing a B.A. but those of the whole student population.

French (FRN), German (GER) and Spanish (SPN) 101, 102 and 103 courses are scheduled through the modern languages department placement system; i.e., these classes will only be scheduled after the students are assessed through the placement system. The same rules concerning these courses should apply to B.A. and non B.A. majors.

Students with three or more years of high school language study will not be permitted to take a 101 course in that same language.

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 (24 crs.)

FRN202 Intermediate French	
Conversation	3 crs.
FRN204 Ideas & Cultures from the French-Speaking World	3 crs.
FRN308 Diction et Compréhension	3 crs.
FRN309 French Grammar	3 crs.
FRN316 Composition & 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 French courses at the 300 and 400 level.

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

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.

Required (24 crs.)

FRN202 Intermediate French	
Conversation	3 crs.
FRN204 Ideas & Cultures from the French-Speaking World	3 crs.
FRN308 Diction & Compréhension	3 crs.
FRN309 French Grammar	3 crs.
FRN316 Composition & 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 French courses at the 300 and 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 (if planning to teach French*) (33 crs.)

TCH205 The American School	3 crs.
TCH250 Elements of Instruction	3 crs.
TCH310 Educational Psychology	3 crs.
EEC411 Introduction to Exceptionality	3 crs.
<i>or</i>	
PSY355 Psychology of the Exceptional Child	3 crs.
EDU426 Teaching of Foreign Language	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.

*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 (9 crs.)

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

Electives (9 crs.)

Three additional courses at the 300 and 400 level.

French Certificate – 12 crs.

Select four courses from the major, including FRN150 French Civilization. Courses selected by advisement.

Dual Certification French and Another Field

Students planning to teach will find it to their advantage to work for dual certification in two modern languages, a modern language and English or a modern language and another field. To achieve dual certification a student must have the approval of both departments involved, complete the normal requirements for a major in the primary area of interest and a 30 hour sequence

in the secondary area of specialization, plus appropriate courses in the methodology and student teaching in both areas.

Spanish (B.A.)

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 (27 crs.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas & Cultures from the Spanish-Speaking World	3 crs.
SPN260 Introduction to Literary Studies	3 crs.
SPN302 Advanced Spanish Conversation	3 crs.
SPN309 Spanish Phonetics	3 crs.
SPN312 Spanish Grammar	3 crs.
SPN313 Advanced Composition & Stylistics	3 crs.
SPN360 Masterpieces of Spanish Literature	3 crs.
SPN361 Masterpieces of Spanish American Literature	3 crs.

Spanish Electives (9 crs.)

Three Spanish courses. At least one of the three at the 300 level or above; at least one of the three 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.

Required Spanish (27 crs.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas & Cultures from the Spanish-Speaking World	3 crs.
SPN260 Introduction to Literary Studies	3 crs.
SPN302 Advanced Spanish Conversation	3 crs.
SPN309 Spanish Phonetics	3 crs.
SPN312 Spanish Grammar	3 crs.
SPN313 Advanced Composition & Stylistics	3 crs.
SPN360 Masterpieces of Spanish Literature	3 crs.
SPN361 Masterpieces of Spanish American Literature	3 crs.

Spanish Electives (9 crs.)

Three Spanish courses. At least one of the three at the 300 level or above; at least one of the three 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 (if planning to teach Spanish*) (33 crs.)

TCH205 The American School	3 crs.
TCH250 Elements of Instruction	3 crs.
TCH310 Educational Psychology	3 crs.
EEC411 Introduction to Exceptionality	3 crs.
or	
PSY355 Psychology of the Exceptional Child	3 crs.
EDU426 Teaching of Foreign Language	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.

*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 (9 crs.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas & Cultures from the Spanish-Speaking World	3 crs.
SPN312 Spanish Grammar	3 crs.

Electives (9 crs.)

Three Spanish courses. At least one of the three at the 300 level or above.

Spanish Certificate – 12 crs.

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

German Studies Minor – 18 crs.

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

Required (12 crs.)

GER150 German Civilization & Culture	3 crs.
GER203 Intermediate German Conversation	3 crs.
GER204 Ideas & Cultures from the German-Speaking World	3 crs.
GER312 Advanced German Grammar	3 crs.

Electives (6 crs.)

German Language or Literature courses beyond GER150 or one of the following courses in agreement with the Director of the German Studies Minor and the instructor of the course.

ANT350 People & Cultures of Europe	
ART233 Art History III	
ENG240 World Literature	
ENG343 Film Criticism	
ENG385 Studies in 20th Century World Literature	
EDU326 Methods of Teaching Foreign Languages	
GEO305 Geography of Europe	
HIS329 History of Germany to 1919	
HIS330 History of Modern Germany: 1919 to Present	
MUS222 Music History & Literature of the Renaissance & Baroque Periods	
MUS224 Music History & Literature of the Classic & Romantic Eras	
MUS226 Music of the 20th Century	
PHL101 Introduction to Philosophy	

PHL105 Introduction to Ethical Theories & Problems
PHL250 History of Philosophy
PSY240 Psychology of Personality
SOC450 Classical Social Theory
SWPE240 Dramatic Narrative Film

German Certificate – 12 crs.

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

Music & Theatre Arts Department

Music Minor – 18 crs.

MUS121 Introduction to Music is required prior to declaring a music minor and does not count toward the 18 credits needed to complete a music minor.

Required (9 crs.)

MUS212 Music Theory I
MUS312 Music Theory II
Performance course

Other Courses (9 crs.)

To be chosen in consultation with your music department advisor from the following lists:

Performance Courses (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

Literature & Musicianship (3 crs.)

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

Performing Ensembles (1 cr.)

Brass Ensemble
Concert Band
Concert Choir
Cumbelaires

Jazz Ensemble
Madrigals
Marching Band
University-Community Orchestra
Woodwind Ensemble

*Denotes University General Education course

Theater Minor – 18 crs.

Required (12 crs.)

THE121 Introduction to Theater	3 crs.
THE123 Fundamentals of Acting	3 crs.
THE229 Introduction to Technical Production	3 crs.
THE324 Theater Practicum	3 crs.

Electives (6 crs.)

ART110 Basic Drawing
ART215 Color & 2D Design
ART231 Art History I
ART232 Art History II
ENG330 Shakespeare
ENG467 Seminar in Drama
MUS227 Opera & Musical Theater
THE222 Acting: Scene Study
THE320 Directing
THE327 Costumes & Make-up
THE329 Theater History
THE394 Theatre Internship
THE490 Selected Topics in Theater Arts

Physics Department

The Department of Physics offers undergraduate programs leading to two degrees: the Bachelor of Science and the Bachelor of Science in Education; as well as a minor in physics.

Features

The physics department satisfies the needs of the entire academic community. The physics major programs prepare students for graduate school, various professional schools and entry into the work place as problem solvers in industry, government, private entrepreneurship and teaching in high schools, colleges and universities.

A wide variety of courses serve as cognates for other majors including biology and chemistry. These courses also are an integral part of the university's general education program, where non-science students are exposed to explanations of fundamental physical phenomena and scientific measurement and develop creative thinking

and problem solving skills through the combination of structure and logic which is uniquely physics.

Applied Physics (B.S.)

A five-year program in the liberal arts and engineering has been established between Shippensburg and the engineering schools of Pennsylvania State University and the University of Maryland.

The 3-2 student currently takes 97 credits at Shippensburg University over a three-year period. In so doing, he/she fulfills all of the general education requirements, the lower division structure in mathematics and the natural sciences and some upper division physics courses. By virtue of written articulation agreements with the cooperating engineering schools, the student is guaranteed admission with junior standing into an engineering discipline at the engineering school where the student normally spends an additional two years completing the upper division concentration in the engineering discipline of his/her choice—some 60 additional credit hours of work.

Upon successful completion of this second phase of the program the student receives two degrees: a Bachelor of Engineering degree from the engineering college and a Bachelor of Science degree in applied physics from Shippensburg.

In addition to the normal engineering curriculum, this program provides the student with a broader liberal arts background and a great breadth of knowledge of physics, enlarging the students' opportunity of career choices.

Details concerning the program may be obtained by contacting the chair of the physics department. An applied physics degree is also available with a nanofabrication emphasis that prepares students to be competitive in one of the most rapidly developing areas of high-tech industry.

Degree Requirements

B.S. degree with a major in applied physics, 97 crs. at Shippensburg University, plus graduation from an engineering school.

Required Courses

Physics (36 crs.)

PHY205 Intermediate Physics I	4 crs.
PHY313 Intermediate Physics II	4 crs.
PHY314 Intermediate Physics III	4 crs.
PHY308 Modern Physics	4 crs.
PHY400 Mechanics	4 crs.

PHY442 Mathematical Physics	4 crs.
PHY4XX* Additional 400-level physics course(s) totalling at least 7 crs.	

Mathematics (19 crs.)

MAT211, 212, 213 Calculus I, II, III	12 crs.
MAT223 Differential Equations	3 crs.
MAT229 Elementary Linear Algebra	3 crs.
CPS253 Structured Computer Programming	4 crs.

Other Sciences (8 crs.)

CHM121, 122 Chemical Bonding, Dynamics	6 crs.
CHM125, 126 Chemical Lab IB, IIB	2 crs.

Additional General Education

—Must include one additional writing course beyond ENG101

—Must include either ECN101 or ECN102.

—Must include a sequence in either category D or E.

* Students opting for chemical engineering may substitute the modern organic chemistry sequence for these two courses.

Note: Admission to specific engineering programs is subject to availability and may have special QPA requirements. Students should consult regularly with their faculty advisor. Students must make application to the engineering school at the beginning of their third year at Shippensburg University.

Physics (B.S.)

The B.S. program enables students to satisfy varied career designs by the appropriate selection of electives (including, perhaps, credits beyond the 120 hours). For example, to pursue physics in graduate school, you would take your electives (and additional courses) in upper division physics and mathematics. If biophysics is your bent, then you would need the organic chemistry sequence, plus additional biology courses. Or, if your intent is to get directly into the work force with your B.S., then you would combine additional upper division physics with appropriate computer science courses. All options are continually explored with your faculty advisor.

Physics (41 crs.)

PHY205, 313 Intermediate Physics I, II	8 crs.
PHY314 Intermediate Physics III	4 crs.
PHY308 Modern Physics	4 crs.
PHY400 Mechanics	4 crs.
PHY441 Quantum Mechanics	3 crs.
PHY442 Math Physics	4 crs.

PHY4XX Any number of other 400-level physics courses totalling at least 8 crs.

Mathematics (19 crs.)

MAT211, 212, 213 Calculus I, II, III 12 crs.
 MAT223 Differential Equations 3 crs.
 MAT229 Elementary Linear Algebra 3 crs.
 CPS253 Structured Computer Programming 4 crs.

Other Sciences (12 crs.)

CHM121, 122 Chemical Bonding, Dynamics 6 crs.
 CHM125, 126 Chemical Lab IB, IIB 2 crs.

Physics (B.S.Ed.)

This program prepares you to teach high school physics and it results in certification in secondary physics. An additional certification in general science is conferred upon completion of 3 crs. in computer science and 6 crs. in biology.

Required

Physics (35 crs.)

PHY115 Physical Science 2 crs.
 PHY205, 313 Intermediate Physics I, II 8 crs.
 PHY314 Intermediate Physics III 4 crs.
 PHY308 Modern Physics 4 crs.
 PHY400 Mechanics 4 crs.
 PHY441 Quantum Mechanics 3 crs.
 PHY4XX Additional 400-level physics courses totalling 10 crs. 10 crs.

Mathematics (15 crs.)

MAT211, 212, 213 Calculus I, II, III 12 crs.
 MAT223 Differential Equations 3 crs.
 MAT229 Elementary Linear Algebra 3 crs.

Other Sciences (15 crs.)

BIO115 or BIO116 Principles of Biology 4 crs.
 CHM121, 122 Chemical Bonding, Dynamics 6 crs.
 CHM125, 126 Chemistry Lab IB, IIB 2 crs.
 ESS110 Introduction to Geology 3 crs.
 or
 ESS210 Physical Geology 3 crs.

Professional Courses (27 crs.)

TCH310 Educational Psychology 3 crs.
 TCH205 The American School 3 crs.
 EDU340 Teaching of Science in the Secondary Schools 3 crs.
 EDU341 Curriculum & Evaluation in the Secondary Science Classroom 3 crs.

EDU495 Student Teaching & Professional Practicum 15 crs.
 EEC411 Introduction to Exceptionality 3 crs.

Physics Minor – 43 crs.

Physics (28 crs.)

PHY205, 313 Intermediate Physics I, II 8 crs.
 PHY314 Intermediate Physics III 4 crs.
 PHY308 Modern Physics 4 crs.
 PHY4XX Additional 400 level physics courses 8 crs.

Mathematics (15 crs.)

MAT211, 212, 213 Calculus I, II, III 12 crs.
 MAT223 Differential Equations 3 crs.

Political Science Department

The Department of Political Science offers undergraduate programs leading to the degrees of Bachelor of Arts in Political Science, Bachelor of Science in Public Administration and Bachelor of Science in Education. 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.

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.

Career Opportunities

Political science and public administration are appropriate majors for students who plan a career in government, business or journalism; majors are also prepared to pursue graduate study in political science, international relations, public administration or law.

Pre-Law Program

Students who plan to apply to law schools may select their major from a wide range of fields depending upon their interests. The scope of law is broad and offers room for individuals of varied educational and intellectual backgrounds.

The Pre-Law Club has discussions and provides information about law school admissions. Annually, the club brings staff from law schools to campus to discuss their programs.

The university's pre-law program is under the direction of a committee chaired by Dr. Sara A. Grove, interim dean of the College of Arts & Sciences and professor of political science. The other members of this committee are Dr. Patricia Waltermeyer (communication/journalism), Dr. Thomas Bright (business), and Dr. Jerry Weigle (business). Students interested in a legal career are encouraged to seek advice from any of these four professors. 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 & Politics	3 crs.
PLS201 Introduction to Political Science	3 crs.
PLS300 Advanced U.S. Government: Institutions & Public Policy	3 crs.
PLS301 Political Science Research Methods	3 crs.
PLS302 Public Policy Analysis	3 crs.
PLS391 Selected Topics in Political Science	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

PLS141 Introduction to International Politics	3 crs.
PLS251 Introduction to Comparative Politics	3 crs.
PLS341 International Law & Organization	3 crs.
PLS342 American Foreign Policy	3 crs.
PLS356 Politics of Developing Regions	3 crs.
PLS357 Group Mobilization & State Change	3 crs.

Government

PLS231 State & 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 Municipal Government & Administration	3 crs.
PLS332 Federal-State-Local Relations	3 crs.
PLS431 Pennsylvania Local Government	3 crs.

Behavior

PLS321 Public Opinion	3 crs.
PLS322 Interest Groups in American Society	3 crs.
PLS323 American Political Parties & Politics	3 crs.
PLS324 Women in 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 I: The Federal System	3 crs.
PLS366 Constitutional Law II: First Amendment Rights	3 crs.
PLS367 Constitutional Law III: Criminal Law & 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.

Required Allied Fields (19 crs.)

Economics (6 crs.)

ECN101 Principles of Macroeconomics	3 crs.
ECN102 Principles of Microeconomics	3 crs.

Sociology (6 crs.)

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

SOC243 Minority Groups	3 crs.
SOC346 Urban Sociology	3 crs.
SOC351 Race Relations	3 crs.
SOC354 Social Movements & Social Change	3 crs.
SOC363 Population Problems	3 crs.
SOC365 Elites in Society	3 crs.
SOC425 Sociology of Law	3 crs.

Mathematics (4 crs.)

MAT170 Elementary Statistics for Social Science	4 crs.
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Interdisciplinary Studies (3 crs.)

Students must take one course from one of the four interdisciplinary minors at the university: Ethnic Studies (ETH100, ETH101, ETH102); Gerontology (GRN100); International Studies (ANT220, ECN321, GEO101, MGT370); or Women's Studies (WST100, WST300).

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Public Administration (B.S.)

Political Science (39 crs.)

Required (27 crs.)

PLS100 U.S. Government & Politics	3 crs.
PLS231 State & Local Government	3 crs.
PLS271 Introduction to Public Administration	3 crs.

PLS300 Advanced U.S. Government Institutions & 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.

Electives (12 crs.)

PLS331 Municipal Government & Administration	3 crs.
PLS332 Federal-State-Local Relations	3 crs.
PLS374 Public Service Ethics	3 crs.
PLS381 Principles of Labor Relations	3 crs.
PLS382 Legal Framework for Collective Bargaining in the Public Sector	3 crs.
PLS383 Dispute Resolution in Public Sector Labor Relations	3 crs.
PLS384 Regional & Urban Planning	3 crs.
PLS391 Selected Topics in Political Science	3 crs.
PLS395 Internship I	3 crs.
PLS396 Internship II	3 crs.
PLS397 Internship III	3 crs.
PLS431 Pennsylvania Local Government	3 crs.

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, PLS201, PLS231, PLS271, PLS300, PLS301, and one elective course in public administration.

Students who do not meet either the overall QPA or QPA in major requirement may seek approval of an internship by first contacting their academic advisor. If the academic advisor approves the student's request, he/she can appeal to the department chair and the internship coordinator. Both the department chair and the internship coordinator must give written approval before a student is permitted to enroll for the internship.

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

Allied Fields (19 crs.)

Students majoring in public administration must also take the following courses in allied fields. Some of these courses also satisfy Foundations in Arts and Sciences requirements.

Economics (6 crs.)

ECN101 Principles of Macroeconomics
ECN102 Principles of Microeconomics

Sociology (6 crs.)

SOC101 Introduction to Sociology: Society & Diversity

And either an additional economics course or an additional sociology course from the following:

SOC243 Minority Groups
SOC346 Urban Sociology
SOC351 Race Relations
SOC354 Social Movements & Social Change
SOC363 Population Problems
SOC365 Elites in Society
SOC425 Sociology of Law

Mathematics (4 crs.)

MAT170 Elementary Statistics for Social Science

Interdisciplinary Studies (3 crs.)

Students must take one course from one of the four interdisciplinary minors at the university: Ethnic Studies (ETH100, ETH101, ETH102); Gerontology (GRN100); International Studies (ANT220, ECN321, GEO101, MGT370); or Women's Studies (WST100, WST300).

**Comprehensive Social Studies—
Political Science Concentration
(B.S.Ed.)**

Professional Courses (31 crs.)

TCH205 The American School
TCH310 Teaching of Social Studies I
EDU311 Teaching of Social Studies II
PSY355 Psychology of the Exceptional Child
or
EEC411 Introduction to Exceptionalities
TCH310 Educational Psychology
EDU495 Student Teaching & Professional Practicum

Political Science (27 crs.)

Required (9 crs.)

PLS100 U.S. Government & Politics 3 crs.
PLS201 Introduction to Political Science 3 crs.
PLS300 Advanced U.S. Government:
Institutions & Public Policy 3 crs.

Areas of Concentration (18 crs.)

Group A. Students must take one course from each of the following three subfields. (9 crs.)

National Government (3 crs.)

PLS311 The Legislative Process
PLS312 The American Presidency
PLS313 The Judicial Process

State/Local Government (3 crs.)

PLS231 State & Local Government
PLS331 Municipal Government &
Administration
PLS332 Federal-State-Local Relations
PLS384 Regional & Urban Planning
PLS431 Pennsylvania Local Government

**International Relations & Comparative Politics
(3 crs.)**

PLS141 Introduction to International Politics
PLS251 Introduction to Comparative Politics
PLS341 International Law & Organization
PLS342 American Foreign Policy
PLS356 Politics of Developing Regions
PLS357 Group Mobilization & State Change

Group B. Students must take one course in two of the following three subfields. (6 crs.)

Political Behavior

PLS321 Public Opinion
PLS322 Interest Groups in American Society
PLS323 American Political Parties & Politics
PLS324 Women in American Politics

Political Theory

PLS361 Political Theory from Ancient Times
Through the 19th Century
PLS362 20th Century Political Ideologies
PLS363 American Political Thought
PLS374 Public Service Ethics

Public Law

PLS365 Constitutional Law I: The Federal System
PLS366 Constitutional Law II: First Amendment Rights
PLS367 Constitutional Law III: Criminal Law & Equal Protection

Group C. One elective in any field of Political Science from Group A or Group B. (3 crs.)

Allied Fields (39 crs.)

History (9 crs.)

HIS105 World History I
 HIS106 World History II
 American History elective

Sociology/Anthropology (6 crs.)

SOC101 Introduction to Sociology: Society & Diversity

ANT111 Cultural Anthropology

or

ANT211 Comparative Cultures

Economics (6 crs.)

ECN101 Principles of Macroeconomics
 ECN102 Principles of Microeconomics

Geography/Earth Science (6 crs.)

GEO101 World Geography
 ESS110 Introduction to Geology

or

ESS111 Introduction to the Atmosphere

Psychology (6 crs.)

PSY101 General Psychology
 PSY355 Psychology of the Exceptional Child

or

Psychology Elective

Cognate Field (6 crs.)

In addition to the above courses, students must take two courses (6 crs.) in one of the five allied social sciences. These courses should be at the 200-level or higher. By meeting this requirement, a student develops a second disciplinary sequence of either 12 crs. in sociology/anthropology, economics, geography/earth science or psychology or 15 crs. in history.

Political Science Minor – 18 crs.

Required (9 crs.)

PLS100 U.S. Government & Politics	3 crs.
PLS201 Introduction to Political Science	3 crs.
PLS300 Advanced U.S. Government: Institutions & 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.

PLS141 Introduction to International Politics
 PLS231 State & 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
 PLS322 Interest Groups in American Society
 PLS323 Political Parties & Elections
 PLS324 Women in American Politics
 PLS331 Municipal Government & Administration
 PLS332 Federal-State-Local Relations
 PLS341 International Law & Organization
 PLS342 American Foreign Policy
 PLS356 Politics of Developing Regions
 PLS357 Group Mobilization & State Change
 PLS361 Political Theory from Ancient Times
 Through the 19th Century
 PLS362 20th Century Political Ideologies
 PLS363 American Political Thought
 PLS365 Constitutional Law I—The Federal System
 PLS366 Constitutional Law II—First Amendment Freedoms
 PLS367 Constitutional Law III—Criminal Law & Equal Protection
 PLS374 Public Service Ethics
 PLS384 Regional & Urban Planning
 PLS391 Selected Topics in Political Science
 PLS431 Pennsylvania Local Government

Public Administration Minor – 18 crs.

Required (9 crs.)

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

Public Administration Electives (6 crs.)

PLS231 State & Local Government
PLS303 Public Sector Financial Control & Reporting Systems
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.

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.

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.

* Or 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 writing a paper on the experience.

* And you can join the Psychology Club and meet other majors, hear guest speakers and take trips to conferences, institutions and research facilities.

* Students who qualify with an overall QPA of 3.0 or above and a 3.2 or above in psychology are invited to apply to Psi Chi, a national honor society.

Honors in Psychology Program

The Honors in Psychology Program is open to psychology majors who have and maintain a 3.4 QPA overall and a 3.4 QPA in psychology. Second semester freshmen 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 receive their 12 foundations credits from some combination of 300-level courses, 400-level courses, and/or honors credit in 200-level courses. In addition, you must earn 9 credits from any combination of the following: (1) any 500-level graduate course in the psychology department, (2) honors credit in any 300-level or 400-level course (may double up with foundations) or (3) Seminar in Psychological Thought; and you must do a two semester Honors Thesis (6 credits) under the guidance of a faculty member in the psychology department.

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 degrees in counseling, testing or personnel or doctorates in such areas as clinical, experimental or industrial psychology. More than 30 percent of our graduates go on to earn an advanced degree.

A bachelor's in psychology can lead to careers such as:

- Clinical Psychology
- Cognitive Psychology
- Conditioning-Learning
- Counseling Psychology
- Developmental Psychology
- Health Psychology
- Industrial/Organizational Psychology
- Legal Psychology
- Personality Psychology

Physiological Psychology
School Psychology
Social Psychology
Statistical Mathematical 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

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 & Adolescent Psychology
PSY352 Psychology of Adulthood & Aging*
PSY440 History & Systems of Psychology

At least 2 courses from:

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

SKILLS/CAREERS (12 crs.)

Required Core Courses

PSY105 Research Design & Statistics I
PSY205 Research Design & 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 & the Internet
PSY435 Psychopharmacology
PSY450 Crisis Intervention
PSY465 Human Factors
PSY470 Legal Psychology
PSY475 Industrial & Organizational Psychology
PSY485 Tests & Measurements

SOCIAL AWARENESS (6 crs.)

At least 2 courses from:

PSY335 Psychology of Social Influence
PSY352 Psychology of Adulthood & Aging*
PSY355 Psychology of the Exceptional Child
PSY365 Multicultural Psychology
PSY410 Psychology and Women
PSY422 Social Psychology of Aging (on-line 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

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 & 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. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Note: Extra courses taken from the required or foundation categories can be used as electives. Also, only 6 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 crs. of psychology required for the B.A. degree.

Psychology Minor – 18 crs.

One course at the 100 level (3 crs.)

PSY101 General Psychology
PSY102 Foundations of Psychology

Two courses at the 200 level (6 crs.)

PSY220 Psychology of Adjustment
PSY235 Conditioning & Learning
PSY240 Psychology of Personality
PSY265 Child & Adolescent Psychology
PSY270 Social Psychology

One course at the 300 or 400 level (3 crs.)

PSY301 Experimental Psychology
PSY305 Applied Research Methods
PSY320 Physiological Psychology
PSY325 Psychology of Human Cognition
PSY330 Abnormal Psychology
PSY430 Sensation & Perception
PSY440 History & Systems

Two additional courses— 300 or 400 level (6 crs.)

PSY301 Experimental Psychology
PSY305 Applied Research Methods
PSY320 Physiological Psychology
PSY325 Psychology of Human Cognition
PSY330 Abnormal Psychology
PSY335 Psychology of Social Influence
PSY351 Adulthood & Aging
PSY355 Psychology of Exceptional Child
PSY390 Psychology of Creativity
PSY393 Selected Topics in Psychology
PSY397 Human Cognitive Development
PSY405 Qualitative Research Methods
PSY410 Psychology & Women
PSY420 Health Psychology
PSY430 Sensation & Perception
PSY435 Psychopharmacology
PSY440 History & Systems
PSY475 Industrial & Organizational Psychology
PSY485 Tests & Measurements
PSY490 Selected Topics in Psychology

Sociology & Anthropology Department

Sociology is the scientific study of human society and social life. The discipline studies the social causes and consequences of human behavior. In more practical language, sociology concerns itself with the institutional patterns of social life and social problems. By being aware of the social environment in which humans interact with each other, the study of sociology will develop an awareness of how social forces influence behavior and how humans, through their collective action, respond to social problems and social change.

The Bachelor of Arts degree in Sociology is a good choice if you are interested in working with people in counseling, social or public service, personnel, managerial or administrative positions. Careers in sociology, law, counseling and ministry are possible with graduate training. Many of our students participate in our intern program where you may choose from existing positions or create one specific to your interests.

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.

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 gerontology special interest area provides an understanding

of the elderly and their problems for those who wish to work in the rapidly growing field which supplies services to this population.

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 & Diversity	3 crs.
SOC220 Social Stratification	3 crs.
SOC241 Contemporary Social Problems	
SOC385 Introduction to Social Research	3 crs.
SOC386 Data Collection & Analysis	3 crs.
SOC415 Senior Seminar	3 crs.
SOC450 Classical Social Theory	3 crs.

Sociology Electives (15 crs.)

This may include an internship in sociology, which is highly recommended.

Allied Fields

Arts and sciences students concentrating in sociology must take the following courses in allied fields. All of these may be taken as general education.

ANT111 Cultural Anthropology	3 crs.
MAT170 Elementary Statistics for Social Sciences	4 crs.
Economics elective	3 crs.
Sequene in Political Science	6 crs.
Geography elective	3 crs.
Philosophy elective	3 crs.
PSY101 General Psychology	3 crs.

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of

three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

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 crs. of which 6 crs. 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:

Anthropology

- Cultural Anthropology
- Physical Anthropology
- Comparative Cultures
- Introduction to Archaeology
- Anthropology for International Studies
- Comparative Gender Roles
- Archeology of North America
- Medical Anthropology
- North American Indians
- Peoples & Cultures of Europe
- Comparative Marriage & Family

Culture and Social Change

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

Family and Marriage

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

Social Problems

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

Gerontology

Social Dynamics of Aging
Methods & Social Research in Aging
Sociology of Death
Medical Sociology

Human Relations

Minority Groups
Race Relations
Women's Roles & Status

Social Institutions/Organizations

Family & Society
Elites in Society
Social Stratification

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 & Family
ANT320 Comparative Gender Roles
ANT330 Archaeology of North America
ANT341 North American Indians
ANT350 Medical Anthropology
ANT351 Peoples & Cultures of Europe
ANT393 Selected Topics in Anthropology

Sociology Minor – 21 crs.

Required (9 crs.)

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

Electives (12 crs.)

Courses selected by advisement.

Speech Department

The Department of Speech offers an undergraduate program leading to a Bachelor of Arts degree.

Both the major and minor in human communication 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 problem solving, critical analysis, persuasion, conflict management and resolution and message construction, 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 9 credits is required and then students select 9 credits of electives within the department.

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 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.

Career Opportunities

Human communication 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 communications/journalism, business management, 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.

Speech Communication (B.A.)

Course Offerings (36 crs.)

Major—Required Core (21 crs.)

SPE105 Introduction to Human Communication
 SPE160 Introduction to Intergroup/Intercultural Communication
 SPE200 Discussion
 SPE205 Interviewing
 SPE255 Speech Criticism
 SPE351 Public Speaking
 SPE402 Oral Communication Theory

Elective options (15 crs.)

Students must select three at or above the 300-level.

SPE104 Introduction to Interpersonal Communication
 SPE205 Interviewing
 SPE256 African-American Communication
 SPE334 Women Speakers in America
 SPE355 Gender & Communication
 SPE356 Contemporary African-American Public Address
 SPE358 African-American Public Address
 SPE373 Popular Culture & Gender Construction
 SPE374 Feminist Perspective on Communication Theory & Methods of Research
 SPE375 Resolving Conflict Through Communication
 SPE380 Seminar in Speech
 SPE393 Selected Topics in Speech
 SPE394 Speech Internship I
 SPE397 Speech Internship II

Note: All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. For students graduating in December 2005 or earlier, proficiency may be satisfied by the completion of six credits of course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination. For students graduating after December 2005, proficiency may be satisfied by the completion of three credits of course work in a foreign language *or* three years of a foreign language in high school *or* satisfactory completion of a proficiency exam.

Minor—Required Core (9 crs.)

SPE160 Introduction to Intergroup/Intercultural Communication
 SPE200 Discussion
 SPE351 Public Speaking

Elective options (9 crs.)

Students must select two at or above the 300-level.

SPE104 Introduction to Interpersonal Communication
 SPE205 Interviewing
 SPE225 Speech Criticism
 SPE355 Gender Communication
 SPE375 Resolving Conflict Through Communication
 SPE380 Seminar in Speech
 SPE393 Selected Topics in Speech
 SPE402 Oral Communication Theory

Women's Studies

Women's Studies (WST) is the interdisciplinary study of women and the contributions they have made and are making to our world. The program enables students, both men and women, to analyze how traditional assumptions about gender have influenced our lives, thus providing greater understanding of the past and present. By investigating previously neglected materials, as well as new methodological and critical approaches, WST courses may propose revisions in disciplinary content, methods, assumptions and theories in light of recent feminist scholarship.

Our undergraduate WST Minor is designed to provide you with basic groundwork in the field of Women's Studies and 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, an understanding that will help prepare you for our continuously changing American society and its interdependent relationships with cultures around the world. Through required course work, research, electives in your own areas of interest, internships, extracurricular activities and opportunities for volunteer work, you will gain knowledge and experience that can be applied to your major field of study.

Today, the majority of American college students are women. Furthermore, women and minorities now comprise a majority of the new labor force in the United States. Students with multicultural Women's Studies experience will have an advantage as potential employees, since any position you seek increasingly demands knowledge of both gender issues and cultural diversity. The Women's Studies Minor will help prepare you to work with a wide variety of people and anticipate their changing needs. Graduates of our Women's Studies Minor will find opportunities in business administration and management, advertising, health fields, education, journalism, criminology, social work, counseling, psychology, politics, law and international affairs.

Women's 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 & Family
ANT320 Comparative Gender Roles
BIO301 Seminar: Contributions of Women to Biology
COM493 Women in Photojournalism
CRJ466 Women in Criminal Justice
ENG345 Women's Literature
ENG370 Gay & Lesbian Literature
GRN391 (Selected Topics in Gerontology)
Women & Aging
HIS318 History of U.S. Women
HIS390 Comparative Women's History
HIS393 (Selected Topics in History) Issues in Women's History
HIS407 Women in Global Perspective
MUS330 Women in Music
PLS324 Women in American Politics
PSY410 Psychology & Women
SOC257 Sociological Patterns of Courtship & Marriage
SOC258 Women's Roles & Status
SPE334 Women Speakers in America
SPE355 Gender & Communication
SPE373 Popular Culture & Gender Construction
SPE374 Feminist Approaches to Communication Theory & Research
SWK359 Domestic Violence
SWK420 Gender Issues for Helping Professionals
TCH440 Women in Education
WST200 Independent Study in Women's Studies

Note: To complete the Women's 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.

Certificate in Women's Studies

Students can earn a Certificate in WST 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 Certificate. Verification of the WST Certificate 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 (<http://ship.edu/~business/>) offers programs leading to the Bachelor of Science in Business Administration (B.S.B.A.), the Bachelor of Arts (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 the AACSB International. In order to maintain the high quality of our AACSB accredited program, students may 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 is committed to being an outstanding business school in the Mid-Atlantic region by providing a quality teaching and learning environment for undergraduate and graduate students. The dynamic curriculum and related professional activities are coordinated to prepare our students for a technologically advanced and global business environment, to engage in life-long learning and to become productive and ethical members of a diverse society. Excellence in teaching and high standards of intellectual contribution are supported by providing faculty with professional development and research opportunities to create and share knowledge for the benefit of our students, the University and academic and professional communities.

Departments

Accounting & Management Information Systems
Economics
Finance & Information Management and Analysis
Management & Marketing

Degree Programs

Bachelor of Arts

Economics

Bachelor of Science in Business Administration

Accounting

Economics

Finance

Personal Financial Planning

Information Management & Analysis

Information Technology for Business Educ.

Supply Chain Operations and

Management

Management

General Management

International Management

Human Resource Management

Management Information Systems

Marketing

Bachelor of Science in Education

Comprehensive Social Studies–Economics

Concentration

Business Minor

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 of study 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. 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 Office's SU Career Contacts program

and involvement in academic student professional associations in the John L. Grove College of Business.

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. Credit earned through the internship program may only be used as a free elective credit 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. and B.S.Ed. degree programs in the John L. Grove College of Business must meet the university's minimum transfer grade point average requirements. In addition, transfer students must complete MAT108 Finite Math (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 depart-

ment. 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. and B.S.Ed. 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 MAT108 Finite Math and/or MAT181 Applied Calculus I, a "C" or higher in ENG101 College Writing 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 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., B.S.Ed. and B.A. candidates, must complete ENG101 College Writing or ENG110 Advanced Placement Writing, with a “C” grade or better before scheduling upper division business courses.

Curriculum Requirements

Due to the quantitative nature of the business curriculum, it is recommended students complete at least three years of college preparatory mathematics in high school. Students seeking admission into the John L. Grove College of Business who lack the necessary mathematics skills may find it necessary to take some remedial course work in mathematics before enrolling in MAT108 Finite Math.

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. MAT108 Finite Math, if required, MAT181 Applied Calculus and INM200 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 ECN113 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 year.

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

MAT108 Finite Math*

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 (1 cr.)

ECN113 Principles of Economics (4 crs.)

ECN280 Managerial Economics

FIN311 Financial Management

INM200 Statistical Applications in Business

INM330 Operations Management

ISM142 Business Computer Systems

MGT305 Organizational Behavior

MGT447 Business & Society**

MGT497 Strategic Management

MKT305 Principles of Marketing

* Students who place at the advanced level in the math placement/competency test are not required to take MAT108. In lieu of MAT108, students are required to take a free elective outside of the John L. Grove College of Business.

** 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.

Accounting and Management Information Systems Department

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

ACC306 Tax Accounting

ACC310 Financial Accounting & Reporting I

ACC311 Financial Accounting & Reporting II

ACC312 Cost Determination & Analysis

ACC404 Auditing

ISM300 Information Technology & Business Operations

Accounting Electives

(3 hours from the following list of 3 crs. courses)

ACC401 Financial Accounting & Reporting III

ACC406 Advanced Tax Accounting

ACC412 Advanced Cost Analysis & 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 a large percentage of students from

each college within the university. Due to this high demand, a personal computer is invaluable to fulfilling course requirements completely and on time.

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 takes careful cognizance of developments in the academic and professional accounting arenas to ensure the curricula and teaching offered are of the highest standards.

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 for the Major (18 crs.)

BUS305 Business Information Processing I	3 crs.
BUS306 Business Information Processing II	3 crs.
ISM240 Introduction to Programming Concepts	3 crs.
ISM242 Development of User Information Systems	3 crs.
ISM355 Database Applications	3 crs.
ISM420 Telecommunications & Distributed Processing	3 crs.

Required Education/Business Education Courses for Students Pursuing Optional Teaching Certification (15 crs.)

TCH205 The American School	3 crs.
TCH260 Educational Psychology	3 crs.
EEC411 Introduction to Exceptionalities	3 crs.
EDU429 Methods of Teaching Business Subjects I	3 crs.
EDU431 Methods of Teaching Business Subjects II	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. Prior to the professional student teaching semester, students must complete, in consultation with their advisor, a minimum of 40 hours of field experience. 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 the areas of Office Technologies and Data Processing. Certification to teach courses in the field of accounting and marketing is also available.

At Shippensburg University, the College of Education and Human Services provides supervision and coordination for students whose career goal includes becoming a certified business education 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 catalog.

Certification Option (15 crs., pre- or post-baccalaureate)

EDU495 Student Teaching & Professional Practicum	
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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.)

The management information systems professional utilizes 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 professional to apply computer technology to the solution of a wide range of business problems. Frequently information systems professionals interact with individuals in the functional areas of an organization to analyze information needs and requirements and to serve as a liaison with computer systems personnel.

Required

ISM240 Introduction to Programming Concepts
ISM243 Business Programming
ISM344 Business Systems Analysis & Design
ISM355 Database Applications
ISM420 Telecommunications & Distributed Processing
ISM446 Information Systems Project Development

Electives

ISM242 Design & Development of User Information Systems
ISM300 Information Technology & Business Operations
ISM343 Electronic Commerce & Technology Integration
CPS253 Structured Computer Programming
CPS257 Computer Systems Concepts

By the beginning of the sophomore year, a student majoring in management information systems will be expected to have access to a personal computer which is compatible with the hardware and software used in the business information systems program. Our computer labs, though well-equipped, are utilized by a large percentage of students from each college within the university. Due to this high demand, a personal computer is invaluable to fulfilling course requirements completely and on time.

Career Opportunities

Positions include systems analyst, database administrator, network specialist, Internet designer, systems facilitator, applications programmer/analyst, customer and sales support representative

and technical trainer. Career paths include management of information systems development and operation as well as management positions within specific functional areas.

Economics Department

The Department of Economics offers undergraduate programs leading to three degrees: the Bachelor of Arts (B.A.), the Bachelor of Science in Business Administration (B.S.B.A.) and the Bachelor of Science in Education (B.S.Ed.) with an economics/social studies concentration. 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.

Features

Shippensburg University's economics department has eight faculty members whose 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).

Economics (B.A.)

Economics as a social science is concerned with problems of efficiency and equity in all sectors of contemporary society. The economics program provides a broad liberal arts background. Students gain a thorough grounding in economic theory and have the opportunity to select from a wide variety of course offerings designed to meet their individual needs and interests.

Career Opportunities

Given the emphasis on developing a broad liberal arts background, the B.A. program in economics prepares students for a wide variety of career opportunities in the public and private sectors. The program is especially beneficial to those students who are interested in pursuing graduate study in economics, law, business or government.

Required (30 crs.)

ECN101 Principles of Macroeconomics	3 crs.
ECN102 Principles of Microeconomics	3 crs.
ECN270 Intermediate Macroeconomic Theory	3 crs.
ECN280 Managerial Economics	3 crs.
Economics Electives*	18 crs.

Allied Fields (24 crs.)

Students concentrating in economics must take the following courses in allied fields. Of these, 15 crs. may be taken as general education.

Sequence in Political Science (9 crs.)

PLS100 U.S. Government & Politics
 Political Science Electives (6 crs.)
 (other than general education)

Sequence in Mathematics (9 crs.)**

INM200 Statistical Applications in Business
 MAT108 Finite Math
 MAT181 Applied Calculus I

Sequence in Sociology (6 crs.)

SOC101 Introduction to Sociology: Society & Diversity
 Sociology Elective
 (other than general education)

Foreign Language Requirement

All students completing a Bachelor of Arts degree are required to attain intermediate level of proficiency in a foreign language. Intermediate proficiency may be satisfied by the completion of six credits of intermediate level course work in a foreign language *or* four years of a foreign language in high school *or* satisfactory completion of a proficiency examination.

- * General education courses may not be taken as electives.
- ** Calculus I and II may be substituted for Finite Math and Applied Calculus I and MAT310 Applied Statistics for INM200 Statistical Applications and Forecasting.
- ***ISM142 is a prerequisite for INM200.

Economics (B.S.B.A.)

The B.S.B.A. degree program in economics provides students with a solid business administration course of study coupled with a significant amount of economics. In doing so, it investigates the problems of efficiency and equity in contemporary society. At the same time, the program focuses attention on logical problem solving and analytical tools of analysis.

Career Opportunities

The B.S.B.A. degree in economics provides a sound foundation for a wide variety of career opportunities in both the public and the private sector. While its design is significantly different than the B.A. degree, a large number of its graduates do go on to graduate schools in economics, law and especially business. Students interested in graduate school in economics are encouraged to take additional mathematics courses.

Required

ECN270 Intermediate Macroeconomic Theory

Electives

Four economics electives, with advisement.

Comprehensive Social Studies (B.S.Ed.)—Economics Concentration

Students enrolled in a program of studies leading to the degree of Bachelor of Science in Education with a major in economics/social studies will fulfill the requirements as listed below. The preparation of teachers is a shared responsibility of three colleges: the College of Education and Human Services, which certifies economics/social studies teachers under the aegis of program approval granted by the Pennsylvania Department of Education, the College of Arts and Sciences and the John L. Grove College of Business which make available many of the content courses which the prospective teacher must complete.

To receive an initial certificate to teach in the public schools of the Commonwealth of Pennsylvania, a student must apply to the Dean of the College of Education and Human Services. Certification to teach in the public schools of Pennsylvania is approved by the Dean of the College of Education and Human Services when a student has fulfilled the baccalaureate degree requirements.

Required (69 crs.)

Economics (24 crs.)

Required Courses in Economics (6 crs.)

ECN101 Principles of Macroeconomics	3 crs.
ECN102 Principles of Microeconomics	3 crs.

Elective Courses in Economics (18 crs.)

To be selected with advisement. Students are strongly encouraged to take Intermediate Microeconomics and Intermediate Macroeconomics. Intermediate Microeconomics must be preceded by Applied Calculus I or Calculus I. The mathematics course(s) would count towards fulfillment of the natural science-mathematics general education requirement.

Required Courses in Allied Social Studies

Geography (9 crs.)

GEO101 World Geography
GEO230 Economic Geography
ESS110 Introduction to Geology

or

ESS111 Introduction to the Atmosphere

History (9 crs.)

HIS104 Recent History of the United States
HIS105 World History I
HIS106 World History II

Political Science (9 crs.)

PLS100 U.S. Government & Politics
Political Science Electives (6 crs.)
(other than general education)

Psychology (9 crs.)

TCH260 Educational Psychology
(A professional education course)

Choice of Options

Professional Concentration:

PSY102 Foundations of Psychology: Personal-Social
PSY103 Foundations of Psychology: Experimental-Physiological

General Concentration:

PSY101 General Psychology
Psychology Elective

Sociology (9 crs.)

SOC101 Introduction to Sociology: Society & Diversity
ANT111 Cultural Anthropology
or
ANT 121 Physical Anthropology
Sociology Elective

Required Professional Education Courses (30 crs.)

TCH205 The American School	3 crs.
TCH260 Educational Psychology	3 crs.
PSY355 Psychology of the Exceptional Child	3 crs.
or	
EEC411 Introduction to Exceptionalities	3 crs.
EDU412 Teaching of Social Studies	3 crs.
EDU413 Teaching Social Studies Secondary II	3 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.

Required Field Experience

(See advisor)

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, career wise and academically.

Business Majors

The advantages for business majors: 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 7 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 ECN101, ECN102 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, INM210 and INM220 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.)

ECN101 Principles of Macroeconomics
ECN102 Principles of Microeconomics

Electives (12 crs.)

Courses selected by advisement.

Finance & Information Management & Analysis 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 \$ investment portfolio.

Required

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

Finance Electives

(6 hours from the following list of three credit hour courses.)

FIN320 Risk Management & Insurance
FIN321 Personal Financial Planning
FIN340 Principles of Real Estate
FIN393 Selected Topics in Finance
FIN405 Real Estate Appraisal & Investment Analysis
FIN414 Bank Management
FIN425 Global Financial Management
FIN434 Investment Management Program I
FIN435 Investment Management Program II
FIN442 Derivatives Markets
FIN490 Selected Topics in Finance

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 each college within the university. Due to this high demand, a personal computer is invaluable to fulfilling course requirements completely and on time.

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, such as: 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

FIN312 Investments
FIN313 Advanced Financial Management
FIN314 Financial Institutions
FIN320 Risk Management & Insurance
FIN321 Personal Financial Planning
FIN333 Applied Company & Security Analysis
ACC306 Tax Accounting

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 & World Report* lists personal financial planning as one of the 20 hot jobs for the 21st century. The 2001 *Jobs Rate Almanac* rated financial planner as the year's best career in terms of income, stress, security, work environment and employment outlook.

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 that median annual earnings of personal financial advisors were \$56,680 in 2002.

Information Management & Analysis (B.S.B.A.)

The development of e-business means data is created and information disseminated through vast telecommunication networks that link businesses to each other (B2B), to consumers (B2C) and to governments (B2G). An information management specialist uses a variety of skills and tools to collect, process, organize and interpret data generated in this dynamic environment. In addition, understanding the linkages that exist within the supply chain is stressed as are the problem solving skills that information rich organizations require. Trained in the areas of web-based management information systems, data analysis and business logistics, the information management and analysis major is ready to operate in the complex and interconnected world that requires data to be converted to knowledge for problem solving and decision making. The major is designed with the flexibility to allow choices within several key business areas for the further enhancement of skills and abilities to meet individual career interests.

Required

INM355 Web Based Management Information Systems
INM370 Integrated Supply Chain Systems
INM380 Data Mining for Information Management
INM390 Applications of Information Management

Information management and analysis majors enjoy the flexibility of preparing for diverse career opportunities in a wide range of industries available to them. Program majors select a specialty area of interest and complete two courses in that specialty to satisfy the major requirements. Information management and analysis majors are required to select one of the following area tracks:

Track 1—Accounting

ACC310 Financial Accounting & Reporting
ACC312 Cost Determination & Analysis

Track 2—Finance

FIN312 Investments

FIN314 Financial Institutions

Track 3—Management Information Systems

ISM340 Business Programming

ISM344 Business Systems Analysis & Design

Track 4—Marketing

MKT342 Business to Business Marketing & Analysis

MKT430 Marketing & Management Research

Track 5—Supply Chain Management

MKT349 Logistics Management

INM481 Decision Models for Supply Chain Management

Track 6—You Choose It

Student selects elective pair subject to approval by their major advisor.

By the beginning of the sophomore year, a student majoring in information management and analysis is expected to have acquired a personal computer that is compatible with the hardware and software used in the program. Though well-equipped computer labs are available to all students, an individual personal computer is invaluable for fulfilling course requirements on time.

Career Opportunities

Graduates of the information management and analysis program can move into rewarding careers in almost any area of business. Examples are in economic analysis, financial planning, logistics management, production and inventory control, and strategic marketing-management, among others. Students completing the program will be prepared for well-compensated entry-level positions including business analyst, planner and any of a variety of other line or staff positions.

Supply Chain Operations and Management Concentration

The Supply Chain Operations and Management Concentration is designed to provide students with the necessary background to pursue a career in distribution, logistics, and/or transportation. There is some flexibility built into the program to allow for different interests to be emphasized.

Required

MKT349 Logistics Management

MKT350 Transportation Industry Theory & Practice

INM355 Web Based Management Information Systems

INM370 Integrated Supply Chain Systems

Electives

(Two of the following courses)

ACC312 Cost Determination & Analysis

GEO202 Geographic Information Systems

GEO310 Transportation Geography

GEO314 Industrial Geography

INM380 Data Mining in Information Management

INM390 Applications of Information Management

MGT342 Managing Organizational Relations

MKT342 Business to Business Marketing & Analysis

MKT370 Services Marketing

Career Opportunities

Supply Chain Operations and Management is a growing field and employment opportunities are increasing rapidly. Areas such as transportation management, logistics, operations management, inventory and warehousing management and purchasing provide career tracks. The program also provides a solid foundation for the pursuit of graduate study.

Management & Marketing Department

Management (B.S.B.A.)

General Management Concentration

The general 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. Due to the designed flexibility of the program, students have the opportunity to tailor a general management program of study that best fits their individual career interests.

Required

MGT340 Human Resource Administration
MGT370 International Business
MKT430 Marketing & Management Research

Electives

(Select three of the following courses)

MGT342 Managing Organizational Relations
MGT346 Human Resource Management Law
MGT380 Global Business Exploration Prog. I
MGT381 Global Business Exploration Prog. II
MGT432 Entrepreneurship & Small Business Management
MGT433 Small Business Management
MGT470 International Management
MGT490 Selected Topics in Management
MKT350 Transportation Industry Theory & Practice

*MKT315 Sales Management

*MKT349 Logistics Management

*MKT352 Principles of Retailing

*Only one of these courses can be used to fulfill this elective requirement.

Career Opportunities

Completion of the general 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 the pursuit of graduate study.

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

MGT340 Human Resource Administration
MGT342 Managing Organizational Relations
MGT346 Human Resource Management Law
MGT348 Compensation Administration

Electives

(Select a total of 6 crs. from the following courses)

MGT349 International Human Resource Administration
MGT361 Employment Interviewing
MGT368 Senior Seminar I
MGT369 Senior Seminar II
MGT370 International Business
MGT380 Global Business Exploration Prog. I
MGT381 Global Business Exploration Prog. II
MGT432 Entrepreneurship
MGT433 Small Business Management
MKT350 Transportation Industry Theory & Practice
ISM300 Information Technology

Career Opportunities

The Department of Labor projects 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

American 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. These firms also face the challenges of competition from foreign companies who either export to or build facilities in the United States.

The international management concentration provides students with a better grasp of these 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

MGT340 Human Resource Administration
MGT370 International Business
MGT470 International Management
MKT360 International Marketing

Electives

(Select two of the following courses)

ANT220 Anthropology for International Studies
ECN321 International Economics: Policy
ECN325 Globalization: Issues & Policies
FIN425 Global Financial Management
*GEO101 World Geography
*PLS141 Introduction to International Politics
MGT349 International Human Resource Administration
MGT380 Global Business Exploration Prog. I
MGT381 Global Business Exploration Prog. II

* Only one of these courses may be counted as a major elective course.

Required General Education

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. This competency examination must be completed no later than the end of the junior year (90 credits).

Career Opportunities

The program prepares students for job opportunities in multinational corporations or smaller firms with international operations. The program also provides a solid foundation for the pursuit of 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

MKT306 Buyer Behavior
MKT430 Marketing & Management Research
MKT495 Marketing Analysis & Strategy Development

Electives

(Three of the following courses)

MKT315 Sales Management
MKT325 Advertising & Promotional Strategy
MKT335 E-Marketing
MKT342 Business to Business Marketing & Analysis
MKT349 Logistics Management
MKT350 Transportation Industry Theory & Practice
MKT352 Principles of Retailing
MKT360 International Marketing
MKT370 Services Marketing
MKT380 Sports Marketing
MKT390/490 Selected Topics in Marketing
MGT432 Entrepreneurship

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 Minor

In order to be admitted to the minor, you must successfully complete the general education prerequisites for the program. The first prerequisite is ECN101 Principles of Macroeconomics **or** ECN102 Principles of Microeconomics **or** ECN113 Principles of Economics. The second prerequisite is MAT108 Finite Math, 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 "down the road." 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 that 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 (<http://www.ship.edu/~business>) for more information on the business minor. To apply for the business minor, students should stop by Grove Hall 128 to complete an application.

College of
Education and
Human Services

In the College of Education and Human Services, students have available to them programs leading to the degree of Bachelor of Arts, Bachelor of Science, Bachelor of Science in Education and Bachelor of Social Work.

The college offers a program in criminal justice which leads to the Bachelor of Science degree and a program in social work which leads to a Bachelor of Social Work degree.

The college also provides a program which enables undergraduate students to earn a degree of Bachelor of Science in Education and to qualify for certification to teach in the public schools of Pennsylvania. Curricula are available leading to a degree and certification in elementary education, secondary education and business education. Elementary education majors may also earn early childhood and environmental education certification.

The Military Science Department (Army Reserve Officers Training Corps) provides students of all curricula the opportunity to earn a commission in the United States Army. Participation in the Army ROTC program is available on campus to men and women students and develops in the students the ability to organize, motivate and lead others.

These programs are more fully described on the following pages.

Graduate programs in counseling, criminal justice, educational leadership and policy and teacher education are presented in the *Graduate Catalog* which may be obtained by writing to the dean of the College of Education and Human Services or to the dean of Graduate Studies.

Departments

Counseling
Criminal Justice
Educational Leadership and Policy
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 prepare students to be sponsored for initial teacher certification. Business, elementary 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 Level One PRAXIS assessments 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 PRAXIS assessments prior to student teaching. Ninety-seven percent of Shippensburg University program completers pass all aspects of the PRAXIS 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, professionals who 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 pro-vide 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 by the

dean of that college with the approval of the dean of the College of Education and Human Services. 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 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 admissions to professional standing, admission to student teaching and for graduation and Instructional Level I certification.

A 3.0 quality point average in a student's major as determined by the individual department will be required for admission into the education program. 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
- English
- French
- Mathematics
- Physics
- Social Studies-Geography
- Social Studies-History
- Social Studies-Political Science
- Spanish

Business

- Information Technology for Business Education
- Social Studies-Economics

Interdisciplinary

- Earth-Space Science
- Environmental Education
- General Science

Students may receive comprehensive citizenship certification by the completion of one of these social studies concentrations: economics, geography, history or political science (see index reference for each of these areas). An individual completing any one of these concentrations will be certified to teach all secondary social studies subjects upon completion of the required courses in allied social studies and in professional education.

Required Professional Education Courses (28 crs.)

TCH205 The American School	3 crs.
TCH310 Educational Psychology	3 crs.
Required field experience (see advisor)	
Methods I & II courses	6 crs.
EDU301 Evaluative Techniques & Guidance*	2 crs.
EDU370 Utilization of Instructional Media*	2 crs.
EDU495 Student Teaching & Professional Practicum	15 crs.
EEC411 Introduction to Exceptionalities	3 crs.
or	
PSY355 Psychology of the Exceptional Child	3 crs.
RDG329 Reading in the Content Areas**	3 crs.

*Business Education & Mathematics

**English

Required Field Experiences

Field service hours are an integral part of elementary and secondary teacher preparation programs. It is the responsibility of students to work with academic advisors to fulfill requirements for all field experiences. Level One field experiences begin during freshman and/or sophomore years. The American School, an introductory course, includes 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 Level One field work, pass PRAXIS Level One basic skill assessments, have the recommendation of academic advisors and apply to become a teacher candidate. Once Professional Standing is achieved, students begin Level Two field placements. Students are assigned to schools for methods classes where they may return for student teaching if the placements are successful. During Level Two field work, students plan lessons and units, co-teach classes and have more intensive classroom involvement.

Level 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. Students are assigned to different school districts (8 weeks each assignment) and work at two different grade levels. University supervisors and cooperating teachers advise student teachers.

Assignments for student teaching are completed with the approval of the Associate Dean/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 and are also available in departmental offices. 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 Department of Criminal Justice in the College of Education and Human Services at Shippensburg University adheres to the mission of the college and the university.

The mission of the department is to provide current and future criminal justice professionals with the background and skills they need to be effective decision makers in the criminal justice arena. The faculty strive to educate students to be critical thinkers who can communicate their thoughts effectively in an oral and written form that demonstrates their comprehensive knowledge of the field. 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 imperatives: critical analysis, effective communication (oral and written), comprehensive knowledge of the field of criminal justice (both theoretical and practical) and exposure to human and cultural diversity issues, ethical problem solving and technology.

Features

The program structure consists of a 12 credit core, 27 criminal justice elective credits, 6 credits of capstone courses, and 15 credits of criminal justice related courses. 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 for involvement in an internship with governmental agencies, non-profit organizations and private criminal justice organizations. Internships provide an excellent opportunity for the practical application of skills and knowledge obtained in the classroom. They can also be the beginning of career networking. A maximum of 12 credits of internship is allowed. 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 2.0 GPA.

Academic Advisement

Students are encouraged to work with their faculty advisors throughout their educational process. Faculty offer career advising and support and do not limit the advising function to course scheduling. Students are encouraged to request a Grad Check by the department chair by no later than the second semester of their junior year in

order to ensure they have taken the appropriate courses for graduation and career entry.

Career Possibilities

Completion of this strong and diversified program will enhance the student’s chances for employment in both public and private criminal justice organizations. Criminal justice majors are eagerly recruited by a wide range of public and private sector organizations whose focus is the control 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 criminal justice curriculum. Students frequently begin their criminal justice careers at the local police, court or corrections level and advance to the state or federal level as they gain experience. For further information, contact the department chair at 717-477-1558.

Criminal Justice (B.S.)

Criminal Justice (60 crs.)

Required Core (12 crs.)

CRJ100 Introduction to Criminal Justice	3 crs.
CRJ211 Criminal Law & Procedures	3 crs.
CRJ309 Theories of Crime & Crime Control	3 crs.
CRJ310 Research Methods	3 crs.

Criminal Justice Electives (27 crs.)

CRJ221 Policing A Democracy	3 crs.
CRJ241 Survey of Corrections	3 crs.
CRJ326 Victimology: The Victim & the Law	3 crs.
CRJ331 Police-Community Dynamics	3 crs.
CRJ336 Introduction to Forensic Science	3 crs.
CRJ348 Clinical Intervention & Treatment	3 crs.
CRJ351 Juvenile Justice	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.
CRJ431 Law & Society	3 crs.
CRJ456 Forensic Science: Evidence Analysis	3 crs.

CRJ461 Social Construction of Homicide	3 crs.
CRJ463 Comparative Criminal Justice	3 crs.
CRJ464 Popular Culture, Crime & Justice	3 crs.
CRJ466 Women & Criminal Justice	3 crs.
CRJ471 Internship I*	3 crs.
CRJ472 Internship II**	3 crs.
CRJ473 Internship III***	3 crs.
CRJ474 Internship IV****	3 crs.
CRJ481 Independent Study	3 crs.

- * 3 Credits = 120 hours of work
- ** 6 Credits = 240 hours of work
- *** 9 Credits = 360 hours of work
- ****12 Credits = 480 hours of work

Capstone Courses (6 crs.)

CRJ452 Race, Ethnicity, & Crime	3 crs.
CRJ454 Policy, Professionalism & Ethics	3 crs.

Criminal Justice Related Courses (15 crs.)

Students must complete five 200 or above level courses from related departments.

Students taking a minor from another department can count no more than two criminal justice related courses toward that minor.

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 to name a few careers in this diverse discipline. Thus, students who want to pursue a career or 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 and are linked to specific concentrations in each department. These include the B.S. in Biology/Biotechnology, B.S. in Chemistry/Biochemistry or B.S. in Criminal Justice/Pre-Forensic Sciences concentrations.

The pre-forensic sciences program is under the direction of a committee chaired by Dr. Lucinda Elliott (biology) and includes Dr. William Patrie (biology), Dr. Robin McCann (chemistry) and Dr. Todd Bricker (criminal justice). Biology, chemistry or criminal justice majors who are interested in a career in forensic sciences are encouraged to seek advice from any of these four professors.

Exercise Science Department

Exercise science is the study of physical activity and how the body responds to physical activity. Wellness and the quality of life of all persons are enhanced by participation in physical activity and sport. Exercise science is comprised of various sub-disciplines including exercise physiology, biomechanics and the psychology of physical activity. Students interested in the exercise science major should have a strong background in biology, mathematics, chemistry and physics.

Exercise scientists rely on scientific knowledge in these areas to advance our knowledge of how the body responds to physical activity as a prevention of diseases such as diabetes and heart disease.

Career Possibilities

Exercise scientists are concerned with the effect of physical activity on the human body. Exercise physiology is the main sub-discipline emphasized in the exercise science major at Shippensburg University.

Exercise physiologists learn to train individuals to improve performance, develop strength and conditioning, stay healthy and prevent chronic disease.

“Traditionally, exercise physiologists worked and studied only with athletes to improve performance. Today, however, exercise physiologists also work and study in commercial, clinical and workplace settings to increase health, fitness and quality of life of the general population. For example, an exercise physiologist may work as a cardiopulmonary rehabilitation specialist, a personal trainer or direct an employee fitness program.” (Careers in Sports Medicine and Exercise Science, www.Acsm.org)

Employment opportunities include work in government agencies as wellness coordinators and program managers. Opportunities also exist in medical settings as program coordinators and

health/fitness specialists, in corporate fitness centers as health promotion program directors, and in fitness centers as exercise programming directors. Students may also find employment in hospitals and health centers doing cardiac rehabilitation, exercise testing and programming.

Transfer students, both internal and external, are selected for admission based on the following criteria:

- (1) Academic proficiency in college or university course work, including a 2.5 GPA.
- (2) Completion of 15 credits, including a “C” or better in BIO115. Selection is competitive and students will be selected from those who fulfill the above requirements.

Students enrolled in the exercise science program will take a total of 120 credits including:

Basic Core Courses (50 crs.)

Comprised of General Education courses:

ENG101 College Writing

or

ENG110 Advanced Placement Writing

HIS105 World History I

HIS106 World History II

MAT102 Introduction to Statistics

BIO115 Principles of Biology I

SPE100 Basic Oral Communication

CSC103 Overview of Computer Science

or

CSC180 Microcomputer Basics

PSY101 General Psychology

CHM105 Chemistry: An Observational

Approach

SOC101 Introduction to Sociology

or

WST100 Introduction to Women’s Studies

PHY121 Introduction to Physics

6 credits in Humanities from General Education Category B

3 credits in Literature from General Education Category B

6 credits from General Education Category D (2 different disciplines)

Basic Science Core (16 credit hours)

BIO116 Principles of Biology II	4 crs.
BIO371 Human Anatomy	4 crs.
BIO350 Human Physiology	4 crs.
BIO260 Genetics	
or	
BIO242 Ecology	
or	
BIO229 Microbiology	3 crs.
BIO300, 301 or 302 Biology Seminar	1 cr.

Exercise Science Requirements (48 credit hours)

ESC351 Pathophysiology	3 crs.
ESC243 Exercise Physiology	3 crs.
ESC244 Mechanical Analysis of Sport	3 crs.
ESC250 Kinesiology	3 crs.
ESC350 Sport Nutrition	3 crs.
ESC352 Psychology of Physical Activity	3 crs.
ESC353 Research Design & Statistics for Exercise Physiology	3 crs.
ESC354 Physiology Assessment	3 crs.
ESC420 Cardiac Rehabilitation	3 crs.
ESC421 Advanced Exercise Physiology	3 crs.
ESC422 ECG/Exercise Testing Procedures	3 crs.
ESC423 Advanced Research	3 crs.
ESC424 Internship	12 crs.

Electives (6 crs.)

***Note:**

All students are required to acquire ARC certification by attending an American Red Cross (ACR) or American Heart Association (AHA) workshop at the students' expense. All students doing an internship must hold current certifications (at the students' expense): (1) First aid, (2) CPR certification, (3) child abuse; (4) criminal record, (5) TB test, and (6) proof of insurance liability.

The undergraduate majors will be credentialed in three ways: (1) The ASEP Board of Certification offers "the only Board Certified Exam for Exercise Physiologists." Successful completion of the certification examination is required to practice as "a 'certified' exercise physiologist (EPC)." (2) Undergraduate students will take the ACSM (American College of Sports Medicine) health and fitness instructor's exam (HFI), and (3) Students will also be eligible to become certified as a National Strength and Conditioning Association (NSCA) Certified Personal Trainer (CPT). The

cost of certification examinations is borne by the student.

Coaching Minor – 18 crs.

The Coaching Minor program is accredited by the National Council of Accreditation of Coaching Education. The program prepares coaches and is particularly advantageous to those interested in working in an organized sport environment involving children or adults. Students in the program take six required courses (3 credits each) for a total of 18 credits. Students in the coaching minor will need a minimum grade of "C" in each course in order to successfully complete the minor.

The students in the coaching minor take BIO150 as the first course in the program. During the sophomore year, students take ESC243 and ESC244. In the junior year, courses include ESC325 and ESC340. During the senior year, coaching minor students take ESC400. This course provides students with the opportunity to work with teams in a sport setting (youth sports, junior/senior high school sports, college/university sports, recreational sports, etc.). Students in ESC400 spend three hours a week in the classroom and five hours a week in a supervised sport setting.

NOTE: Education majors who student teach during their senior year are encouraged to declare the minor early; they should plan to take ESC340 during the sophomore year and ESC400 during the junior year.

Gerontology (Aging) Program

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 work-

ing 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.

Gerontology Minor – 18 credits

Core Requirements (9 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
GRN302 Seminar in Gerontology

Approved Electives (9 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:

GRN391 Selected Topics in Gerontology*
GRN480 Valuing Diversity in Later Life
GRN481 Reflecting on the Impact of Gender in Later Life
GRN482 Using Spirituality to Promote Optimal Aging
GRN483 Using Applied Statistics in Gerontology Professions
GRN484 Evaluating Gerontology Programs, Products, & Services
GRN491 Advanced Selected Topics in Gerontology
BIO203 Biology of Aging
PSY352 Adult Development & 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
SWK420 Gender Issues for Helping Professionals
SWK450 Social Welfare Policies & 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 the Extended Studies Program.

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 turn students into officers. Upon successful completion of the program and graduation, cadets may be awarded a commission as a second lieutenant in either the U.S. Army, the Army National Guard or the U.S. Army Reserve.

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 the 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 six-week training session called advanced camp. Advanced camp gives cadets the chance to practice what they've learned in the classroom and introduces them to Army life in the field.

A total of eight (8) 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 of school and students entering a two-year postgraduate course of study.

To enter the Two-Year Program, students must first attend a paid four-week basic camp (MIL240), held during the summer between their sophomore and junior years of college. At basic camp, students learn to challenge themselves physically and mentally and to build their confidence and self-respect.

After they have successfully completed basic camp, students who meet all the necessary enrollment requirements are enrolled in the advanced course.

Basic Leadership Practicum (MIL240)

The Military Science Basic 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.

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 six-week period.

Advanced Leadership Practicum

The six-week summer training program, conducted at an Army installation, stresses the application of military skills to rapidly changing situations. Participants are evaluated on their ability to make sound decisions, to direct group 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 six-week period.

Scholarships Information

Army ROTC scholarships are offered for four, three and two 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 \$200 a month allotment. 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 cadets. All juniors and seniors in the ROTC program (advanced course) and scholarship cadets are paid a tax-free stipend of \$250 a month and receive certain other benefits.

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.

Academic Advisement

Students are encouraged to contact the Department of Military Science for information concerning the complete ROTC program. The military science department is available to discuss the program with interested students at 717-477-1782.

Additional Advanced Course Requirements

In addition to the core requirements, cadets must complete courses in the following categories: (1) Military History, (2) Written Communication, (3) Human Behavior, (4) Mathematics and (5) Computer Science. Courses in management and national security are recommended.

Basic Program

MIL131, MIL132, MIL231, MIL232 (each 2 crs.)

or

MIL240 Basic Leadership Practicum (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.)

Advanced Leadership Practicum (0 crs.)

MIL350, MIL351 (each 3 crs.)

Social Work 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, a 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 professional outcomes 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 practicum (field course of study) 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.)

Features

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 Possibilities

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.

Social Work 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 & Communities in Society	3 crs.
SWK3XX Special Fields (<i>choose 1 below</i>)	3 crs.
SWK360 Research Techniques for Social Workers	3 crs.
SWK420 Gender Issues for Helping Professionals	3 crs.
SWK450 Social Welfare Policy & Services	3 crs.
SWK370 Social Work Practice with Organizations & Communities	3 crs.
SWK388 Preparation for Field Practicum	1 cr.
SWK391 Seminar in Social Work Methods**	3 crs.
SWK389, 390, 392, 393 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 one of the two semesters 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:

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
SWK352 Special Fields of Social Work: Child Welfare 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

SWK383 Selected Topics	1-3 crs.
SWK490 Selected Topics	1-3 crs.

Allied Fields

Students majoring in social work must take the following courses in allied fields which may also meet general education requirements.

PSY101 General Psychology (G.E. Cat. E)	3 crs.
BIO150 Human Biology (G.E. Cat. C)	3 crs.
SOC101 Introduction to Sociology: Society & Diversity (G.E. Cat. E)	3 crs.
PLS100 U.S. Government Politics (G.E. Cat. D)	
MAT170 Elementary Statistics for Social Science Majors (G.E. Cat. A)	4 crs.

Teacher Education Department

The elementary education curriculum at Shippensburg is a four-year program, requiring at least 120 credit hours leading to the degree of Bachelor of Science in Education, Elementary Education. Successful completion of this course of study qualifies the graduate for a variety of professional employment possibilities. The basic program qualifies the student to apply for an elementary teacher certificate, making the graduate eligible for employment at any level, i.e., kinder-garten through sixth grade (K-6). All certified elementary education teachers, due to their preparation in reading, are qualified to teach developmental reading at any grade level K-12. Those students choosing the early childhood sequence receive additional certification for nursery school (N-3). A certification to teach environmental education courses (K-12) is given to those students completing the environmental education concentration. Some certification concentrations may require more than 120 credit hours.

Students in the elementary education program 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 professional-

ism 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. They are also required to take an elective concentration or minor in some academic field.

Elementary Education (B.S.Ed.)

Students admitted to the elementary education program are expected to maintain an adjusted quality point average of at least a 3.0. In conjunction with the approved QPA, the department requires a grade of “C” or higher must be obtained in each course listed on the approved planning sheet as well as the courses of the selected minor or concentration.

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 (PRAXIS I). 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, including those courses listed in the concentration or minor category, 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.

Elementary Education Major

(Minimum of 120 credit hours required)

Required Courses

ENG101 College Writing
 SPE100 Basic Oral Communication
 HIS105 World History I
 HIS106 World History II
 MAT110 Fundamentals of Mathematics I
 MAT111 Fundamentals of Mathematics II
 PSY101 General Psychology
 ANT111 Cultural Anthropology
 or
 GEO140 Cultural Geography
 or
 SOC101 Introduction to Sociology: Society & Diversity

*Biology (3 crs.)

BIO100 Basic Biology
 or
 BIO105 Biological Science: A Laboratory Approach
 or
 BIO115 Principles of Biology I
 or
 BIO150 Human Biology
 or
 BIO208 Field Biology
 or
 BIO248 Field Natural History
 or
 BIO265 Human Genetics

*Physical Sciences (3 crs.)

PHY108 Astronomy
 or
 PHY110 Physics for Society
 or
 PHY115 Physical Science: A Laboratory Approach
 or
 PHY121 Introductory Physics I
 or
 PHY205 Intermediate Physics I
 or
 CHM103 A Cultural Approach
 or
 CHM105 An Observational Approach
 or
 CHM121 Chemical Bonding

*Earth Sciences (3 crs.)

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

BIO145 Problems of the Environment

*Note: One course in either biology, physical sciences, or earth sciences must be a lab course.

Fine Arts (Choose 2 from different disciplines)

MUS110	MUS121
ART101	MUS261
ART232	ART231
ART339	ART274
SPE121	SPE240

Political, Geographic and Economic (Choose 2 from different disciplines)

ECN101	GEO101
ECN102	PLS100

Literature Elective (3 crs.)

ENG243 The Art of the Film
 or
 ENG248 Introduction to Culturally Diverse Literature of the U.S.
 or
 ENG250 Introduction to Literature
 or
 Foreign Literature course, with advisement

Professional Foundation (21 crs.)

TCH205 The American School
 TCH260 Educational Psychology
 PSY265 Childhood & Adolescence
 or
 TCH160 Child Development
 TCH250 Elements of Instruction
 TCH345 Assessment & Evaluation Strategies
 (**Note:** Not required of early childhood or reading minors.)
 RDG232 Reading in Elementary School
 PSY355 Psychology of the Exceptional Child
 or
 EEC411 Introduction to Exceptionality

15 to 21 credits in elected concentration or minor

All required courses should be successfully completed prior to enrolling in the Professional Semester.

Professional Semester

- TCH303 Books & Materials for Children
- TCH321 Language & Reading in the Elementary School
- TCH341 Mathematics in the Elementary School
- TCH346 Science in the Elementary School
- TCH347 Social Studies in the Elementary School

Student Teaching Semester

- EDU495 Student Teaching & Professional Practicum

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 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.

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.

I. REQUIRED COURSE – EDU410

Environmental Education Practicum (3 crs.)

II. CORE COURSES – 12 credits 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 in III.

A. BIO242 Ecology

B. BIO208 Field Biology
BIO210 Field Zoology
BIO448 Field Botany & 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

III. 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 & 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
- ECN310 Public Finance
- ECN340 Introduction to Regional Economics
- ECN345 The Economics of Growth & Development
- ESS220 Oceanography
- ESS355 Meteorology
- ESS413 Mineral & Rock Resources
- ESS442 Environmental Geology
- GEO103 Geography of the U.S. & Canada
- GEO140 Cultural Geography
- GEO203 Climatology
- GEO224 Soils
- GEO226 Hydrology
- GEO244 Land Use
- GEO440 Field Techniques
- GEO444 Environmental Land Use Planning
- PLS331 Municipal Government & Administration

PLS371 Public Management
 PLS384 Regional & Urban Planning
 MAT102 Introduction to Statistics
 MAT170 Elementary Statistics for Social Science

* 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.

Concentrations and Minors for Elementary Education Majors

Each student majoring in elementary education is required to select, at the time of admission, an academic field of interest for a concentration or minor. Minors are selected from university approved minors identified in the undergraduate catalog, but to be approved for the program, the minor must at least satisfy the criteria established for a concentration. A concentration is an in-depth study, beyond the requirements of the elementary major, which involves an additional field of certification or academic emphasis in a specific discipline. It will be 15 semester hours, distinct of the credits required by the major and including, whenever possible, at least one upper-level course which has prerequisites stated in the catalog description. Students may change their concentration/minor upon approval.

Minors offered by the Teacher Education Department

Early Childhood Minor – 24 crs.

Required (24 crs.)

TCH160 Child Development
 ECH200 Introduction to Early Childhood Education
 ECH215 Infant & Toddler Programs
 ECH330 Primary Curriculum
 ECH340 Preschool & Kindergarten Curriculum
 ECH460 Family, School & Community Partnerships
 ECH461 Assessment in Early Childhood
 ECH462 Practicum in Early Childhood

Reading Minor – 18 crs.

Required (15 crs.)

TCH255 Multicultural Issues & Strategies in Basic Education
 RDG340 Seminar in Literacy Tutoring
 RDG232 Reading in the Elementary School
 RDG329 Teaching Reading in the Content Areas
 RDG334 Classroom Based Literacy Assessment

Electives (3 crs.) (Select one)

RDG422 Studies in Children's Literature
 RDG490 Selected Topics in Reading
 TCH423 Integrating Literature in Middle Grades
 SPE303 Effective Listening

Minors offered by other departments
 (see department section for requirements)

Anthropology—18 crs.

Art—21 crs.

Coaching—21 crs.

Communication/Journalism—18 crs.

Economics—18 crs.

English—18 crs.

Ethnic Studies—18 crs.

French—18 crs.

Geography/Earth Science—21 crs.

German Studies—18 crs.

History—18 crs.

International Studies—21 crs.

Math—18 crs.

Music Literature—18 crs.

Philosophy—18 crs.

Political Science—18 crs.

Psychology—18 crs.

Public Administration—18 crs.

Spanish—18 crs.

Speech—18 crs.

Theater—18 crs.

Women's Studies—18 crs.

Concentrations offered by other departments:

Biology Concentration (20 crs.)

BIO115 Principles of Biology I	4 crs.
BIO116 Principles of Biology II	4 crs.
Electives*	12 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.

Chemistry Concentration (15 crs.)

CHM121 Chemical Bonding	3 crs.
CHM123* Laboratory IA Chemical Systems	2 crs.
CHM122 Chemical Dynamics	3 crs.
CHM124 Laboratory IIA Experimental Quantitative Analysis	2 crs.
CHM221 Modern Organic Chemistry I	3 crs.
CHM223* Laboratory IIIA Experimental Organic Techniques	2 crs.

* With the consent of the chemistry department, CHM125 and CHM225 may be substituted for CHM123 and CHM223.

Mathematics Concentration (19 crs.)

MAT211 Calculus I	4 crs.
MAT229 Elementary Linear Algebra	3 crs.
CPS180 Microcomputer Basic	3 crs.
MAT225 Discrete Mathematics	3 crs.
EDU420 Microcomputers in the Classroom	3 crs.
Elective	3 crs.

Sociology Concentration (21 crs.)

SOC101 Introduction to Sociology: Society & Diversity	3 crs.
SOC241 Contemporary Social Problems	3 crs.
SOC243 Minority Groups	3 crs.
SOC220 Social Stratification	3 crs.
SOC254 Social Movements & Social Change	3 crs.
SOC450 Classical Social Theory	3 crs.

Elective

One elective with the advice of an advisor (200 level or above) 3 crs.

Multicultural Education/ TESOL

(Teaching English to Speakers of Other Languages)

This sequence requires evidence of competence in any modern foreign language as demonstrated by a grade of Good on MLA Test or other appropriate measures.

Multicultural Core (6-9 crs.)

ANT111 Cultural Anthropology	3 crs.
ENG358 Ethnic Literature	3 crs.
SOC101 Introduction to Sociology: Society & Diversity	3 crs.

Choose one of the following:

HIS207 Women in History	3 crs.
HIS341 African American History	3 crs.
HIS342 United States Minorities	3 crs.

Professional Education TESOL (6 crs.)

TCH255 Multicultural Issues & Strategies in Basic Education	3 crs.
SPN225 An Introduction to Spanish Children's Literature	3 crs.

Elect one:

EDU325 Teaching of Foreign Language
ENG223 The Grammars of English

Related Electives (0-3 crs.)

SPN400 or SPN490 when a Latin American topic is offered.	
SOC243 Minority Groups (Prerequisite: SOC101)	3 crs.
SPE160 Introduction to Intergroup/ Intercultural Communications	3 crs.
PSY270 Social Psychology	3 crs.
MUS461 Folk Music of the World	3 crs.
GEO140 Cultural Geography	3 crs.
PHL295 Comparative Religions	3 crs.

Course descriptions are organized in alphabetical order by subject. Information on courses can be found under appropriate headings in the following sequence:

ACC	Accounting
ANT	Anthropology
ART	Art
ASP	Academic Success Program
BIO	Biology
BSN	Business (General)
BUS	Business Education, Information Technology for
BSL	Business Law
CHM	Chemistry
COM	Communication/Journalism
CPS	Computer Science
CRJ	Criminal Justice
ECH	Early Childhood
ESS	Earth Science
ECN	Economics
EDU	Educational Foundations
EEC	Education of Exceptional Children
ELE	Elementary Education (see TCH)
ENG	English
ETH	Ethnic Studies
ESC	Exercise Science
FIN	Finance
FL	Foreign Languages
FRN	French
GEO	Geography
GER	German
GRN	Gerontology
HCA	Health Care Administration
HIS	History
INM	Information Management & Analysis
IDS	Interdisciplinary
MGT	Management
ISM	Management Information Systems
MKT	Marketing
MAT	Mathematics
MIL	Military Science
MUS	Music
PHL	Philosophy
PHY	Physics
PLS	Political Science
PSY	Psychology
RDG	Reading
SWK	Social Work
SOC	Sociology
SPN	Spanish
	Special Education (see EEC)
SPE	Speech
TCH	Teacher Education
THE	Theatre
WST	Women's Studies

Dual Level (400-499) 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 concerning the policy of the department and the appropriateness of the course prior to enrolling in any 400-level courses.

Academic Success Program

ASP101 STUDENT VOICES: IDENTITY AND CONNECTION (3 CRS.)

This required course provides Academic Success Program students with an extended orientation to the academic expectations and demands of higher education. Student Voices leads students through a systematic exploration of values, beliefs, and skills that will assist them in becoming successful in their academic endeavors. Students learn to connect to the larger campus community. Basic skill development in reading, writing, and critical thinking are stressed.

ASP102 STUDENT VOICES: LEADERSHIP AND COMMUNITY (3 CRS.)

This required course leads Academic Success Program students through a systematic exploration of the values, beliefs, and skills that will assist them in becoming successful in the communities to which they belong 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

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 is placed 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. The emphasis is 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. It 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.

This course is 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 is on the taxation of individuals with some emphasis on business activities including property transactions. Other tax entities also are discussed. Students are introduced to tax research and tax planning. Prerequisites: ACC200 and ACC201 (C grade or better).

ACC310 FINANCIAL ACCOUNTING AND REPORTING I (3 CRS.)

First in a sequence 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.

ACC311 FINANCIAL ACCOUNTING AND REPORTING II (3 CRS.)

Second in a sequence 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 intangible assets, stockholders' equity, investments, deferred income taxes, compensation, accounting changes, earnings per share, and leases.

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 the development of skills for analyzing complex cost and managerial accounting problems using microcomputer spreadsheet models. Course coverage includes process costing, cost allocation, joint costs, transfer pricing, and divisional performance evaluation, statistical applications in cost analysis and capital budgeting. The emphasis throughout is on the processing of the cost information as well as the analysis, reporting and evaluation of the cost data. Prerequisites: ACC200 and ACC201 (C grade or better) and INM200.

ACC401 FINANCIAL ACCOUNTING AND REPORTING III (3 CRS.)

Third in a sequence 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 reporting issues for consolidated entities, international transactions and foreign subsidiaries and accounting in the not-for-profit sector.

ACC404 AUDITING (3 CRS.)

Introduction to the standards and procedures employed by the professional accountant 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.)

Provides more in-depth coverage of the impact of the federal income tax on business entities including proprietors, corporations and partnerships. Primary emphasis is the taxation of corporations and flow-through tax entities. Includes expanded coverage of tax research and planning as well as ethical responsibilities in tax practice.

ACC412 ADVANCED COST ANALYSIS AND CONTROL (3 CRS.)

Considers a range of problems related to the accumulation and use of accounting data for the purpose of 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. The emphasis is on the relationship of decision theory and the cost accounting function to the management information system. Explicit consideration is given to the behavioral foundations for planning and control. 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. Prerequisites: ACC311 (C grade or better) and departmental permission.

Anthropology

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 students to 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.

ANT312 COMPARATIVE MARRIAGE & 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.

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 ARCHAEOLOGY OF NORTH AMERICA (3 CRS.)

Introduces varied archaeological cultures that inhabited this continent for at least the last 15,000 years, if not longer. Lecture 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. Prerequisites: ANT111 or ANT150.

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. Prerequisite: ANT111.

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 will be supplemented with slides, films and artifacts.

Prerequisite: ANT111 or ANT150.

ANT393 SELECTED TOPICS IN ANTHROPOLOGY (1-3 CRS.)

Opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

ANT490 SELECTED TOPICS IN ANTHROPOLOGY (1-3 CRS.)

Opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

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 is 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. The curriculum 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 designed 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. The production of a portfolio, which represents an investigation of self-expression and experimentation, is an outcome and a requirement. Prerequisite: ART110. (Offered in spring only.)

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. (Offered in "even year" fall only.)

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, working with printers and photographers. General usage of the Macintosh operating system will be taught. The emphasis is on visual appearance and design of publications.

ART218 THREE-DIMENSIONAL DESIGN (3 CRS.)

Introduction to working with elements and principles of three-dimensional design. Student will 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; These periods are followed by early Christian, Byzantine and Islamic art. Concludes by examining early Medieval and Romanesque art. (Offered in "even year" fall only.)

ART232 ART HISTORY II (3 CRS.)

Continues where Art History I concluded. Study of Gothic art and an introduction to the 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 up 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 of 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.)

ART280 PRINTMAKING/INTAGLIO (3 CRS.)

Introductory course in printmaking. Primarily a studio course, students will have an opportunity to make original prints in relief and various intaglio processes. Will also deal with the history of printmaking and some important printmakers. This will give the student a better grasp of the wide range of techniques and means of expression found in what can be a very complex art form.

ART281 PRINTMAKING/LITHOGRAPHY (3 CRS.)

Introductory course in printmaking. Primarily a studio course, students will have an opportunity to make original prints in relief and stone lithography. Will also deal with the history of printmaking and some important printmakers. This will give the student a better grasp of the wide range of techniques and means of expression found in what can be a very complex art form.

ART300 INDEPENDENT STUDIO/CERAMICS (3 CRS.)

For advanced study in a particular art medium. Provides an 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. Provides an 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. Provides an 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. Provides an 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. Provides an 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. Provides an 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.)**

The second level course taught on the Macintosh computer. Students 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 is 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.)**

The third level course taught on the Macintosh computer. Students will learn the art of photo manipulation, editing, painting, compositing and pre-press techniques including all aspects of using a bitmapped software program. Also taught will be: 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 will be covered along with creating meaningful imagery. The emphasis is in 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 will also be discussed. (Prior experience in drawing and working with color is recommended.) (Offered in spring only.)

ART322 WATERCOLOR II (3 CRS.)

For the intermediate-level student 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 will also be discussed. (Prior experience in drawing and working with color is recommended.) (Offered in fall only.)

ART327 PAINTING II (3 CRS.)

For the intermediate level student 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.)

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 in “odd year” 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 one’s knowledge of clay and the various working processes. Emphasis on further mastery and refinement of skills—hand building and/or wheel throwing. A greater attention is also 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, such as “What is art?” and “Are there criteria that can be used in evaluating all works of art?” Some learning objectives and philosophical dialogue will be to value questions, to be curious, to value reflective disagreement, to wonder, and to find reasons to justify beliefs. Objectives 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. Both spoken and written art criticism deals with responding to a specific work as well as a body of work. Two important functions of art criticism considered

are to interpret the meaning of the work and to demonstrate support judgments about the aesthetic merits of the work. Students will experience 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.)

ART380, 381 PRINT-MAKING I & II (3 CRS.)

Advanced courses for art students who wish to explore in-depth one or two of the fine art printing processes. Students may elect to take the course as ART381 (3 credits) for one semester or both ART381 and ART382 (6 credits) for two semesters. Students will work toward mastery of stone lithography, various intaglio processes or relief. Emphasis placed on the student’s development of a personal imagery. Students work closely with instructor to set personal goals that fit the basic requirements. Prerequisite: ART280 or ART281. (Each offered in spring only.)

ART385 SENIOR ART SEMINAR (3 CRS.)

Requires the student to examine the contemporary artists, art movements and influences that directly impact their work and their area of concentration. Emphasis is 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.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

ART395 INTERNSHIP IN ART (3 CRS.)

Offers a planned program of research, observation, study and work in approved art agencies and institutions for junior and senior art majors. The specific nature of the experience will follow the pattern dictated by the agency/institution. Only 6 crs. of internship credit can count toward the art major. (Prior approval of the Department of Art and the cooperating agency is required.)

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. Exploring their personal artwork, students will be introduced in the role of art teacher as facilitator, guide and mentor, plus the various instructional strategies and models currently employed for success in the field. Besides exploring a cross section of contemporary art-making processes, students will analyze how they create in order to allow others to understand that process. Students will gain competency in lesson planning, organization, classroom management and assessment. The student will emerge with a clearer understanding of the relationship between ideas, process, critique, and the vital role of the studio teacher. The class consists of classroom lecture/presentation and intense studio activity. Students will have 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 (MULTIMEDIA & MOTION GRAPHICS) (3 CRS.)

Fourth level course taught on the Macintosh computer. Students will learn 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 will learn how 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, the use of a color scanning device, video and still camera capturing devices and CD authoring will be covered. The content includes techniques directed at creating visually strong multimedia productions. Prerequisite: ART217. (Offered in spring only.)

ART430 COMPUTER DESIGN V (WEB DESIGN) (3 CRS.)

Fifth level course taught on the Macintosh computer. Students will learn 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 in this course 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. Course will examine the book as a physical artifact, as the material embodiment of text and visual imaging. Topics include the transitions between hand production and mechanical production, methods of bookmaking, printers and publishers, letter forms and typography, paper, page formats and layouts, illustrations, bindings, and the purpose of the book with special emphasis on the relationships between meaning and physical form and the complex conventions of the book. Students will learn the art of typographic design, calligraphy, book and portfolio design, papermaking and bookmaking skills following both traditional and nontraditional techniques. Using page composition and illustration/painting/digital photography techniques learned in Computer Design I, II and III, students will enlarge and enhance their knowledge of typography and how to use it in book design. They will use their computer illustration, painting and digital photographic skills to add visuals into the composite book. Elements and principles of design, working between software programs, the use of a color scanning device and digital camera capturing devices will be covered. Content includes techniques directed at creating visually and thematically strong and unique artist's portfolios and books. Prerequisite: Computer Design I.

ART490 SELECTED TOPICS IN ART (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Biology

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. *Not open to biology majors.* Three hours of lecture/week.

BIO105 BIOLOGICAL SCIENCE: A LABORATORY APPROACH (3 CRS.)

Uses selected laboratory activities to illustrate the nature of investigative procedures. Emphasizes experimental design, data collection, analysis and interpretation. Four hours of laboratory-discussion/week. *Not open to biology majors.*

BIO115 PRINCIPLES OF BIOLOGY I (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.

BIO116 PRINCIPLES OF BIOLOGY II (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. Prerequisite: One semester of college chemistry and Principles of Biology I are strongly recommended.

BIO145 PROBLEMS OF THE ENVIRONMENT (3 CRS.)

Students are made aware of the many problems created by expanding human populations and technological growth and proliferation. Ecological alternatives are suggested. Topics include the shaping of humans by the environment, our relationships with the biotic and abiotic world, water and air pollution, climate change, pesticides, herbicides, contaminants, food additives, the urban environment and consequences of the expanding human population. Three hours lecture/week.

Credit earned in this course is not applicable to the credits required of the biology major.

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.*

BIO201 INTRODUCTION TO BIOTECHNOLOGY (1 CR.)

Serves as a comprehensive introduction to applications and methods of biotechnology. Topics include microbial, plant, animal and marine biotechnology. Applications to medicine, forensics and the environment will be examined. *Required for Biotechnology concentration.* One hour lecture/week. Pre- or co-requisites: Principles of Biology I and II, Genetics, Microbiology, Chemical Bonding and Chemical Dynamics.

BIO208 FIELD BIOLOGY (3 CRS.)

Field/laboratory course designed for biology majors with secondary education certification which will focus on the 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. Prerequisite: Principles of Biology I. The course requires one weekend field trip. (Offered fall semester and summers as needed.)

BIO210 FIELD ZOOLOGY (3 CRS.)

Introduction to the principles and techniques of field zoological investigation. Field and laboratory studies provide opportunity to learn appropriate procedures for the collection, preservation and identification of selected groups of local animals. Both lecture and laboratory present the theory and methodology of zoological systematics. Two hours lecture and three hours lab/week. Prerequisites: Principles of Biology I. The course requires one weekend field trip. (Offered spring semester.)

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: Principles of Biology I and II.

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: Principles of Biology I and sophomore standing or permission of instructor.

BIO260 GENETICS (3 CRS.)

Introductory course dealing with the principles of heredity and the nature of the gene. Laboratory work includes genetic analysis in *Drosophila* and other organisms. Two hours lecture and two hours lab/week. Prerequisite: Principles of Biology I and II.

BIO300, 301, 302 BIOLOGY SEMINAR (1 CR. EACH)

Discusses selected fields of biological research in depth. The major responsibility of the student in this course will be to prepare by means of library research for the seminar discussions. One hour per/week. Restricted to junior and senior biology majors, prerequisites possible.

BIO310 MAMMALOLOGY (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. The course includes a weekend field trip. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II.

BIO311 ORNITHOLOGY (3 CRS.)

Field course designed to help the student gain a keener appreciation of the birds of Pennsylvania and the Eastern United States. Focus is on learning to identify birds by sight and sound. The taxonomic, habitat and community relationships of birds are emphasized. Instruction is principally by means of field trips during class periods on Saturday mornings. A multi-day field trip during spring vacation is an integral part of the course. Comfortable outdoor clothing, a pair of binoculars and sturdy waterproof shoes/boots are required. Three hours field/museum instruction/week. Prerequisites: Principles of Biology I and II or permission of instructor.

BIO317 PARASITOLOGY (3 CRS.)

Designed to acquaint students with the 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. Prerequisites: Principles of Biology I and II and Microbiology.

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: Principles of Biology I and II and Microbiology. (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 the 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. Prerequisites: Principles of Biology I and II and Human Physiology or Animal Physiology.

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. The student will be given opportunity to structure experiments, evaluate results and report conclusions. Two hours lecture and two hours lab/week. Prerequisite: Principles of Biology I and II. (Offered fall semester, even years.)

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: Principles of Biology I and II. (*Recommended for pre-health professions and secondary education students. Students may not count both BIO350 and BIO351 towards major requirements.*) (Offered spring semester.)

BIO351 ANIMAL PHYSIOLOGY (3 CRS.)

Study of the function of organ systems of animals. Related anatomy is taught as needed. Two hours lecture and three hours lab/week. Prerequisites: Principles of Biology I and II and junior standing as Biology major or permission of instructor. (*Students may not count both BIO350 and BIO351 towards major requirements.*) (Offered fall semester.)

BIO352 PLANT FORM AND FUNCTION (3 CRS.)

Examines the role physiology, anatomy and morphology of vascular plants. Topics include transport, development and metabolism in relation to roots, stems, leaves and reproductive structures. Experimental and observational approaches are utilized. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I & II.

BIO370 COMPARATIVE VERTEBRATE ANATOMY (3 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 is placed upon the physical evolution of the vertebrate classes using anatomical, embryological and paleontological evidence. One hour lecture and four hours lab/week. Prerequisites: Principles of Biology I and II. (Offered spring semester.)

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 a course in human anatomy. Three hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II.

BIO373 VERTEBRATE EMBRYOLOGY (3 CRS.)

Introductory course in vertebrate embryology. Emphasis is placed upon the structural and functional aspects of comparative vertebrate reproduction and ontogeny. Laboratory work consists of the study of gametogenesis, early *Amphioxus* and frog development and a selected series of chick and pig developmental stages. One hour lecture and four hours lab/week. Prerequisites: Principles of Biology I and II.

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. Prerequisites: Principles of Biology I and II and Microbiology or permission of instructor. (Offered spring semester, even years.)

BIO375 HISTOLOGY (3 CRS.)

Involves the microscopic examination of vertebrate tissues from morphological and physiological perspectives. Reference is made to organ embryogenesis to support the understanding of organ form and function. Laboratory work in-

volves extensive examination of microscope slides. Tissue preparation for histological examination is demonstrated. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II. (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 consists of the examination of cell structure and function by molecular and microscopic techniques. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II, Microbiology, Genetics and Modern Organic Chemistry I or permission of the instructor.

BIO391 BIOLOGY INTERNSHIP I (1-3 CRS.)

Provides the opportunity for students to gain practical experience in their 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 the opportunity for students to gain practical experience in their 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.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

BIO396 RESEARCH III (1-3 CRS.)

Provides an opportunity for a student 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 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.

BIO397 INTRODUCTION TO RESEARCH (1-3 CRS.)

Provides an opportunity for a student 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.)

Provides an opportunity for a student 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.

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 viruses in biotechnology and gene therapy. Special emphasis will be 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 will be expected to submit a 5-10 page term paper on a virology-related topic that is approved by the instructor. Three hours lecture/week. Prerequisites: Principles of Biology I and II, Microbiology, Genetics, Cell Biology. Pre- or co-requisites: Immunology or Molecular Biology or permission of instructor.

BIO409 IMMUNOLOGY (3 CRS.)

Provides an introduction to the field of 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: Principles of Biology I and II and Microbiology. Pre- or co-requisite: Cell Biology.

BIO417 HERPETOLOGY (3 CRS.)

Introduction to the study of amphibians and reptiles. Topics include their classification, evolution, functional morphology, ecology and husbandry. Laboratory work includes anatomical study, identification and field trips. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II or permission of instructor.

BIO418 MOLECULAR BIOLOGY (3 CRS.)

Examines the 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. Classes include discussion of current literature and the use of on-line resources for analysis of DNA sequences. Three hours lecture/week. Prerequisites: Principles of Biology I and II, Microbiology, Genetics, Cell Biology or Biochemistry or permission of instructor.

BIO423 PLANT PATHOLOGY (3 CRS.)

Basic course in plant pathology. Considers the major general groups of diseases of plants together with specific representative diseases for each group and method for their control. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II. (Offered fall semester, odd years.)

BIO425 BIOTA OF FLORIDA (2 CRS.)

Seminar/field course deals with the biology of warm temperate and subtropical Florida. Scope includes vegetation, fauna, geology, history and economy. Requires a single weekly class meeting, plus an intensive 10-day field trip to parks, natural areas and refuges in Florida over spring break. Field trip costs for students include food, entrance fees and camping fees. Prerequisites: Biology major with sophomore standing or permission of the instructors. The course is an alternative for the requirement of a biology seminar. (Offered spring semester, even years.)

BIO430 PRINCIPLES OF EVOLUTION (3 CRS.)

Introduction to evolutionary principles, their applications and to 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. Prerequisites: Principles of Biology I and II and Genetics or permission of instructor.

BIO444 CONSERVATION BIOLOGY (3 CRS.)

Applies principles of population ecology, population genetics, biogeography, animal behavior and paleobiology to the maintenance of global biodiversity and natural systems. Research theory is applied to conservation policy and management techniques. Two hours lecture and two hours lab/discussion/week. Course includes midweek and weekend field trips. Prerequisites: A college course in ecology or wildlife biology. (Offered spring semester, odd years.)

BIO448 FIELD BOTANY AND PLANT TAXONOMY (3 CRS.)

Deals with the principles of classification and systematics of vascular plants, with an 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 the principles and literature of plant systematics and ecology. Memorization of selected, local species is required. Field trips include several local excursions plus a weekend trip to the Delmarva Peninsula. Two hours lecture and three hours lab/week. Prerequisite: Principles of Biology I or Basic Biology or permission of instructor. (Offered fall semester, even years.)

BIO450 ENDOCRINOLOGY (3 CRS.)

Involves a study of the endocrine glands and their hormones. The physiological and biochemical role of hormones in the development, growth, metabolism and reproduction of mammals is examined. Three hours lecture/week. Prerequisites: Principles of Biology I and II and Human Physiology or permission of instructor. (Offered fall semester, even years.)

BIO455 ALGAE AND AQUATIC PLANTS (3 CRS.)

Lectures and laboratories explore the structure, function, diversity and economic importance of algae plus the aquatic groups of fungi, bryophytes and vascular plants. Laboratories emphasize the use of technical keys and include collecting techniques plus a Saturday field trip in early September. Three hours lecture/lab combination/week. Prerequisites: Principles of Biology I or Basic Biology or permission of instructor. (Offered fall semester, odd years.)

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 will 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. Prerequisites: Principles of Biology I and II, Microbiology, Genetics, Cell Biology or Biochemistry. Pre- or co-requisites: Immunology and Molecular Biology or permission of instructor.

BIO462 INVERTEBRATE ZOOLOGY (3 CRS.)

Synopsis of the phylogeny, classification and important adaptive features of major and minor invertebrate phyla. Emphasis is placed on taxonomy and a comparative study of the morphology, composition and functioning of the animal organ sys-

tems or their operational equivalent, as they occur in a broad representation of invertebrate groups, to include patterns of development, reproductive strategies and life history adaptations. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II or graduate standing or permission of instructor.

BIO463 VERTEBRATE ZOOLOGY (3 CRS.)

Explores the diversity, function and phylogenetic relationships among the vertebrate animals. *Graduate students will be required to submit a research paper on a topic approved by the instructor in addition to other course requirements.* Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II.

BIO478 MICROTECHNIQUES (3 CRS.)

Consideration of the methods of preparation for microscopic study of plant and animal tissues. It includes some aspects of histological, cytochemical/histochemical and immunocytochemical studies. Two hours lecture and two hours lab/week. Prerequisites: Principles of Biology I and II and eight hours of chemistry. (Offered spring semester, odd years.)

BIO485 BIOLOGICAL MICROSCOPY AND IMAGING (3 CRS.)

Covers principles and techniques in macrophotography, light microscopy, especially microphotography and videography and scanning electron microscopy (SEM). Students will learn specimen handling and preparation including basic theory and practice in fixation, dehydration, darkroom techniques and computer imaging. Students are expected to perform basic maintenance and alignment of the SEM. A research project is required of all students. Two hours lecture and two hours lab/week. Prerequisite: Principles of Biology I and II or graduate standing or permission of instructor.

BIO491 SELECTED TOPICS IN BIOLOGY (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

BIO494 FIELD RESEARCH TECHNIQUES (3 CRS.)

Provides an overview of methods for investigating biological field problems. Students will learn to use a variety of techniques in field conditions. Collection, analyses and interpretation of data will be emphasized. Methods applied in current professional literature will be discussed. Two hours lecture and two hours lab/week. Prerequisite: Principles of Biology I and II or graduate standing or permission of instructor.

Biology (WIMSC)

The following courses are offered at the Marine Science Consortium at Wallops Island, Virginia, during the summer.

BIO205 MARINE BIOLOGY (3 CRS.)

Introductory course to the marine environment. Includes the physical characteristics of marine ecosystems and the adaptations of organisms that live there. At WIMSC every summer. Two periods lecture and two periods lab/week. Prerequisites: Principles of Biology I.

BIO245 MARINE ECOLOGY (3 CRS.)

Deals with the 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. Prerequisites: Principles of Biology I.

BIO315 MARINE INVERTEBRATES (3 CRS.)

Survey of invertebrate phyla indigenous to coastal waters. Structural and functional adaptations are discussed. Only at WIMSC during summers. Prerequisites: Principles of Biology I.

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. The importance of phytoplankton in energy flow is emphasized. Only at WIMSC during summers. Prerequisites: Principles of Biology I and an ecology course.

Business (General)

BSN101 FOUNDATIONS OF BUSINESS ADMINISTRATION (1 CR.)

Foundation course for all majors in the College of Business. Establishes platform for student 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.

BSN410 INTERNSHIP IN BUSINESS ADMINISTRATION I (1-3 CRS.)

Offers a planned program, full-time work in business or government designed to supplement classroom study in the student's major. Work content must be approved by the department chair and supervised by a faculty member. Prerequisite: 60 credit hours.

BSN411 INTERNSHIP IN BUSINESS ADMINISTRATION II (1-3 CRS.)

Similar to BSN410, but, if with same employer, at least 25% of the work duties must be new, or involve increased responsibility. Prerequisite: BSN410.

Business Education, Information Technology for

BUS101 BUSINESS MATHEMATICS (3 CRS.)

Reviews fundamental arithmetical processes and includes reconstruction and extension of computational skills, application of arithmetic to accounting, improvement of quantitative reasoning, problem solving as related to investments and savings and analysis of financial statements. *Not open to business administration students.*

BUS204 BUSINESS COMMUNICATION (3 CRS.)

Examines the process of communications for management and business and develops an ability to utilize various communications techniques including business letter-writing, report development and presentation, listening, interviewing, conference and meeting leadership, research, preparation of employee communications and organizational and interpersonal communications. Effective writing skill is emphasized. Open to all majors. Prerequisite: ENG101.

BUS220 AMERICAN BUSINESS SYSTEMS (3 CRS.)

Interdisciplinary approach to the 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. 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.)

Emphasizes concepts and theory of word processing and integrated information processing including document creation, processing, distribution, networking, telecommunications and storage. Keyboarding skills are required.

BUS306 BUSINESS INFORMATION PROCESSING II (3 CRS.)

Emphasizes advanced concepts in communications processing, the design and implementation of information processing systems, familiarity with reprographics, information storage and retrieval systems and the interfacing of word processing and other office systems. Prerequisite: BUS305.

BUS393 SELECTED TOPICS IN BUSINESS (1-3 CRS)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

BUS490 SELECTED TOPICS IN BUSINESS (1-3 CRS)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Business Law

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 are included.

BSL262 REAL ESTATE LAW (3 CRS.)

Study of the basic principles of modern real estate law including classification of property, types of ownership, acquisition and transfer, leasing, government regulation and taxation. Emphasis will be placed on the real estate sale including the contract of sale. Prerequisite: BSL261.

BSL361 BUSINESS LAW (3 CRS.)

Surveys the basic principles of law applicable to sales of personal property, real property, negotiable instruments, partnerships, corporations, insurance, secured transactions and bankruptcy. Case studies are included. Prerequisite: BSL261.

Chemistry

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. *May not be taken by students who are currently taking or who have successfully completed CHM121.* Two periods lecture, three periods lab/week.

CHM121 CHEMICAL BONDING (3 CRS.)

Study of the structure of matter ranging from atoms through molecules to crystalline structures. Three periods of lecture/week.

CHM122 CHEMICAL DYNAMICS (3 CRS.)

Study of the reactions of ions and molecules using thermodynamics, equilibrium and kinetics. Three periods of lecture/week. Prerequisite: CHM121.

CHM123 LABORATORY IA—CHEMICAL SYSTEMS (2 CRS.)

Presents a detailed study of such topics as kinetics, enzyme reactions, complex ions, separation techniques, applications of radioactivity and the collection of physical data. Six periods/week. Prerequisite or concurrent: CHM121.

CHM124 LABORATORY IIA—EXPERIMENTAL QUANTITATIVE ANALYSIS (2 CRS.)

Deals with the techniques of quantitative chemical determinations involving gravimetric and volumetric analysis, separation methods and the fundamental application of instruments. Six periods/week. Prerequisite: CHM123 or CHM125; prerequisite/concurrent: CHM122.

CHM125 LABORATORY IB—STOICHIOMETRY AND REACTIONS (1 CR.)

Provides an investigation of elementary reactions and physical measurements. Three periods/week. Prerequisite or concurrent: CHM121.

CHM126 LABORATORY IIB—EQUILIBRIUM AND INSTRUMENTATION (1 CR.)

Presents a study of equilibrium systems utilizing instrumental methods. Three periods/week. Prerequisite: CHM123 or CHM125; prerequisite or concurrent: CHM122.

CHM220 BIO-INSTRUMENTAL ANALYSIS (4 CRS.)

Studies the various instrumental methods commonly used in biological chemical analysis. Spectrophotometry, flame photometry, atomic absorption, radiochemistry, osmometry, gas chromatography, blood gas analysis, cell counting, automatic analyzers and computer applications are described and used in the laboratory. Elementary electronics also introduced. Prerequisites: CHM124, CHM222.

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 the 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 (2 CRS.)

Involves the application of the basic techniques of isolation, purification and identification of organic compounds to the various types of synthetic sequences utilized in organic chemistry. Six periods/week. Prerequisite: CHM124 or CHM126; prerequisite/concurrent: CHM221.

CHM224 LABORATORY IVA—QUALITATIVE ORGANIC ANALYSIS (2 CRS.)

Includes a workshop on structure determination by detailed consideration of spectral data for selected compounds and the identification in the laboratory of unknown polyfunctional compounds and mixtures. Six periods/week. Prerequisite: CHM223 or CHM225; prerequisite or concurrent: CHM222.

CHM225 LABORATORY IIIB—BASIC ORGANIC TECHNIQUES (1 CR.)

Involves the application of the basic techniques of isolation, purification and identification of organic compounds to the various types of synthetic sequences utilized in organic chemistry. Three periods/week. Prerequisite: 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.

CHM301 BIOCHEMISTRY I (3 CRS.)

Study of the 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, BIO116.

CHM310 CHEMISTRY INTERNSHIP (1-3 CRS.)

Study of various methods of research and development in a nonacademic environment. This study is 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.

CHM361 PHYSICAL CHEMISTRY I (4 CRS.)

Study of theoretical chemistry, including phenomenological thermodynamics, equilibria and kinetics. Related fundamental physicochemical measurements are 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 physicochemical measurements are 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 for the course without the laboratory for three credit hours. Prerequisite or concurrent: CHM361 or permission of instructor.

**CHM381 ADVANCED INORGANIC CHEMISTRY
(4 CRS.)**

Survey of some descriptive and conceptual aspects of modern inorganic chemistry. Principles of inorganic chemistry are studied with emphasis on structural, thermodynamic and kinetic aspects. Three periods lecture, three periods lab/week. Prerequisite: CHM361.

**CHM393 SELECTED TOPICS IN CHEMISTRY
(1-3 CRS.)**

Provides the opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

**CHM397 INTRODUCTION TO RESEARCH
(SEMESTER I) (1-2 CRS.)**

See description under CHM398 (Semester II).

**CHM398 INTRODUCTION TO RESEARCH
(SEMESTER II) (1-2 CRS.)**

Includes original investigations in analytical, organic, physical or inorganic chemistry. A formal, comprehensive research report and a seminar presentation are required upon completion of these experimental studies. *Required course for all chemistry majors expecting American Chemical Society accreditation and is optional for all others.* A student should enroll in CHM397 and CHM398 thus being enrolled in the research course for the entire senior year. Course credit is one 2-credit hours per semester with no less than two or more than four granted for the entire year. Prerequisites: CHM361, CHM371, CHM381, a passing grade in all areas of the Junior Comprehensive Examination with a grade of "G" (good) or better in the specific area or areas of research.

**CHM413 TOPICS IN POLYMER CHEMISTRY
(3-4 CRS.)**

Introduction to synthesis, characterization and physical properties of macromolecules. Topics of discussion include polymerization mechanisms, kinetics and techniques; structure-property relationships; molecular weight distribution and characterization; the glass transition temperature; rubber elasticity and viscoelasticity. When offered, the laboratory experience stresses polymer synthesis and characterization. Three periods of lecture, three periods of lab/week. Prerequisites or concurrents: CHM222, CHM361 and PHY206 or equivalents.

**CHM415 TOPICS IN MEDICINAL CHEMISTRY
(3 CRS.)**

Study of the basic principles of organic chemistry and pharmacology used in the design of chemical substances that interact with biological systems. Discussion will center on the molecular basis for drug action, structure-activity relationships and methods of synthesis of the important classes of drug substances. Prerequisites: CHM221, CHM222.

CHM420 BIOCHEMISTRY II (3 CRS.)

Extension of CHM301 and will develop to a greater degree the topics of bio-organic chemistry, enzyme kinetics and mechanisms, intermediary metabolism and metabolic controls and certain selected topics which are necessary for an understanding of modern biochemistry. Three periods lecture/week. Prerequisite: CHM301.

CHM421 BIOCHEMISTRY LABORATORY (1 CR.)

Introduces laboratory techniques essential to the practice of modern biochemistry including separations, purification and analytical methods. Three periods/week. Prerequisite or concurrent: CHM301.

CHM450 STUDIES IN PHYSICAL CHEMISTRY (3 CRS.)

Studies selected topics in advanced physical chemistry with extensive use of current literature in the field. Topics are chosen from quantum chemistry, statistical thermodynamics, catalysis, molecular spectra and molecular structure. Prerequisite: CHM362 or permission of instructor.

CHM460 INSTRUMENTAL ANALYSIS (3 CRS.)

Laboratory course dealing with the study of the following instrumental methods of analysis: electrochemistry, NMR, gas chromatography, IR, UV and visible spectrometry, fluorescence, X-ray, atomic absorption, flame emission, mass spectrometry, high performance liquid chromatography and nuclear techniques. Students perform analyses with all instruments. A short discussion period precedes each laboratory exercise. Prerequisite: CHM362, CHM371 or permission of instructor.

CHM480 ORGANIC REACTIONS & 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: CHM362, CHM222 or permission of instructor.

CHM490 SELECTED TOPICS IN CHEMISTRY (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: Permission of instructor.

**Communication/
Journalism****COM205 INTERNATIONAL MEDIA (3 CRS.)**

Course will present a global analysis of internal and external broadcasting and other electronic mass media services with emphasis on their motives, origins, policies, technologies and programming. It will examine media systems from both comparative and international perspectives.

COM211 INTRODUCTION TO MASS COMMUNICATION (3 CRS.)

Studies the structure and functions of the mass media in the United States. The course 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.

COM212 MEDIA WRITING (3 CRS.)

Introduces students to the variety of mass communication mediums students may encounter in their professional careers. The course focuses on the preparation and presentation of various mass communication formats. Students examine message construction, framing and interpretation from the perspective of print and electronic media, public relations and advertising.

COM224 WRITING FOR BROADCAST MEDIA (3 CRS.)

Provides the opportunity to write for radio and television, including news, commercials, public service announcements, editorials and radio music scripts. Keyboard skills required.

COM285 NEWS WRITING AND REPORTING (3 CRS.)

Introduces the basic news story genres. Places emphasis on perception and selection of data from written reports, interviews, speeches, meetings and the performing arts. Provides laboratory writing experiences. Keyboard skills required.

COM290 ADVERTISING COPYWRITING (3 CRS.)

Places emphasis on writing advertising copy and headlines. Also examines design and layout of advertising for print and electronic media. Prerequisite: COM380.

COM293 EDITING (3 CRS.)

Devoted to the many responsibilities of the copy editor, including copy editing, head writing and dummyping pages. Prerequisite: COM285.

COM320 COMMUNICATION LAW (3 CRS.)

Familiarizes students with legal and self-imposed regulation of mass communications in the United States. Deals, at a minimum, with libel, privacy, obscenity, free press/fair trial, contempt of court, copyright and legal and quasi-legal provisions and agencies affecting advertising and radio and television. Prerequisite: Junior standing.

COM325 CURRENT STRATEGIES IN ELECTRONIC MEDIA PROGRAMMING (3 CRS.)

Provides students with insights into the programming of individual radio and television stations as well as those of the major television and cable networks in the United States. Emphasis is placed on issues involving program creation and development, scheduling, audience preferences and broadcast and cable rating techniques.

COM331 RADIO PRODUCTION & PERFORMANCE (3 CRS.)

Initial production skills course designed for the student with no previous experience who wishes to concentrate in the field of radio broadcasting. Course focuses on the duties of a radio performer/producer. The overall goal of the course is to introduce the student to the techniques and procedures used by professional radio broadcasters and to aid the student in the development of basic broadcast skills.

COM335 MEDIA ADVERTISING AND SALES (3 CRS.)

Examines the 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 are discussed.

COM338 ELECTRONIC MEDIA MANAGEMENT AND REGULATION (3 CRS.)

Involves the student in the goal establishment, decision making and policy execution processes of electronic media management and regulation, including broadcast and cable radio and television and the Internet. It provides the theoretical and practical bases of broadcast, cable and Internet management and leadership and views these elements from the perspective of upper and middle management positions.

COM360 INTRODUCTION TO PHOTOGRAPHY (3 CRS.)

Introduces the principles of photography and teaches the basic competencies to produce black and white photographs. Students study the history of photography, the techniques of photograph-

ic composition and the basic processes of producing camera images in the darkroom. Assignments are designed to teach students how creative visual communication is achieved through the use of black and white photography. Emphasis is on the practical technique of processing and printing black and white negatives. Students are expected to develop an understanding of the relationship of photography to their professional goals.

COM362 PHOTOJOURNALISM (3 CRS.)

Course is for students who have an understanding of basic photographic equipment and photographic techniques. Examines and explores the use of visual communication techniques in print media and websites. Covers the history of photojournalism, technical aspects of photojournalism and modern visual communication production techniques in both traditional and digital formats. Assignments are designed to teach students how to produce and edit visual elements and combine them with text for both print and web-based publications. Prerequisite: COM360.

COM370 TELEVISION PRODUCTION (3 CRS.)

Provides an introduction to the 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.

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.

COM376 FEATURE WRITING (3 CRS.)

Deals with specialized writing for newspapers and magazines and offers the student instruction and practice in developing ideas for articles, using research methods and writing for mass audiences. Keyboarding skills required.

COM378 COMPUTER-ASSISTED REPORTING (3 CRS.)

Introduces students to the use of computers in developing, researching and writing specialized statistical-based stories for newspapers and magazines. Students learn to cull web-based and digital databases for information, analyze and synthesize statistical information, develop story ideas through on-line and database searches and write coherent stories based on the information. Keyboard skills required.

COM380 PUBLIC RELATIONS (3 CRS.)

Is an introductory course dealing with the role and function of public relations in society. It emphasizes the application of theory and principles to the practice of public relations.

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 the practical application of basic contemporary design to printed and web-based materials such as newsletters, booklets, pamphlets and advertising messages.

COM395 & COM396 INTERNSHIP I AND II (1-6 CRS.)

Internship of three credit hours can be earned, by approved students, for service in an approved field. Qualifications for internship include junior or senior class standing; 2.5 or higher QPA 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 for internship must be processed in advance through the Department of Communication/Journalism. Prerequisite: Junior standing and departmental permission.

COM400 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: COM380.

COM450 RADIO AND TELEVISION NEWS (3 CRS.)

Explores the area of reporting, writing, editing and presenting news for radio and television. Includes working with local news sources, wire copy and the writing of documentaries. Keyboard skills required. Prerequisite: Junior standing and COM224.

COM451 ELECTRONIC NEWS GATHERING AND FIELD PRODUCTION (3 CRS.)

Studies the techniques for recording television news, documentary and other programs outside the television studio using portable equipment. Emphasizes planning and production using hand-held and field cameras, backpack recorders and portable audio-lighting systems. Offers practical experience in planning and producing

mini-programs. Prerequisite: Junior standing, a television production course and a television writing course or permission of the 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: Junior standing and COM380.

COM470 DIGITAL PHOTOGRAPHY (3 CRS.)

Introduces the principles of digital photography and teaches basic competencies to apply standard photo concepts to the realm of digital imaging. Students study the history of digital photography, the techniques of composition and the basic processes of producing digital photographs from electronic and traditional camera images. Assignments are designed to teach students how creative visual communication is achieved through the use of digital photography. Emphasis is 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. Prerequisite: Junior standing.

COM475 MAGAZINE AND BOOK PRODUCTION (3 CRS.)

Principles and laboratory practice in magazine and/or book production and design. Topics include analysis of principles of layout; observing principles of typography; graphics; digital and traditional photography; headlines and titles; ethics of publishing; history and impact on society; editorial design, advertising and circulation challenges; freelance sources; dealing with editors; specialization; positioning and launching. Visits to publishing houses. Graduate students will participate directly in publishing projects in process including proofreading, copyediting and preparation for submission to authors and publishers. Prerequisite: Junior standing.

COM481 INTERACTIVE MEDIA DESIGN (3 CRS.)

Offers writers study in print communication with primary emphasis on desktop publishing (Macintosh) and the practical application of basic contemporary design to printed materials such as newsletters, booklets, pamphlets and advertising messages. Prerequisite: Junior standing and COM381.

COM490, 491, 492 SELECTED TOPICS IN COMMUNICATION/JOURNALISM (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: Junior standing.

COM499 COMMUNICATION/JOURNALISM SENIOR CAPSTONE (3 CRS.)

Required course for all graduating seniors, it provides an integration of previous courses in and outside of the major. Students analyze and synthesize past learning and relate it to issues and problems in mass communication. Course requirements are tailored to meet each student's specific career plans or career focus. Course focuses on assisting students in establishing a professional identity. Prerequisite: Senior standing.

Computer Science

CSC110 COMPUTER SCIENCE I (4 CRS.)

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.

CSC111 COMPUTER SCIENCE II (4 CRS.)

Intermediate course in software design and development. Students will reinforce their proficiency with core programming techniques by developing more challenging programs than in CSC110. Students 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 also need to improve their solutions to enhance efficiency and soundness. Topics include intermediate programming techniques; using advanced data types including multi-dimensional arrays, queues, 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: CSC110 and successful completion of the Programming Competency Exam.

CSC210 DATA STRUCTURES AND ALGORITHMS (4 CRS.)

Students design and build the standard data structures using an inheritance hierarchy, abstract classes, and polymorphism. Associated algorithms are analyzed from an intuitive rather than rigorous mathematical point of view. Topics include algorithm analysis, fundamental data structures, design patterns, lists, stacks, graphs, trees, and advanced data structures. Prerequisites: CSC111 and MAT225.

CSC220 COMPUTER ORGANIZATION (4 CRS.)

Introduces the 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: CSC110.

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: CSC210 and MAT225.

CSC320 OPERATING SYSTEMS (4 CRS.)

An operating system provides an abstract interface with which programmers can control hardware. The study of this area includes both the use of operating systems (externals) and their design and implementation (internals). This course will include 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: CSC220.

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. Students will use a typical graphics API (e.g., OpenGL) to create computer-generated images. Prerequisite: CSC210.

CSC371 DATABASE MANAGEMENT SYSTEMS (4 CRS.)

Presents a detailed examination of the 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). Students will apply theory to practice in a number of projects involving the design, creation, and use of a database. Prerequisite: CSC210.

CSC394 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: CSC210 and MAT310.

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 Techniques for gathering data from models including sensitivity analysis, steady state analysis, and variance reduction techniques. Credible “what if” analysis for comparing two models. Prerequisite: MAT313.

CSC420 REAL-TIME AND EMBEDDED SOFTWARE (4 CRS.)

In-depth study of the issues involved in developing software for real-time study and/or embedded systems. Demands and architecture of real-time operating systems. Performance and benchmarking. Issues in designing for performance. Mission-critical and safety-critical systems. Software engineering tools and techniques specific to these systems. Prerequisite: CSC320.

CSC431 COMPUTER NETWORKS (4 CRS.)

Studies protocol suites, emphasizing the TCP/IP 4-layer model. Topics included are network addresses, sub netting, client/server network programming via the sockets API, network utilities, architecture of packets, routing, fragmentation, connection and termination, connection-less applications, data flow, and an examination of necessary protocols at the link layer, particularly Ethernet. Other topics may include FDDI, wireless, ATM, congestion control and network security. Prerequisites: CSC210 and CSC320.

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: CSC210.

CSC434 WEB PROGRAMMING (4 CRS.)

Purpose is to teach students how to set up a website typical of one used in an on-line business. This would involve 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 on-line ordering and searches, and some web server administration. To achieve these goals, students will establish a website for an imaginary business of their choosing. Prerequisite: CSC371.

CSC440 COMPILER DESIGN (4 CRS.)

Introduction to the design and implementation of compilers. General principles of compiler design are covered with emphasis on the following components of a compiler: scanner, parser, semantic analyzer, code optimizer, and code generation. Symbol tables and error handling will also be covered. The course will include the implementation of a compiler for a simple language. Prerequisites: CSC210 and CSC220.

CSC450 ADVANCED COMPUTER GRAPHICS (4 CRS.)

Introduction to a high-level 3-D renderer, the animation process, and advanced computer graphics topics. Majority of the course will be devoted to learning 3-D modeling and animation techniques using a 3-D renderer, including topics such as object modeling, lighting, and key framing. Additional topics may include shadow generation, object interaction, and the comparison of various graphics APIs. Projects will involve modeling with a 3-D renderer as well as a standard graphics package (e.g., OpenGL). Prerequisite: CSC350.

**CSC 451 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: CSC350 and MAT229.

CSC462 ARTIFICIAL INTELLIGENCE (4 CRS.)

Overview of the field of artificial intelligence. Emphasis is on the basic tools of AI—search and knowledge representation—and their application to a variety of AI problems. Search methods to be discussed 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 of AI that may be addressed include natural language processing, computer vision, robotics, expert systems, and machine learning. Prerequisite: CSC210.

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; Braitenberg vehicles; integration and calibration of sensors; construction techniques and considerations; and implementation of various types of behaviors. Prerequisites: CSC210 and CSC220.

CSC496 TRADITIONAL LIFE CYCLE (4 CRS.)

Students will work in teams developing solutions to real world problems in order to experience the traditional software development life cycle. Topics include project management, requirements analysis, system design, detailed design, implementation, unit test, integration test, system test and ethics. Prerequisite: CSC210.

**CSC497 TESTING AND EXTREME PROGRAMMING
(4 CRS.)**

Study of testing software including test case design, automated testing, and test coverage in unit, integration and system test phases. Differences in strategies for white and black box testing. How testing fits into the traditional life cycle and how it can be used to drive the life cycle as in Extreme Programming. Through a series of testing labs, debugging techniques will be practiced. Course is a continuation of CSC496. Team projects started

in that course will be tested and then enhanced using Extreme Programming methods. Prerequisite: CSC496. Department approval for scheduling is required.

**CSC499 SENIOR RESEARCH AND DEVELOPMENT
(4 CRS.)**

Students will individually select a topic of interest, perform research on the current state of the discipline in that topic, and propose a hypothesis related to that area. Student will design and execute an experiment to test the hypothesis and report their results. Other activities will help the student gain experience in writing about technical topics, exploring ethical and professional issues, and learning about new technical topics individually. Goal is to help the student with the transition from student to professional. Prerequisite: Computer science major with senior status.

Criminal Justice

**CRJ100 INTRODUCTION TO CRIMINAL JUSTICE
(3 CRS.)**

Provides a 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 is on the 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 treat-

ment 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. Besides making students aware of an important area of study, the course should provide students with 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.

CRJ326 VICTIMOLOGY: THE VICTIM & THE LAW (3 CRS.)

Introduction to the study of the role of victims in the criminal justice system. Focus is 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 level status.

CRJ331 POLICE-COMMUNITY DYNAMICS (3 CRS.)

Sociological analysis of the police and the community by analyzing police and public perceptions, knowledge and expectations, the police responsibility in community relations and the police-community partnership in problem solving and crime control. Stresses classical and contemporary theories of spatial and social dimensions of community process and organization as well as the application of knowledge to police performance, politics of law enforcement, relations with special populations and the resolution of police/community differences. Prerequisites: CRJ221, 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.

CRJ348 CLINICAL, INTERVENTION AND TREATMENT (3 CRS.)

Studies the 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.

CRJ390 SELECTED TOPICS IN CRIMINAL JUSTICE (3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ393 SELECTED TOPICS IN CRIMINAL JUSTICE (3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ396 SELECTED TOPICS IN CRIMINAL JUSTICE (3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ397 SELECTED TOPICS IN CRIMINAL JUSTICE (3 CRS.)

Provides the opportunity for the department 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. Included will be 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 level status.

CRJ431 LAW AND SOCIETY (3 CRS.)

Introduction to the study of the role of law in our lives. Focus in on defining law, law and its relationship to justice and morality, comparative and historical perspectives on law, law and social change, researching law and society and legal processes and legal behavior with reference to criminal law. Prerequisite: Upper level status.

CRJ452 RACE, ETHNICITY AND CRIME (3 CRS.)

Acquaints students with the issues regarding the role played by ethnicity/race in the American criminal justice system. A necessarily broad approach will be undertaken to achieve this goal. Will deal with three areas: 1) the making of laws and minorities, 2) the breaking of laws and minorities and 3) society's reaction to the breaking of laws and minorities. In addition to making students aware of an important area of study, the course should provide students with a broad understanding of the philosophical and practical issues revolving around crime and minorities in American society.

CRJ454 POLICY, PROFESSIONALISM AND ETHICS (3 CRS.)

Assists students in understanding critical issues confronting the police, courts and corrections as criminal justice professionals prepare to move into the next century. Will 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. Will provide a knowledge base from which criminal justice majors can either proceed to graduate courses or enter the field. Course can be particularly useful for the student who is 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. An 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. It explores the history of this linkage, the research and the current issues. Course 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 INTERNSHIP IN CRIMINAL JUSTICE I

CRJ472 INTERNSHIP IN CRIMINAL JUSTICE II

CRJ473 INTERNSHIP IN CRIMINAL JUSTICE III

CRJ474 INTERNSHIP IN CRIMINAL JUSTICE 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, of the United States and the Commonwealth of Pennsylvania. Prerequisite: Upper division status.

CRJ481 INDEPENDENT STUDY IN CRIMINAL JUSTICE (1-3 CRS.)

Provides the student an 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.

Early Childhood

ECH200 INTRODUCTION TO EARLY CHILDHOOD (3 CRS.)

Builds an understanding of the history, foundations, theory, organizational patterns and instructional techniques of education for children of ages two through eight. Observes schools organized in various ways and experiences diverse instructional strategies. Classroom participation is on a regular basis.

ECH215 INFANT AND TODDLER PROGRAMS (3 CRS.)

Presents balanced coverage of infant and toddler development and outlines thoroughly tested techniques for the implementation of care giving principles. Focus will be on the care giver, the program and the child, with special emphasis given to developmental growth sequences. Emphasis also will be placed on assessing the developmental appropriateness of activities and materials for learning at these stages. Prerequisite: ECH200.

ECH330 PRIMARY CURRICULUM (3 CRS.)

Presents guidelines, strategies and current, validated curricular models for planning and implementing developmentally appropriate educational programs for children in the primary grades (K-3). An integrated approach to curricular planning is emphasized, with focus given to areas of problem solving, expressive arts and personal-social development. Course activities include regularly scheduled observation and participation in a primary grade classroom. Prerequisite: ECH200.

ECH340 PRESCHOOL AND KINDERGARTEN CURRICULUM (3 CRS.)

Presents guidelines for planning and implementing developmental curricula for preschool children. Content emphasized includes cognitive and social domains of behavior. Approaches appropriate for children with special needs are included, as are strategies for parent involvement. Theoretical approaches which involve active learning, learning through play, experiences that build children's self esteem, developmental and individualized teaching/learning techniques and behavior guidance through positive interactions are advocated.

ECH460 FAMILY, SCHOOL AND COMMUNITY PARTNERSHIPS (3 CRS.)

Surveys current and continuing issues in early childhood education. Includes a focus on child care, pre-primary programs and parent involvement, implementing a parent involvement project, as well as individual study of a particular developmental area and/or processes.

ECH461 ASSESSMENT IN EARLY CHILDHOOD (3 CRS.)

Acquaints students with techniques and guidelines for providing for children's individual needs through implementing and interpreting developmentally appropriate evaluation measures; and through designing and monitoring individualized learning programs. Focuses on application of these techniques during accompanying practicum experiences with developmentally typical and atypical children in early childhood programs.

ECH462 PRACTICUM IN EARLY CHILDHOOD EDUCATION (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 children and families are required.

Earth Science

ESS108 CONSERVATION OF NATURAL RESOURCES (3 CRS.)

Provides an introduction to environmental conservation. Basic elements of the physical environment are examined in consideration of the interaction between physical and human landscape systems. There is emphasis on the fundamental relationship of society to agricultural, hydrologic, biotic, mineral and energy resources. Factors of environmental quality and land use by society are 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 is 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 is given to the interaction of the environmental elements and people with emphasis on the 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 student understanding and involvement in environmental problems. Lab/lecture.

ESS207 ATMOSPHERIC STUDIES (3 CRS.)

Provides basic information about the atmosphere, which the students will apply to the understanding of selected atmospheric environmental topics; for example: air pollution, greenhouse warming, ozone, etc.

ESS210 PHYSICAL GEOLOGY (3 CRS.)

Deals with the 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 the origin and evolution of the geological and biological earth. Major areas of study include: principles of historical geology, significance of sedimentary rocks, fossil records and the history of the Earth. Lab/lecture. Suggested prerequisite: ESS110 or ESS210.

ESS214 GEOLOGY OF NATIONAL PARKS (3 CRS.)

Presents a broad overview and the basic geology in limited detail of the North American continent and Hawaii, particularly as represented by the National Parks. Classroom discussion will be supplemented by demonstration/laboratory exercises with earth materials, models, maps and stereo photos.

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 ESS111 or CHM103 or permission of instructor.

ESS355 METEOROLOGY (3 CRS.)

Comprehensive course that deals with the atmosphere and stresses those forces which bring about changes within it. Insolation, temperature, precipitation, humidity, winds, storms and cloudiness are the chief topics studied. Origin and development of cyclones and their significance in weather forecasting play an important interpretative part of this course. Two hours lecture and two hours lab/week.

ESS393 SELECTED TOPICS IN EARTH SCIENCE (1-3 CRS.)

Provides the opportunity for the department 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 the interaction between various atmospheric parameters and the natural or human-modified surfaces of the earth. Study is centered on the applied nature of the atmosphere including discussion of urban, agricultural, human, architectural and commercial aspects of society. Computer simulations and mapping are utilized to enhance understanding and each student carries out a field study on a particular problem of atmospheric interest. Prerequisite: ESS111 or ESS355.

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 is on geologic occurrence and mode of origin, geographical distribution and importance to humans. Prerequisite: ESS110, ESS210 or ESS212.

ESS442 ENVIRONMENTAL GEOLOGY (3 CRS.)

Deals with relationships between people and the geological habitat; it is concerned with problems people have using the earth and the reaction of the earth to that use in both rural and urban settings. Stress is placed on developing problem solving skills in collecting, recording and interpreting data through field investigations and simulation techniques. Prerequisite: ESS210.

ESS490 SELECTED TOPICS IN EARTH SCIENCE (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Economics

ECN101 PRINCIPLES OF MACROECONOMICS (3 CRS.)

Introduction to aggregative economics. While providing some historical and institutional perspective on the U.S. and world economy, the course focuses primarily upon contemporary theories of employment, inflation and growth. Also examined are monetary and fiscal policy and foreign trade.

ECN102 PRINCIPLES OF MICROECONOMICS (3 CRS.)

Introduction to the 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 is stressed.

ECN113 PRINCIPLES OF ECONOMICS (4 CRS.)

Designed to introduce College of Business students to fundamental concepts important for understanding how individuals and organizations function within an economy. Covering both microeconomic and macroeconomic principles, the course will address a wide array of both theoretical and applied issues. Students will learn how changing market conditions impact consumers and firms and how government policies influence the economy and business decisions. *This course is not open to students who have completed either ECN101 and/or ECN102.*

ECN270 INTERMEDIATE MACROECONOMIC THEORY (3 CRS.)

Concerned with economic variables in the aggregate. Specifically, it 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: ECN101 or permission of department.

ECN280 MANAGERIAL ECONOMICS (3 CRS.)

Designed to train students in the methods of applying economic concepts to the solving of business problems and for gaining insight into the nature of business enterprises. Combined with statistics, economic principles are used to analyze the 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, the course will enable students to appreciate the applicability of analyti-

cal thinking within organizations. Prerequisites: ECN113 or ECN102 and Applied Calculus.

ECN303 LABOR ECONOMICS: THEORY & 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: ECN102 or ECN113.

ECN305 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: ECN101 or permission of department.

ECN310 PUBLIC FINANCE (3 CRS.)

Deals with the 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: ECN101 and ECN102 or permission of department.

ECN321 INTERNATIONAL ECONOMICS (3 CRS.)

Introduces the basic theory of international trade and finance. Will highlight 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 will include balance of payments, determination of foreign exchange rates and international monetary system. Prerequisite: ECN102 or ECN113 or permission of department.

ECN325 GLOBALIZATION: ISSUES AND POLICIES (3 CRS.)

Students will learn about numerous issues related to globalization and explore alternative ways of interpreting the challenges and opportunities, as well as the 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 the coverage will be topical, the course will be based upon both the theoretical and empirical literature. Prerequisite: ECN101 or ECN102 or ECN113.

ECN330 DEVELOPMENT OF ECONOMIC THOUGHT (3 CRS.)

Concerned with the 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: ECN101, ECN102 or permission of department.

ECN340 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. The objectives, methods and implications of policies of public control are emphasized. Prerequisite: ECN102 or permission of department.

ECN345 THE ECONOMICS OF GROWTH AND DEVELOPMENT (3 CRS.)

Introduction to 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: ECN102 or permission of department.

ECN355 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 as well as applied perspectives.

ECN360 INDUSTRIAL ORGANIZATION (3 CRS.)

Analyzes the structure, conduct and performance of American industry with emphasis on the eco-

nomical and social impact of the concentration of economic power in the industrial sector. Prerequisite: ECN102 or permission of department.

ECN393 SELECTED TOPICS IN ECONOMICS (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

ECN484 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: MAT181 or MAT211, ECN101 and ECN102.

ECN485 ECONOMETRICS (3 CRS.)

Covers the 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, heteroskedasticity, autoregression, lag models and identification. Prerequisites: INM220 or equivalent, ECN101 and ECN102.

ECN490 SELECTED TOPICS IN ECONOMICS (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Educational Foundations

EDU321 TEACHING OF ENGLISH IN SECONDARY SCHOOLS (3 CRS.)

Review of the language arts requirements of the 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.

EDU326 METHODS OF TEACHING FOREIGN LANGUAGES (6 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 will be examined, along with the implications of findings from research in second language acquisition. Through a variety of strategies and experiences students will develop those skills needed to begin a successful teaching career. Prerequisite: permission of instructor.

EDU330 METHODS OF TEACHING BUSINESS SUBJECTS I (3 CRS.)

Includes psychological foundation of teaching and the uses of technology in the instructional process. Methods of teaching general business subjects; basic skill-building procedures; methods of teaching keyboarding, accounting, data processing and marketing; demonstration teaching; and lesson planning are included. Must be taken concurrently with EDU331.

EDU331 METHODS OF TEACHING BUSINESS SUBJECTS II (3 CRS.)

Explores the rationale for media use in education, provides each student with the opportunity to develop audiovisual materials and become familiar with commercial materials to supplement teaching techniques and hands-on experience with a variety of media equipment. Focus is also placed on evaluation and guidance as significant elements in the education process. The construction and use of achievement tests; selection, administration and interpretation of standardized tests. Course must be taken concurrently with EDU330.

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: Permission of instructor.

EDU393 SELECTED TOPICS IN EDUCATIONAL FOUNDATIONS (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

EDU410 ENVIRONMENT EDUCATION PRACTICUM (3 CRS.)

Affords opportunity to apply knowledge gained in previous courses and other experience to a practical situation. Also includes activities specifically designed to develop and evaluate skills students will need to create a course of study for teaching environmental education in the elementary and secondary schools. An integral part of this course 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.

EDU413 TEACHING OF SOCIAL STUDIES II (3 CRS.)

Explores the rationale for media use in education, provides each student 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. Course must be taken concurrently with EDU412.

EDU420 MICROCOMPUTERS IN THE CLASSROOM (3 CRS.)

Provides basic knowledge of the evolution and operation of a microcomputer system. Variety of educational applications will be reviewed and analyzed for instructional contributions. Using recommended evaluation procedures, course work will be reviewed and discussed as to classroom use. Prerequisite: Junior status.

EDU434 TEACHING OF MATHEMATICS IN THE MIDDLE GRADES & HIGH SCHOOL 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. This course is taken simultaneously with EDU435.

EDU435 TEACHING OF MATHEMATICS IN THE MIDDLE GRADES & HIGH SCHOOL 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 during the course. This course is taken simultaneously with MAT434.

EDU440 TEACHING OF SCIENCE IN SECONDARY SCHOOLS (4 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 & EVALUATION IN THE SECONDARY SCIENCE CLASSROOM (3 CRS.)

Students gain an understanding of the inter-relatedness between the life science, physical science, chemistry and earth and space science curricula through reading, demonstrations and visits to schools. Emphasis is on relationships among learning objectives, teaching/learning activities and the attainment of those objectives. The 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.

EDU495 STUDENT TEACHING & PROFESSIONAL PRACTICUM (15 CRS.)

Professional site-based experience which 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.

Education of Exceptional Children

EEC411 INTRODUCTION TO EXCEPTIONALITY (3 CRS.)

Surveys intellectual, physical, sensory and socio-emotional differences of individuals with disabilities as they pertain to the learning process and social adjustment for the nation's largest minority group. Principles of integrated educational programming for individuals with disabilities including diversity issues of culture, race, gender, ethnicity and economics are introduced. Consideration given to the philosophical, legal, historical, theoretical and research bases of special education.

EEC490 SELECTED TOPICS (1-3 CRS.)

English

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 in the class. Course is required of students who exhibit need of preparation for ENG101. Upon completion, students may submit portfolios of representative work for evaluation by two English professors to try to test out of ENG101.

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 on-line 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 English Placement Test or after successful completion of ENG050.

ENG107 INTRODUCTION TO LITERARY STUDIES (3 CRS.)

Introduces the fundamental components of the major genres of literature (drama, fiction, poetry). Those components are plot-structure and character, narrative point-of-view and style, metaphor and rhythm. Students are taught to identify and to evaluate these components in a range of representative titles, e.g., Sophocles' *Oedipus* cycle, Toni Morrison's *Sula*, Coleridge and Wordsworth's *Lyrical Ballads*. Course work includes reading and writing assignments focused on such identification and evaluation. As a part of their writing assignments, students should expect to do at least one documented paper. This course is a prerequisite for all 300- and 400-level English courses.

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 on-line sources, using such appropriate documen-

tation formats as Modern Language Association (MLA) format for essays in the humanities, American Psychological Association (APA) format for essays in the social sciences and business and Council of Biology Editors (CBE) format for essays in the natural and applied sciences. Students are assigned to ENG110 instead of ENG101 on the basis of their performance on the English Placement Test.

ENG209 CREATIVE NONFICTION WRITING (3 CRS.)

Nonfictional prose writing, a writing-intensive course, provides students opportunities to learn and practice the techniques of creative nonfiction. Course surveys the major genres of non-fictional prose, such as travel writing, nature writing and memoir. Assignments include close reading and analysis of published nonfiction as well as original creative writing in a variety of nonfictional modes. Prerequisite: Permission of instructor.

ENG233 AMERICAN WRITERS 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. Also some attention is given to the history of ideas associated with the writers of this period. Students should expect to write at least one analytic paper dealing with one or more of the works read for the course.

ENG234 AMERICAN WRITERS 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. Also, some attention will be given to the history of ideas associated with the writers of this period. Students should expect to write at least one analytic paper dealing with one or more of the works read for the course.

ENG236 BRITISH WRITERS 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. In addition, some attention will be given to the history of ideas associated with the writers of this period. Students should expect to write at least one analytic paper dealing with one or more of the works read for the course.

ENG237 BRITISH WRITERS 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. Also, some attention is given to the history of ideas associated with the writers of this period. Students should 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. Techniques of technical writing include using graphics to convey information, accurately documenting electronic and on-line sources and carefully considering audience. Assignments cover basic forms of technical communication such as memos, letters, resumes, instructions, abstracts and presentations. A major research project in the disciplines gives students experience with the specific forms of technical or professional writing required in their academic area. Prerequisite: Permission of instructor.

ENG240 WORLD LITERATURE (3 CRS.)

Offers a survey of literatures in global and historical contexts. Readings will include at least two literary genres and at least two nations other than, but not exclusive of, England and America. Particular focus will vary according to instructor. The course may focus on a theme (e.g., the heroic struggle; nation and identity) or a region (e.g., the history of African literature; European literature after Descartes); however, course is designed to be broader in scope than the Studies in courses in the Literary Traditions category. Students can expect to write one analytic paper.

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. This course satisfies general education requirements.

ENG248 INTRODUCTION TO CULTURALLY DIVERSE LITERATURE OF THE U.S. (3 CRS.)

Introduces literature by writers including but not limited to African-American, Hispanic American, Asian American and Native American descent. Representative authors may include but not be limited to John Edgar Wideman, Junot Diaz, Leslie Marmon Silko and Amy Tan. Students should expect to write at least one short analytical paper dealing with works read in the course. Course satisfies general education diversity requirements. Also fulfills the general education literature requirement for Category B.

ENG250 INTRODUCTION TO LITERATURE (3 CRS.)

Students will read, think and write about literature and its elements as appropriate for the general education curriculum. Course provides practice in formal and thematic analysis of literature and students can expect to write at least one analytic paper dealing with these components in the work assigned. 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. Course 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. Students should 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 theories themselves or on their analytic application.

ENG307 POETRY WRITING (3 CRS.)

Provides the opportunity to develop interests and skills in writing poetry. Course utilizes a workshop approach and requires each student to be involved in an individual apprenticeship program. The approach and program help students in writing their own original poetry. Students should expect to write and revise at least 15 pages of poetry. Prerequisite: Permission of instructor.

ENG308 FICTION WRITING (3 CRS.)

Provides the opportunity to develop interests and skills in writing fiction. Course utilizes a workshop approach and requires each student to be involved in an individual apprenticeship program. Students should expect to write and revise at least two short stories. Prerequisite: Permission of instructor.

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). Students should 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 for the course will be done in a variety of publication formats (mass circulation weekly, daily newspaper, professional journal). In addition, 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. Students will 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. Students should expect to write at least one analytical paper. Specific content will vary according to instructor.

ENG343 FILM CRITICISM (3 CRS.)

An examination of the major practical and theoretical concepts of film criticism. Through weekly screenings and assigned readings, 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. Students should expect to write a film sequence analysis and at least one research paper dealing with one or more of the films studied in the course. Prerequisites: ENG243 or SPE240 or permission of instructor.

ENG345 WOMEN'S LITERATURE (3 CRS.)

Introduces poetry, drama and fiction written by women. Representative authors include Emily Dickinson, Lorraine Hansberry, Doris Lessing. Students should 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. Students should 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 the principles of English grammar, including phonology, morphology, syntax, semantics and usage. In addition, provides an overview of the geographical, social and linguistic history of the English language and its speakers. Students should expect to write at least one researched essay dealing with some aspect of the English language.

ENG370 GAY AND LESBIAN LITERATURE (3 CRS.)

A concentrated study of gay and lesbian literature written or translated in English. All genres—the novel, poem, short story, essay, drama, autobiography—written by homosexual men and women and/or containing homosexual thematic content will be examined. Students will study works of literary merit by analyzing their artistic techniques and constructs in order to arrive at an intellectual understanding of how gay and lesbian writers achieve aesthetic effects in their works.

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. The course 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. Students should 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, the course 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. Students should 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 the end of the 18th century. Content and focus varies by instructor; however, featured topics may include religious or political writings, the Connecticut Wits or the slave narrative. Instructors may focus on genre, theme or authors. Students should expect to write at least one analytic paper dealing with one or more works read for the course.

ENG379 THE BIBLE IN LITERATURE (3 CRS.)

Focuses on the Bible's role in literature and literary history as a source of themes, tropes, archetypes and images. Readings may represent multiple genres, cultures and periods, in addition to relevant sections of the Old and New Testaments. Students should expect to write at least one analytic paper based on reading assignments.

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. Students should 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. Students should 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. Course 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. Course 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. Students should expect to write at least one analytic paper.

ENG385 STUDIES IN 20TH CENTURY WORLD LITERATURE (3 CRS.)

Provides focused study of works by two or more 20th century authors predominantly outside the American and British contexts. Particular topic varies according to instructor. Course may focus on a movement (e.g., magical realism, modernism), a theme (e.g., national identity in a post-colonial world), and/or a specific genre (e.g., the novel or modern drama). Students will write at least one analytic paper.

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. This course must be taken as an independent study course in the final semester of the student's senior year.

ENG394 SELECTED TOPICS IN ENGLISH (1-3 CRS.)

Provides courses in areas of interest to English majors not covered by the regular departmental offerings.

ENG420 TEACHING WRITING (3 CRS.)

Studies developmental theories of writing and a variety of methodologies for teaching writing, especially methodologies for teaching Basic Writing. Presents aims, modes and varieties of written discourse. Prepares students to teach writing at all levels, K-12 and to teach writing across the curriculum. Offers frequent writing exercises for the students, using the assumption of the Bay Area Model that good writing teachers are, first of all, practicing writers themselves. Prerequisite: Junior standing or permission of the department.

ENG426 ADOLESCENT LITERATURE (3 CRS.)

Acquaints secondary English pre-service teachers with award-winning literature and teaching resources for use with adolescents in grades 7-12. Topics include an examination of the psychological and developmental needs of the adolescent; how to accommodate the variety of student abilities and interests within a classroom and how to incorporate adolescent literature in the secondary English curriculum. Representative authors include Blume, Cormier, Hinton, Lowry and Paterson. Students should expect to write at least one analytical paper and develop materials for instructional purposes. Prerequisite: Junior standing or permission of the department.

ENG428 ADVANCED CREATIVE WRITING (3 CRS.)

Provides the opportunity to develop further abilities to write original publishable poetry, fiction, nonfiction or drama. Course is taught as a workshop; individual tutorials will also be arranged for student writers. In-depth readings and lectures will cover recent developments, both theoretical and practical, in these genres. Each student should expect to write and revise at least two or more short works of fiction or non-fiction, 15 pages of poetry or one full-length or two or more one-act plays. Prerequisite: One course in the chosen genre: ENG209, ENG307 or ENG308. Permission of instructor.

ENG438 TECHNICAL PROFESSIONAL WRITING II (3 CRS.)

Prepares students to incorporate theories of technical and professional communication into their writing practice. Students use argumentative rhetorical strategies, analyze audience needs and consider ethical implications as they prepare advanced projects in technical writing. The writing process 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 on-line user documentation, preparing a research report in a hyperlinked format and making a persuasive presentation using computer-generated graphics. Course serves as preparation for an internship in technical or professional writing and will be 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.)

Provides an in-depth analysis of representative works by a single author and familiarizes students with relevant secondary sources associated with the author. Particular author varies according to the instructor. Students should expect to write at least one lengthy documented paper dealing with works covered in the class. Prerequisite: Junior standing 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 of nonfiction prose that may be studied include autobiography, memoir, biography, history, documentary writing, essay, travel writing, nature writing and writing about culture. Students will read works by more than one author and course may emphasize determining characteristics of the genre rather than the chronological period in which it appears. Students will write at least one lengthy analytic paper. Prerequisite: Junior standing or permission of the department.

ENG466 SEMINAR IN LITERARY THEORY (3 CRS.)

Provides students with in-depth study of one or more theoretical perspectives in literary criticism. Particular theories and authors studied varies according to the instructor. Course 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). It 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). Students will write at least one lengthy analytic paper. Prerequisite: Junior standing 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. Course is also con-

cerned with the performance of drama. Attendance at relevant area stage performances and viewing films and videotapes will augment textual study. Seminar requires thoughtful critical reading and writing beyond the requirements of lower-level courses. Both activities will be done in terms of a cluster of significant dramatists, e.g., Marlowe, Ibsen, O'Neill, which may vary from instructor to instructor. Seminar should enable students to understand in depth the components of drama and their various utilizations, regardless of a dramatist's time period or individual style. Students should 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: Junior standing or permission of the department.

ENG468 SEMINAR IN FICTION (3 CRS.)

Examines fiction's fundamental components—plot, character and narrative point-of-view. The seminar requires thoughtful critical reading and writing beyond the requirements of lower-level courses. Both activities will be done in terms of a cluster of significant fiction writers, e.g., Sterne, Bronte, Faulkner, which may vary from instructor to instructor. Seminar should enable students to understand in depth the components of fiction and their various utilizations, regardless of a fiction writer's time period or individual style. Students should 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: Junior standing or permission of the department.

ENG469 SEMINAR IN POETRY (3 CRS.)

Examines poetry's fundamental components—image, sound and the interplay of concepts. The seminar requires thoughtful critical reading and writing beyond the requirements of lower-level courses. Both activities will be done in terms of a cluster of significant poets, e.g., Milton, Tennyson, Moore, which may vary from instructor to instructor. Seminar should enable students to understand in depth the components and their various utilizations, regardless of a poet's time period or individual style. Students should 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: Junior standing or permission of the department.

ENG490 SELECTED TOPICS IN ENGLISH (1-3 CRS.)

Provides courses in areas of interest to English majors not covered by the regular departmental offerings.

Ethnic Studies

ETH100 INTRODUCTION TO ETHNIC STUDIES (3 CRS.)

Introduces students to 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 focuses on African-Americans, Asian Americans, Latino Americans and Native Americans. Attention also focuses on the immigration experiences of European ethnic groups. Offered every fall semester.

ETH101 INTRODUCTION TO AFRICAN-AMERICAN STUDIES (3 CRS.)

Provides an interdisciplinary overview of the various perspectives that have impacted African-American life and culture. Course introduces students to 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. Offered every spring semester.

ETH102 INTRODUCTION TO LATINO STUDIES (3 CRS.)

A study of the 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. Offered every spring semester.

Exercise Science

ESC200 LIFESTYLE MANAGEMENT (3 CRS.)

Designed with instructional approach that gives primary attention to problems faced by university students. Every effort will be made to equip students with sufficient knowledge to enable them to make intelligent decisions regarding their own health and that of their families and community, i.e., areas of physical fitness, family living, drug abuse, mental and emotional problems.

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 EXERCISE PHYSIOLOGY (3 CRS.)

Involves the study of the physiological bases of exercise with an emphasis on the adaptation of the body to the stress of exercise. Effects of exercise are studied via participation in applied settings. Must have a C or better in both BIO350 and BIO371 for exercise physiology majors; or BIO150 for coaching minor students. Restricted to coaching minors and exercise science majors. Prephysical therapy students may be admitted during schedule adjustment with permission of the biology department as seats are available.

ESC244 MECHANICAL ANALYSIS OF SPORTS SKILLS (3 CRS.)

Provides studies and experiences in anatomical and mechanical principles of sports skills. Restricted to coaching minors and exercise science majors until schedule adjustment.

ESC250 KINESIOLOGY (3 CRS.)

This course will serve as an introduction to anatomy and physiology of all major body systems, as well as cell structure and tissue. Body systems include the skeletal system, with a functional emphasis, as well as the muscular, nervous, endocrine, cardiovascular, immune, respiratory, digestive, urinary and reproductive systems. Restricted to exercise science majors.

ESC325 SPORT PSYCHOLOGY (3 CRS.)

Provides knowledge about the 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 adjustment.

ESC340 PREVENTION AND CARE OF ATHLETIC INJURIES (3 CRS.)

Provides for knowledge and competencies in the care and prevention of athletic injuries. Course also provides CPR and first aid certification. Prerequisite: BIO150. Restricted to coaching minors.

ESC350 SPORT NUTRITION (3 CRS.)

Provides information about sport nutrition. Also provides current and accurate recommendations for the role of nutrition in fitness and sport performance. Nutrition can help "maximize performance, prevent injury, enhance recovery from exercise, achieve and maintain optimal body weight, improve daily training workouts and maintain overall good health." (Manore, M. & Thompson, J. [2000]. *Sport nutrition for health and performance*. Champaign, IL: Human Kinetics, p. xiii.) Restricted to exercise science majors. Prephysical

therapy students may be admitted during schedule adjustment with permission of the biology department as seats are available.

ESC351 PATHOPHYSIOLOGY (3 CRS.)

This course is the study of pathology and general health management of diseases across the life span as they relate to exercise. Exercise programming with clients who experience chronic diseases and disabilities will be the focus of this course. Topics include the etiology, symptoms, physical and psychological reactions to diseases. Restricted to exercise science majors.

ESC352 PSYCHOLOGY OF PHYSICAL ACTIVITY (3 CRS.)

Covers four major topic areas: (1) research methods and potential biases in the behavioral sciences; (2) the effects of exercise and physical activity on mental health; (3) behavioral approaches and theories to understanding and influencing physical activity; and (4) psychosocial factors as they relate to health, chronic disease and pain. Students will be required to read and critically evaluate primary research articles as well as literature reviews. This course 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 will be highlighted. Sensitivity to diversity, including race, class, ethnicity and gender will be emphasized throughout the course. The course will use lectures and class discussions. Prerequisite: PSY101. Restricted to exercise science majors.

ESC353 RESEARCH DESIGN AND STATISTICS FOR EXERCISE PHYSIOLOGY (3 CRS.)

Provides the student with an understanding of research methods with an emphasis on understanding and interpreting research in exercise physiology. Students will learn computer skills including word processing, spreadsheet data entry, graphing, Internet navigation, etc. (ASEP, p. 5). Prerequisite: MAT102. Restricted to exercise science majors.

ESC354 PHYSIOLOGY ASSESSMENT (3 CRS.)

Students will evaluate and measure physical fitness, including components of fitness, measurement and assessment of fitness and program design. Prerequisite: ESC200. Restricted to exercise science majors.

ESC393 SELECTED TOPICS IN HEALTH-PHYSICAL EDUCATION (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

ESC400 METHODS OF COACHING (3 CRS.)

Provides for course work as well as a practical field experience in a supervised sport setting. Prerequisite: ESC340 and current CPR and First Aid Certification. Restricted to coaching minors.

ESC420 CARDIAC REHABILITATION (3 CRS.)

Provides student with content on cardiovascular assessment, treatment and testing. The course provides information regarding adult fitness and exercise testing, a discussion of the integration of rehabilitation and fitness programs and an examination of patient education, including behavior modification guidelines. Administrative concerns will also be addressed. Prerequisites: Must have a "C" or better in both BIO350 and BIO371. Restricted to exercise science majors.

ESC421 ADVANCED EXERCISE PHYSIOLOGY (3 CRS.)

Provides student with an up-to-date understanding of the physiology of exercise with special emphasis on: the physiological responses and adaptations to exercise; the relationship between health and fitness; and the physiology of athletic performance. Prerequisite: ESC243. Restricted to exercise science majors.

ESC422 ECG/EXERCISE TESTING PROCEDURES (3 CRS.)

Provides the exercise physiology major with recommendations for exercise testing for cardiac patients. Prevention of illnesses in healthy populations is emphasized, as well as those with chronic diseases. Cardiovascular screening, staffing requirements and policies for emergencies will be discussed. Special needs of patients with angina, ischemia, defibrillators, pacemakers, cardiac transplants and congestive heart failure will be included. Prerequisite: ESC420. Restricted to exercise science majors.

ESC423 MECHANICAL ANALYSIS OF SPORTS SKILLS (3 CRS.)

Designed to acquaint exercise science majors with techniques of evaluating and measuring the process of physical fitness and exercise testing components. Includes descriptive statistics, knowledge tests, grading, physical performance tests and tests of sport skills. Prerequisite: ESC353. Restricted to exercise science majors.

ESC424 INTERNSHIP (12 CRS.)

Follows the American Society of Exercise Physiologist's (ASEP) recommendations. Internship will "provide supervised practical experience(s) in the specialization area in which the student anticipates a career." (ASEP, Objective 2.15) Prerequisites: Must have a 2.80 QPA overall; must have completed all exercise science major course requirements with a grade of C or above and be an exercise science major.

**ESC490 SELECTED TOPICS IN HEALTH-
PHYSICAL EDUCATION (1-3 CRS.)**

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Finance

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, ECN113 or ECN102 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 INM200.

**FIN313 ADVANCED FINANCIAL MANAGEMENT
(3 CRS.)**

Explores financial theory and financial decision models necessary for handling complex problems. Applications are illustrated by means of case material. Prerequisites: FIN311 and INM200.

FIN314 FINANCIAL INSTITUTIONS (3 CRS.)

Approaches financial institutions and capital markets from a managerial point of view. Topical coverage includes the financial management principles and policies unique to commercial banks, savings institutions, pension funds and insurance companies. Prerequisites: FIN311 and INM200.

**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 INM200.

FIN321 PERSONAL FINANCIAL PLANNING (3 CRS.)

Examination of the principles of personal financial planning. Study will include the setting of financial goals and the development of financial plans for achieving these goals. 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 INM200 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.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

**FIN405 REAL ESTATE APPRAISAL AND INVEST-
MENT ANALYSIS (3 CRS.)**

Basic course in real estate appraisal stressing the techniques of appraisal, investment analysis and the valuation theory underlying these methodologies. Practical application in appraising is included as part of the course work. Prerequisite: FIN340 or permission of department chair.

FIN414 BANK MANAGEMENT (3 CRS.)

Examination of various issues related to commercial bank operation. Topical coverage includes uses and sources of funds, asset-liability management, Internet banking, bank mergers and acquisitions and the impact of regulatory changes

on the banking industry. Prerequisite: FIN314 or permission of department chair.

FIN425 GLOBAL FINANCIAL MANAGEMENT (3 CRS.)

Studies on the international environment, the foreign exchange risk management, the investment decision, the financing decision and management of ongoing business operations in the global settings. Emphasis will be placed on the analysis and evaluation of the investment decision, financial decision and operational and financial risk in foreign countries. Prerequisites: FIN311 and INM200 or permission of department chair.

FIN434/FIN435 INVESTMENT MANAGEMENT PROGRAM (1-3 CRS.)

Students manage a real money security portfolio to obtain practical investing experience. Students will 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.)

Offers a broad overview of the 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. Course also 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.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

French

FRN101 BEGINNING FRENCH I (3 CRS.)

Designed for students who have never studied the language before. Both textbook and authentic materials will be used to enable students to express themselves on personalized topics.

FRN102 BEGINNING FRENCH II (3 CRS.)

Continuation of FRN101. Both textbook and authentic materials will be 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 will be 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. Course also examines French speaking civilizations in Africa, North America and the West Indies. Course is taught in English; a reading knowledge of French is 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 will consider current topics of interest through discussion, debate and oral presentations. Special attention will be 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 & CULTURES FROM THE FRENCH-SPEAKING WORLD (3 CRS.)

Introduction to comparative cultural studies of the French and Francophone world. An exploration of the rich cultural exchanges among Francophone communities with an emphasis on their geographical, historical and social contexts will be undertaken. Sustained attention will be given to oral and written expression. Prerequisite: FRN103 or 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 students develop basic writing skills in sustained contexts; narratives, descriptions, dialogs, essays, etc. Emphasizes the syntax of written French at formal and semiformal levels. Prerequisite: FRN202, FRN204 or permission of instructor.

FRN320 COMMERCIAL FRENCH (3 CRS.)

Emphasizes skills in communication in the daily world of business; commercial correspondence, report writing, orders, complaints, telephone messages, banking and insurance problems, as well as oral practice in meeting and entertaining associates or visitors from abroad. 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 the rich variety of authors writing in the 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 LITTERAIRES (3 CRS.)

Course will offer students 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.

FRN370 LE CIMEMA FRANÇAIS/FRANCOPHONE (3 CRS.)

Labeled the seventh art, course will focus on the cinema's early evolution in France, considering the early movie makers, then focusing special attention on the cinema of the 1930s, *nouvelle vague* of the 1960s and the more contemporary film industry in France. A presentation of films coming from Francophone countries can replace the course content. 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.

FRN400 SEMINAR: ADVANCED STUDIES IN FRENCH LANGUAGE AND LITERATURE (3 CRS.)

Provides detailed examination of specific aspects of French literature: authors, genres, literary and philosophic schools or linguistic problems such as translation or dialects. May be taken more than once provided a specific topic is not repeated. Prerequisite: Permission of instructor.

FRN490 SELECTED TOPICS IN FRENCH (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: Permission of instructor.

Geography

GEO101 WORLD GEOGRAPHY (3 CRS.)

Study of the 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 human and the physical and cultural environments. Course 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 the way the basic natural phenomena of air, water and the 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.

GEO201 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.

GEO202 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (3 CRS.)

An overview of geographic information systems (GIS) will be presented, emphasizing the importance of spatial analysis. Topics covered will include spatial analysis concepts and theory, database design and maintenance, data acquisition and manipulation, cartographic design principles and current applications. These topics are the founding principles behind the upper-level technique courses—computer mapping, advanced cartography, remote sensing and advanced GIS. A basic knowledge of the human and physical components of geography is necessary to best understand the characteristics of the data.

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.

GEO213 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.

GEO214 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.

GEO217 GEOGRAPHY OF AUSTRALIA AND OCEANIA (3 CRS.)

Appraises the 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.

GEO222 MAP AND AIR PHOTO ANALYSIS (3 CRS.)

Discussion and independent study of maps and aerial photographs. Objective is to familiarize students with the nature and properties of maps and aerial photographs and to fundamental analytical techniques used to measure and describe spatially organized information. Laboratory exercises include qualitative and numerical reading, analysis and interpretation of a wide variety of maps and aerial photographs.

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 will be studied. Prerequisite: ESS110 or permission of the instructor.

GEO226 HYDROLOGY (3 CRS.)

Presents the basic concepts of hydrology with emphasis on the relationship of water to natural and human systems. Major topics considered 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. The spatial approach of land and the interaction of the physical and cultural environment in the decision-making process will be emphasized.

GEO251 CARTOGRAPHY (3 CRS.)

Introduces students to basic tools of map making. Explains techniques for displaying data and develops skills in compilation, design and execution of maps.

GEO301 INTRODUCTION TO BIOGEOGRAPHY (3 CRS.)

Overview of 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.

GEO307 GEOGRAPHY OF THE MIDDLE EAST AND NORTH AFRICA (3 CRS.)

Regional study of the physical, cultural, economic and strategic elements of the Middle Eastern and North African region. Emphasis is on the estab-

lishment of a foundation from which to analyze contemporary conditions.

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.

GEO314 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.

GEO320 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 the interaction between human choice on one hand and the nature of coast lands, islands, rivers, mountains and soil, plains and climate conditions.

GEO322 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.

GEO326 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.

GEO360 INTERNSHIP IN GEOGRAPHY (3 CRS.)

GEO363 COMPUTER MAPPING (3 CRS.)

Cartographic principles applied to computer-assisted mapping. Emphasis on establishing digital spatial (geographic) databases by digitizing and manual encoding entry of geo-coded data; and methods in digital cartography using computer-aided drafting (CAD) software. Hands-on computer laboratory work is the most vital part of the course. A term project utilizing skills and research is required.

**GEO390 INTERNSHIP IN URBAN STUDIES I
(3 CRS.)**

GEO391 GEOGRAPHY SEMINAR (1 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 is 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.*

**GEO393 SELECTED TOPICS IN GEOGRAPHY
(1-3 CRS.)**

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

**GEO394 INTERNSHIP IN URBAN STUDIES II
(3 CRS.)**

GEO401 GEOGRAPHY OF TOURISM (3 CRS.)

Study of the spatial aspects of the rapidly expanding tourist industry. Global and national patterns of tourism will be analyzed in view of their environmental, political, economic and social significance.

GEO402 ENVIRONMENTAL HEALTH (3 CRS.)

Introduces geographical approach in the analysis of problems regarding environmental health. Dynamic interaction between the total person and the total environment (physical, biological, cultural, economic) lies at the core of geography that integrates natural and social sciences. Consideration of such interactions is essential for an understanding of the changes in the distribution of health and disease that occur when, for example the environment is altered or human lifestyles undergo substantial modification.

GEO403 NATURAL HAZARDS AND HOSTILE ENVIRONMENTS (3 CRS.)

Concerned with: 1) scientific causes, classifications and effects of geologic, climatic and hydrologic hazards; 2) the cultural impact and socio-economic adjustments relating to these natural hazards; and, 3) application and utilization of scientific and technological strategies for assessing, controlling and preventing natural disasters.

**GEO420 GEOGRAPHIC INFORMATION SYSTEMS
(3 CRS.)**

Discussion and independent study of techniques and practical applications of computer assisted analysis and display of geographically registered data. Objective is to familiarize students with the fundamentals of data plane establishments, analysis and display of geocoded data. Group project involves the analysis of spatial relationships and implications of physical and cultural/economic factors of a local community.

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 land forms, geology, soil, air quality, population, streams, transportation, housing characteristics and land utilization. Instruments, maps, air photographs and statistics are used to aid in the research, analysis and evaluation of the field problem.

GEO441 QUANTITATIVE METHODS (3 CRS.)

Emphasizes applied problem-solving techniques within the geographic sciences. Topics covered include: descriptive statistics, geographic sampling, inferential statistics, correlation and simple regression. Extensive use is made of geographic examples. The student is required to analyze data both orally and verbally in class assignments.

**GEO444 ENVIRONMENTAL LAND-USE PLANNING
(3 CRS.)**

Studies the spatial pattern of land-use development in rural and urban areas and the interaction between urbanization and environment. Course will examine 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 the local region are utilized.

GEO445 REMOTE SENSING (3 CRS.)

Emphasis on understanding and application of remotely-sensed data. Basic understanding of electromagnetic radiation is provided. Environmental applications utilizing low altitude aerial photos, high altitude color photos and satellite sensings within various environmental contexts are provided. Individual remote sensing projects are developed in the area of geology, forestry, land-use planning and industrial analyses.

GEO446 WATER RESOURCES MANAGEMENT (3 CRS.)

Roles of water resources management policies and institutions are examined within the central theme of unified river basin management. Course stresses interrelationships among water-shed planning; relevant legislation; agency authority and coordination; and the geography of water-shed management. North American case studies are used to illustrate multiple use issues, including aquatic ecology, wetlands, floodplain management, recreation, water supply, hydropower, industry and commercial shipping.

GEO450 GEOGRAPHY—GEOLOGY FIELD STUDIES (1 CR.)

One-week to 10-day regional field study observing and analyzing the physical and cultural landscape. Emphasis is on the physical and historical geology and geography of a prescribed route including several states. Prerequisite: ESS212, ESS311, GEO103 or permission of instructor.

GEO453 ADVANCED CARTOGRAPHY (3 CRS.)

Experience is gained through project work in map design, execution and production by use of vacuum frame, scribing tools, plate maker, lettering machines and large process camera. Students develop skills in scribing and color proofing in carrying out independent research projects and then design and execute maps and graphs in support of their research.

GEO490 SELECTED TOPICS IN GEOGRAPHY (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

German

GER101 BEGINNING GERMAN I (3 CRS.)

Designed for students who have never studied the language before. Both textbook and authentic materials will be used to enable students to express themselves on personalized topics.

GER102 BEGINNING GERMAN II (3 CRS.)

Continuation of GER101. Both textbook and authentic materials will be used to enable students to express themselves on a variety of topics concerning self, family and friends. Prerequisite: GER101 or placement.

GER103 INTERMEDIATE GERMAN (3 CRS.)

Continuation of GER102. Both textbook and authentic materials will be used to enable students to express themselves on a variety of topics concerning self, family, friends and their communi-

ties. Reading, writing, listening and speaking are combined to explore the history, geography, music arts and film of German-speaking society. Prerequisite: GER102 or placement.

GER150 GERMAN CIVILIZATION AND CULTURE (3 CRS.)

Taught in English, stressing the culture, the social and artistic factors which have contributed to the evolution of the civilization and culture of German-speaking peoples. It examines trends in world history that had an impact on the cultural development of Austria, Germany and Switzerland.

GER151 GERMAN CINEMA (3 CRS.)

Survey of the cinematographic production of the German-speaking countries from the twenties until today. Works of movements like the expressionists, the new German Cinema, or of individual filmmakers like Murnau, Pabst, Riefenstahl, Fassbinder and Herzog will be analyzed. Course will acquaint students of all disciplines with the cultural and societal perspectives found in the German-speaking world: Austria, Germany and Switzerland. No prerequisite.

GER203 INTERMEDIATE GERMAN CONVERSATION (3 CRS.)

Consists of material designed to develop proficiency in the speaking and writing of everyday German. May be taken concurrently with GER103 with permission of the department. Prerequisite: GER103 or department placement.

GER204 IDEAS AND CULTURES FROM THE GERMAN-SPEAKING WORLD (3 CRS.)

Introduction to comparative cultural studies of the German-speaking world. Introduces students to the traditions, the diverse manifestations and to the richness of Germany, Austria, Switzerland and Liechtenstein, and will present the relevant moments of Germany's presence in the world. Prerequisite: GER103 or department placement.

GER215 COMMERCIAL GERMAN (3 CRS.)

Emphasizes skills necessary to communication in the business world: writing commercial letters and reports; handling of orders, complaints and telephone messages; sending telegrams; dealing with German banks and insurance companies; meeting and entertaining the German business associate or visitor. Prerequisite: GER203, GER204 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 is 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 the finer 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 ADVANCED COMPOSITION AND STYLISTICS (3 CRS.)

Provides an intensive examination of elements of style in German. Emphasizes the writing of correct German with a view to avoiding Anglicisms in syntax and vocabulary. Prerequisite: GER203, GER204 or permission of instructor.

GER320 BERLIN (3 CRS.)

Course will analyze the sociological, political and historical significance of the concept of metropolis in Germany. Course should provide a survey of the history of the German capital and its culture. Literature, film and paintings by some of the major citizens of Berlin will be analyzed. An upper-level class and will be taught in German. Content will vary depending on the instructor. Prerequisite: GER103, GER203, GER204 or permission of the instructor.

GER322 READINGS IN 19TH & 20TH CENTURY GERMAN LITERATURE (3 CRS.)

Studies principal authors and literary movements from Realism to the present, with particular emphasis on such writers as Storm, Hauptmann, Mann, Hesse, Brecht, Böll, Grass. Prerequisite: GER203, GER204 or permission of instructor.

GER400 GERMAN SEMINAR (3 CRS.)

Focuses on an intensive study of special linguistic problems of a particular period or literary movement; or individual works of an important author. 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.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses. Prerequisite: Permission of instructor.

Gerontology

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 student with an off-campus, professional learning experience in the field of aging. Contact the program director for information.

GRN302 SEMINAR IN GERONTOLOGY (3 CRS.)

Required capstone course for the interdisciplinary gerontology minor. A theme of topical interest will be addressed and serves as the basis for applied multidisciplinary group projects.

GRN391 SELECTED TOPICS IN GERONTOLOGY (1-3 CRS.)

Provides the opportunity to offer course work 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.

GRN481 REFLECTING ON THE IMPACT OF GENDER IN LATER LIFE (3 CRS.)

Students will explore the unique experiences of aging women and men, with an emphasis on overcoming discrimination and stereotypes to promote improved quality of life.

GRN482 USING SPIRITUALITY TO PROMOTE OPTIMAL AGING (3 CRS.)

Examines the powerful influence of religion and spirituality in the lives of elders, including ways of working with beliefs and religious systems to improve service delivery.

GRN483 USING APPLIED STATISTICS IN GERONTOLOGY PROFESSIONS (3 CRS.)

Provides the skills necessary to apply, understand and critically evaluate the unique outcomes of research designs involving older adults.

GRN484 EVALUATING GERONTOLOGY PROGRAMS, SERVICES AND PRODUCTS (3 CRS.)

Engages students in applied research including the evaluation of existing aging-related social service programs and for-profit services and products aimed at the older adult market, with an emphasis on the use of qualitative methods.

GRN491 ADVANCED SELECTED TOPICS IN GERONTOLOGY (1-3 CRS.)

Provides the opportunity to offer advanced course work in areas of program minor not covered by the regular courses.

Health Care Administration

All Health Care Administration courses are only offered in Gettysburg or Harrisburg.

HCA400 INTRODUCTION TO HEALTH CARE SYSTEMS (3 CRS.)

Introduces students to 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.

History

HIS105 WORLD HISTORY I (3 CRS.)

Surveys the development of human cultures from their Paleolithic origins through the formation of early agrarian societies and their growth to major world systems by 1500. The major themes include biological and environmental relationships, economic and social systems, states and empires and artistic, philosophical and religious traditions.

HIS106 WORLD HISTORY II (3 CRS.)

Continues HIS105 with emphasis on the growing interaction among world societies since 1500. Major themes include industrialization and changes in modern political power relations and ideologies, environments and social structures. Prerequisite: Usually taken following HIS105.

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.

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 study as is the importance of the American frontier on the nation's history. Prerequisite: One course in American history.

HIS302 AMERICAN ECONOMIC HISTORY (3 CRS.)

Analyzes the growth of the American economy from the colonial era through the development of 20th century corporate capitalism. Particular emphasis will be placed on the role of labor technology, innovation and capital in the process of industrialization. Prerequisite: HIS201, HIS202 or permission of instructor.

HIS304 AMERICAN DIPLOMATIC HISTORY (3 CRS.)

Studies U.S. foreign relations from colonial times to the 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: HIS201 or HIS202 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 the political, military, economic and sociological points of view. Prerequisite: HIS201 is recommended but not mandatory.

HIS306 HISTORY OF THE SOUTH AS A REGION: 1815 TO PRESENT (3 CRS.)

Studies the social, economic and political forces in the 19th and 20th century South. Factors that made the South a distinctive part of the American nation are considered and emphasis is given to the international conflict and the problems and the progress of the New South. Prerequisite: One course in American history.

HIS307 CONTEMPORARY U. S. HISTORY SINCE 1945 (3 CRS.)

Stresses the recent economic, social and cultural developments of the American people. Traces the growth of the city and the development in our economy and deals with the diverse effects

of these forces upon American life and thought. Prerequisite: HIS201 or HIS202 or permission of instructor.

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.

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.

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.

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 is placed upon the great cultural achievements of the 11th through the 13th centuries. Prerequisite: HIS105 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 the growth of the modern state, the Italian and northern renaissances and the crises of the Catholic Church in the 14th and 15th centuries. Prerequisite: HIS105 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 is focused on tsars, clergy, nobles, bureaucrats, intelligentsia and peasantry in terms of their character, relations, institutions and beliefs. Special concern is given to the causes of the 1917 revolutions and the legacy of pre-Soviet Russia. Prerequisite: HIS105, 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. Prerequisite: HIS105, HIS106 or permission of instructor.

HIS329 HISTORY OF GERMANY TO 1919 (3 CRS.)

Provides a survey of the history of German-speaking Central Europe from the Middle Ages to the end of World War I, with emphasis on political and social developments after 1870. Prerequisite: HIS106 or GER150 or permission of instructor.

**HIS330 HISTORY OF MODERN GERMANY: 1919
TO PRESENT (3 CRS.)**

Involves a survey of German history from the end of World War I to the present, emphasizing social and political developments. Particular attention will be paid to the dissolution of the Weimar Republic and the establishment of the National Socialist totalitarian state. Prerequisite: HIS106 or GER150 or permission of instructor.

**HIS331 HISTORY OF MODERN FRANCE: 1750 TO
PRESENT (3 CRS.)**

Begins by examining origins and course of the French Revolution and assesses the consequences for social, economic, institutional, political and intellectual trends. These themes then are followed through successive revolutions, wars and governmental changes down to the present. Prerequisite: 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 the growth of common law and Parliament, the changes in institutions and religion during the

Tudor-Stuart era, the impact of the Industrial Revolution, the acquisition and evolution of empire and the role of Great Britain in the 20th century. Prerequisite: HIS105 and HIS106.

HIS333 WORLD HISTORY SKILLS (3 CRS.)

Allows strong history majors to gain deeper expertise in history by modeling world history skills for freshman world history students (HIS105, 106). Course seeks to have students develop leadership skills and gain expertise in leading discussions and carrying out small group work on introductory world history skills and issues, encouraging self-knowledge in younger students. Prerequisite: 2.75 QPA and permission of the instructor.

HIS338 COLONIAL AMERICA (3 CRS.)

Explores the changing patterns of life in North America from the late fifteenth century to the mid-eighteenth century. Themes that will be 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.

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.

**HIS342 U.S. IMMIGRATION AND ETHNICITY
(3 CRS.)**

Examines the history of immigration and ethnicity in the United States between 1820 and 1980. Traces the 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 is included.

**HIS344 MODERN MIDDLE EAST: 1500 TO
PRESENT (3 CRS.)**

Surveys the modern Middle East from 1500 to present. Investigates how the world was transformed by the rise of Islam as a guiding force within some of the most powerful and stable empires like the Ottoman and Saffavid Empires, in history. Discusses in some depth the impact of colonialism and the rise of nationalist movements. Major emphasis will be placed on contemporary issues: the Iranian Revolution, Iraq-Iranian War, Arab-Israeli Conflict, the Palestinian Question and the problems of national development in the area.

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.

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, HIS106 or permission of the instructor.

HIS349 HISTORY OF LATIN AMERICA (3 CRS.)

Surveys the history of Latin America from the pre-Columbian civilization to the present with an emphasis on the social, cultural, political and economic themes that explain the present problems and potentials of the continent. Prerequisite: HIS106 or permission of instructor.

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 will be examined. Prerequisite: HIS105 is recommended.

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.

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. Prerequisite: HIS105.

HIS355 HISTORY OF MODERN CHINA (3 CRS.)

Concerned with the evolution of traditional Chinese institutions and philosophies. The decline of the imperial system will be examined from the point of view of internal disintegration and external aggression. Course will then trace 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 will be examined. Prerequisite: HIS105 is recommended.

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. Prerequisite: HIS106 or permission of instructor.

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. Prerequisite: HIS106 or permission of instructor.

HIS376 HISTORY OF AFRICA SOUTH OF THE SAHARA (3 CRS.)

Surveys sub-Saharan African history beginning with a brief introduction to pre-colonial history. Emphasis is 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.

HIS381 MODERN SOUTH ASIA: 1500 TO PRESENT (3 CRS.)

Traces the emergence of modern South Asian from 1500 to present. First half of the course focuses on selected major themes such as the unity and diversity in Hindu religious tradition and culture, the institution of the caste, the emergence of centralized empires and advent of Islam and its impact on the South Asia. Second half concentrates on the gradual transformation of the British East India Company from a trading company to an imperial power, the construction of Indian nationalism, social and economic changes in Indian society as a result of imposition of colonial rule and the development of independent nation states of India, Pakistan and Bangladesh.

HIS391 HISTORY INTERNSHIP (3-6 CRS.)

HIS393 SELECTED TOPICS IN HISTORY (1-3 CRS.)

Provides the opportunity for the department 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. Course includes a writing requirement. Usually taken during the senior year. Prerequisite: HIS203.

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. Prerequisite: HIS201 or HIS202 or permission of instructor.

HIS407 WOMEN IN HISTORY (3 CRS.)

Surveys the experiences of women over time using a comparative approach to explore how various world societies have constructed gender and what expectations of women have been, including public and private behaviors, work and creativity. Selected countries of Africa, the Americas, Asia and Europe will be studied in chronological sequence.

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. Will examine how politics, warfare, society and cultures developed in the Islamic World. Course will include: 1) pre-Islamic Arabia, 2) the rise of Islam, 3) Arab Expansion and adaptation, 4) nomadic-urban encounters, 5) development of socio-political institutions, religious sects and cultural-scientific achievements.

HIS413 PENNSYLVANIA HISTORY (3 CRS.)

Deals with the development of Pennsylvania from the eve of European settlement to the present. Attention is given to political, economic and social trends and institutions from the 17th through the 20th centuries. Pennsylvania's role in national and international history is also studied. Prerequisites: HIS201 and HIS202 for undergraduates; HIS600 for graduate students or permission of instructor.

**HIS418 INTRODUCTION TO APPLIED HISTORY
(3 CRS.)**

Explores practical application of historical skills and practices in a variety of settings (includ-

ing business, government and historical institutions such as museums, historic sites, archives and historical societies) and the issues historians face when they preserve, interpret and present the past to the general public. Through hands-on experience, students will examine areas such as archive and manuscript curating, historical editing, oral history, material culture studies, museums, historic preservation, historical media production and history on the World Wide Web. Special emphasis will be on the financial, legal, ethical, political and interpretative issues faced by historians presenting the past to diverse audiences. Prerequisites: HIS201 or HIS202 or permission of the instructor.

**HIS419 ADVANCED TOPICS IN PUBLIC HISTORY
(3 CRS.)**

Intensive examination of some of the specialized historical methods used by historians working for museums, historic sites, historical societies, government agencies and other types of historical organizations. Emphasis may be on one or more of the following: oral history, local history, material culture studies, historical editing, historic preservation or museum studies. Students will gain hands-on experience by designing and executing significant public history projects and by conducting historical fieldwork. Prerequisites: HIS201 or HIS202 or permission of instructor.

**HIS421 STUDIES IN 19TH CENTURY EUROPEAN
HISTORY (3 CRS.)**

Undertakes an evaluation of major themes or topics of the period 1815-1914, with emphasis both on those major developments which are unique to the period and those which lay the groundwork for more recent happenings. Prerequisite: HIS106 or permission of instructor.

HIS423 20TH CENTURY EUROPE (3 CRS.)

Chronological and topical study of the 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.

HIS454 CHINA & THE OUTSIDE WORLD (3 CRS.)

Investigates China's relations with the outside world during its premodern 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. Course will challenge this assumption by looking at how China and people outside of its borders have influenced each other. Prerequisites: HIS105 and HIS106.

HIS490 SELECTED TOPICS IN HISTORY (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

HIS494 INTRODUCTION TO ARCHIVES (3 CRS.)

Introduces nature of archives and the concepts of archival administration. Stresses the relationship of archives to other kinds of documentary materials and surveys basic archival activity. It examines state, local, business, university, labor and church archives and defines the problems of these specialized archives.

HIS499 HISTORIOGRAPHY: THE PURPOSES AND USES OF HISTORY (3 CRS.)

Traces the development of historical consciousness from classical antiquity down through the use of scientific history in late 19th century. Will further analyze the intellectual foundations, social purposes and methods of contemporary (i.e., 20th century) historical inquiry. Prerequisite: Nine credits in history or permission of instructor.

Information Management & Analysis

INM200 STATISTICAL APPLICATIONS IN BUSINESS (3 CRS.)

Topical coverage includes estimation of parameters and test of hypotheses for a variety of populations based on large and small sample sizes.

Course may also include coverage of analysis of frequencies, analysis of variance, quality control, linear regression and non-parametric statistics. Course is taught in a spreadsheet environment and emphasis is placed on critical thinking and business reasoning skills. Students typically carry out projects and submit their results in the form of written and oral reports. Prerequisites: MAT181 or an equivalent calculus course, ISM142 and ECN113.

INM215 INFORMATION PROCESS IN COMMERCE (3 CRS.)

Includes a description of core business processes and the information in the business environment. Course also 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.

INM330 OPERATIONS MANAGEMENT (3 CRS.)

Applies knowledge the student obtains in lower division course work to managing the operations of a firm. One phase deals with production issues

such as production scheduling, quality control, plant layout, productivity and capacity expansion strategies. Another phase deals with service operations including waiting line management. Explores approaches such as total quality control management and corporate re-engineering, comparing them with techniques developed overseas such as just-in-time manufacturing and assessing their relative merits. Students make written and oral analyses of case studies. Prerequisite: INM200 or permission of instructor.

INM355 WEB BASED MANAGEMENT INFORMATION SYSTEMS (3 CRS.)

Access is used as a systems design and development tool for the creation of management information systems. Access is also used in web page design for viewing, updating, analyzing, reporting data via the Internet which dynamically links this information to data bases stored on a file server.

No prerequisites.

INM370 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: INM330.

INM380 DATA MINING FOR INFORMATION MANAGEMENT (3 CRS.)

Course develops the data-driven modeling tools to obtain measurable and tangible results, to transform data into better quality information, to deliver the information in a more usable form, to solve complex problems and to discover insights into business problems and to make smarter decisions. Topical coverage includes techniques such as data visualization, decision trees, forecasting, quality control, factor analysis, hypothesis testing and categorical data analysis. Course covers a wide range of applications in the areas of banking, health care, market research, manufacturing and retailing. Prerequisite: INM200.

**INM390 APPLICATIONS OF INFORMATION
MANAGEMENT (3 CRS.)**

Applied study of the process of information collection, management, analysis and dissemination. In a hands-on, lab oriented environment, students will gather data from a variety of sources including the Internet, design and build systems and models to manage and analyze the information and format the information appropriately for use by decision makers and managers. Topical coverage may include inventory analysis, networks and distribution systems, facility layout and location, simulation, forecasting, project management and optimization. While the theoretical foundations of these concepts are addressed, emphasis is on applications and solution techniques relevant to practical business situations. Utilization of current computer technology is an integral part of the course. Students present results as teams and individuals in both oral and written formats. Evaluation is by performance on projects rather than exams. Prerequisites: INM330 and senior standing or permission of instructor.

**INM393 SELECTED TOPICS IN INFORMATION
MANAGEMENT AND ANALYSIS (1-3 CRS.)**

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

**INM481 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 is 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. In addition, the role of information systems in supply chain management will be discussed. Prerequisite: INM330.

**INM490 SELECTED TOPICS IN INFORMATION
MANAGEMENT AND ANALYSIS (1-3 CRS.)**

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Interdisciplinary

IDS450 PROBLEMS OF MODERNIZATION:

HISTORY AND THE SOCIAL SCIENCES (6 CRS.)

Team-taught by faculty from the Departments of Anthropology-Sociology, Economics, History and Political Science, seminar begins by evaluating the concept of modernization, which serves as an entree to the broader problem of social change. Then the major themes of social change, as understood by the above-mentioned disciplines, are presented. Latter half of the seminar involves an application of these theoretical concepts to Europe circa 1400-1900 and at least two Third World cultures. Seminar meets for six class hours of formal instruction weekly. Prerequisite: Nine credits of social science (includes history) or permission of instructor.

Management

MGT305 ORGANIZATIONAL BEHAVIOR (3 CRS.)

Emphasizes the contributions of many disciplines to management practices considering the interrelationship among individual, group and organization with an international focus added. Examines the analytical and behavioral skills necessary to enhance managerial potential and facilitate individual contributions to organizational effectiveness. Applies the 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.

**MGT340 HUMAN RESOURCE ADMINISTRATION
(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 is discussed. Prerequisite: MGT305 or departmental permission.

**MGT342 MANAGING ORGANIZATIONAL
RELATIONS (3 CRS.)**

Provides an 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 resolu-

tion 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 an 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 PLS372 or departmental permission.

MGT349 INTERNATIONAL HUMAN RESOURCE ADMINISTRATION (3 CRS.)

Examines major social, legal and political and economic forces impacting the international human resource administration. Emphasis will be placed on the response of the International Human Resource Specialist to these forces. Discussion, cases and outside readings will be among the course materials used. Prerequisite: Junior status and MGT340 or departmental permission.

MGT361 EMPLOYMENT INTERVIEWING (1 CR.)

Explores the various types of interviews utilized in the selection and management of human resources. Students will have the opportunity of conducting each of the different interviews discussed. Prerequisite: Junior standing 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 skills in working in teams, 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's overall mission is to assist John L. Grove College of Business students in studying abroad or obtaining an international internship. Using our resources and personal experiences, our program will promote and facilitate Global Business Exploration in the College of Business. GBEP researches outstanding learning opportunities, assists students with study abroad challenges and increases the learning experience. This is accomplished through a collaborative effort from students and faculty facilitator through student-led team project management. In our overall efforts GBEP assists the university Study Abroad office in coordinating, promoting and marketing study abroad for all business students.

MGT432 ENTREPRENEURSHIP (3 CRS.)

Focuses on the concepts, skills and know-how, information, attitudes and alternatives that are relevant for start-up and early-stage entrepreneurs and entrepreneurial managers. A difficult and complex course with two fundamental objectives: To teach future entrepreneurs to use the entrepreneurial perspective in order to make better decisions and therefore 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. Course is especially relevant for aspiring entrepreneurs bent on launching and growing a business. Prerequisites: MGT430, MGT433. Offered fall semester only.

MGT433 SMALL BUSINESS MANAGEMENT (3 CRS.)

Studies the concerns and trends unique to small businesses. Emphasis is on the profitable operation of an ongoing small business. Course is 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 is to enhance the students' probability of successfully running and growing a small business. Pedagogically, this will be accomplished by mixing a variety of instructional exercises including the textbook, Internet exercises, a simulation and a promotional newsletter or brochure. Prerequisites: ACC201, FIN311, MGT306, MKT305. Offered spring semester only.

MGT447 BUSINESS AND SOCIETY (3 CRS.)

Examines the role of business in a societal system including interrelationships with government, the community, employees and other stakeholder groups. Major focus areas include the social responsibility of business, diversity in the workplace and business ethics. Consideration is also given to such topics as global and environmental issues and the impact of governmental regulations. Prerequisite: Senior standing or departmental permission. Satisfies university diversity requirement.

MGT470 INTERNATIONAL MANAGEMENT (3 CRS.)

Study of the unique problems associated with the management of firms operating in an international environment. Focus will be on the strategic and comparative issues. Prerequisite: MGT370 or departmental permission.

MGT490 SELECTED TOPICS IN MANAGEMENT (1-3 CRS.)

Provides the 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 a 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. The importance of achieving a fit between the internal and external environment for organizational survival and success is a central issue. Consideration is given to the influence of social, demographic, technological, political/legal, economic and global environments, as well as

the industry environment of competitors, buyers, suppliers and substitutes. This is the cross-functional capstone course for all business majors. Prerequisites: MKT305, FIN311, INM330, MGT305.

Management Information Systems

ISM142 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.

ISM240 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 will also be discussed. Additional topics will 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: ISM142 or equivalent.

ISM242 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 the development and implementation of end-user applications using internet development tools. Prerequisite: ISM142 or permission of department chair.

ISM300 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. Course will deal with different types of information systems, planning and developing databases and other organizational issues dealing with information technology.

ISM340 BUSINESS PROGRAMMING (3 CRS.)

Introduces an object-oriented programming language. Topics include: program design techniques, walk-through procedures, debugging strategies and techniques, documentation and implementation of business-oriented applications. Prerequisite: ISM142 or CPS253 or permission of department chair.

ISM344 BUSINESS SYSTEMS ANALYSIS AND DESIGN (3 CRS.)

Provides students with an in-depth study of the tools and techniques of systems analysis, including feasibility, preliminary and detail systems investigations. It also provides the student with the framework necessary for design development and implementation of a business information system. Prerequisites: Upper division status.

ISM355 DATABASE APPLICATIONS (3 CRS.)

Designed to provide the fundamentals of a database environment and addresses data and information management issues. Students will develop understanding of the various roles within the data administration function of an organization. Course will cover the fundamental design of relational database management systems and applications. Prerequisite: ISM240 or equivalent.

ISM393 SELECTED TOPICS IN BUSINESS INFORMATION SYSTEMS (3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

ISM420 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 will be used to illustrate the application of telecommunication and distributed processing technology. Prerequisite: ISM344 or permission of instructor.

ISM442 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 course materials will be applied to the examination of business and technical issues involved in designing, implementing and managing business opera-

tions and commerce via electronic means, including the Internet. Prerequisite: ISM355 and upper division status.

ISM446 INFORMATION SYSTEMS PROJECT DEVELOPMENT (3 CRS.)

This senior capstone course provides an in-depth coverage of the development of computer information systems within the business environment. Cooperative project teams will develop a complete computer-based information system for a specific academic or business organization. Coverage includes: analysis of current system requirements; management of project activities; design of proposed system; documentation of information flow; establishment of practical controls; publication of systems documentation; development and implementation of a systems test plan; system installation; and customer training. Presentation of project progress and final team document are required. Project management concepts, brainstorming and project tracking software will also be covered. Prerequisites: ISM344 and ISM355.

ISM490 SELECTED TOPICS IN BUSINESS INFORMATION SYSTEMS (3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Marketing

MKT305 PRINCIPLES OF MARKETING (3 CRS.)

Introduction to language and issues of marketing with an 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 also be included. Prerequisites: Business majors, upper division status; non-business majors, ECN102 or ECN113 and junior standing.

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.

MKT315 SALES MANAGEMENT (3 CRS.)

Emphasis placed 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 are 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, on-line issues and Internet marketing strategies. Prerequisite: MKT305 or departmental permission.

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 will also be considered. Prerequisite: ECN102 or ECN113 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.

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 that are 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 will be analyzed as they affect marketing and management actions. Prerequisite: MKT305.

MKT390 SELECTED TOPICS IN MARKETING (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses. Open to senior students only.

MKT430 MARKETING AND MANAGEMENT RESEARCH (3 CRS.)

In-depth study of marketing research tools, including the methodology and techniques used in measuring the characteristics of markets for products and services. Topical coverage includes

the 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, INM200 or departmental permission.

MKT490 SELECTED TOPICS IN MARKETING (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses. Open to seniors only.

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, MKT430 or departmental permission.

Mathematics

MAT050 DEVELOPMENTAL MATHEMATICS (1-3 CRS.)

Studies real operations, factoring, rational expressions, exponents, roots, radicals, quadratic equations, simultaneous equations, word problems, formula manipulations. Emphasis is on drill in computational algebra. Students exempted from or placed in this on the basis of an examination. Prerequisite: Open only to students who, through testing, show a deficiency in mathematical competency.

MAT102 INTRODUCTION TO STATISTICS (3 CRS.)

Introduction to statistical methods for describing sets of data, probability, sampling distributions, estimation, tests of hypotheses and regression analysis. *Not open to students required to take INM220, students who have passed MAT170, MAT313 or PSY205 or math majors.*

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. *Not open to math majors.*

MAT108 FINITE MATHEMATICS (3 CRS.)

Provides background necessary for the Applied Calculus course (MAT181). Studies functions and graphs; polynomial functions; rational functions; exponential and logarithmic functions; systems of equations and inequalities (including matrix notation) and a brief introduction to probability. Prerequisites: MAT120 or college level 2 placement. *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 will solve mathematical problems using hands-on materials and electronic technologies. Emphasizes goals and procedures addressed in current state and national standards for school mathematics.

MAT111 FUNDAMENTALS OF MATHEMATICS II (3 CRS.)

Designed to strengthen mathematical content knowledge of students majoring in elementary education. Focus will be on topics such as proportional reasoning, data analysis and probability, geometry, measurement and algebraic reasoning. Students will solve mathematical problems using hands-on materials and electronic technologies. Emphasizes goals and procedures addressed in current state and national standards for school mathematics.

MAT120 BASIC MATHEMATICAL MODELS (3 CRS.)

A projects-based course which gives students a background in collaborative problem-solving and basic quantitative modeling to complete projects and present solutions to their peers. The project topics come from several disciplines across general education. *Not open to students who have passed MAT108, MAT124, MAT181 or MAT courses above the 100 level.*

MAT124 PRE-CALCULUS (3 CRS.)

Designed to prepare students for MAT211. It develops the concept of a function in some detail through an in-depth treatment of polynomial, exponential, logarithmic and trigonometric functions. Additional topics include complex numbers, the laws of sines and cosines and linear modeling with systems of linear equations. Manipulative skills are enhanced through a focus on conceptual development and applications.

Graphical concepts will be stressed throughout the course. Prerequisite: MAT120 or college level 2 placement. *Not open to students who have successfully passed MAT211.*

MAT170 ELEMENTARY STATISTICS FOR SOCIAL SCIENCE (4 CRS.)

Examines elementary statistical techniques of particular use in social science. Emphasis is on hypothesis testing including the calculation of statistics, interpretation of results and consideration of alternative hypotheses. Use of computer library programs and an outline of the more common non-parametric techniques are included. Designed for social science majors and applications will be drawn from social science. *Not open to students required to take INM220; students who have passed MAT102, MAT313 or PSY205; or math majors.*

MAT181 APPLIED CALCULUS (3 CRS.)

Designed for students in the College of Business. Topics include differentiation and integration of functions of a single variable with applications including graphing and simple optimization. Prerequisite: A grade of "C" or better in MAT108 or advanced level placement. *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: A grade of C or better in MAT124 or advanced level placement.

MAT212 CALCULUS II (4 CRS.)

Continuation of Calculus I. Will include methods of integration, applications and infinite series. Prerequisite: A grade of C or better in MAT211.

MAT213 MULTIVARIATE CALCULUS (4 CRS.)

Generalization of single-variable calculus to higher dimensions. Parametric curves and applications will be covered. Prerequisite: A grade of C or better in MAT211.

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 will be covered. Prerequisite: MAT120 or college level 2 placement.

MAT313 APPLIED STATISTICS I (3 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 the course. Prerequisite: MAT211.

MAT320 INTRODUCTION TO ABSTRACT ALGEBRA (3 CRS.)

Introduction to abstract algebraic structures and formal mathematical proof. The structures may include groups, rings or fields. Prerequisite: MAT225. Co-requisite: MAT329.

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: 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 will be covered. Both continuous and discrete models will be examined. Examples will be taken from a variety of disciplines. Prerequisites: Either CPS180 or CPS253 and either MAT213 or MAT329.

MAT329 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. Prerequisite: MAT212 or MAT225.

MAT333 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY (3 CRS.)

Rigorous treatment of the 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.

MAT370 PROBLEM SOLVING SEMINAR (1 CR.)

Weekly seminar teaches problem-solving techniques through active involvement in ongoing individual and/or group problem-solving efforts that tie together a variety of mathematical topics. Prerequisite: At least junior standing.

MAT393 SELECTED TOPICS IN MATHEMATICS (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

MAT400 HISTORY OF MATHEMATICS (3 CRS.)

The history of mathematics is filled with interesting stories, fascinating people and great triumphs of intellect. Course will focus on the development of mathematical ideas that are 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 will be spent on multicultural issues, sometimes referred to as "Ethnomathematics". Prerequisite: MAT320 or at least junior standing.

MAT410 NUMERICAL ANALYSIS (3 CRS.)

Primarily a course in methods of numerical approximation to the value of functions, polynomials and systems of equations. Topics covered 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 CPS180 or CPS253.

MAT413 APPLIED STATISTICS II (3 CRS.)

Involves the 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 will be taken from a variety of disciplines. Concepts will be reinforced through class projects. Prerequisite: MAT313.

MAT420 ABSTRACT ALGEBRA (3 CRS.)

Detailed study of one or more of the algebraic structures groups, rings, fields. Emphasis will be placed on structure theorems such as the fundamental theorem of group homomorphisms and will use the sophistication developed in the prerequisites. Prerequisite: MAT320.

MAT428 LINEAR ALGEBRA (3 CRS.)

Begins a detailed study of both the algebraic and analytic theory of vector spaces, linear transformations and eigenspaces. Brief review of matrices and linear system is followed by a detailed study of abstract vector spaces, linear transformations, eigenvalues, eigenvectors and eigenspaces. Prerequisite: MAT320 and MAT329.

MAT429 APPLICATIONS OF LINEAR ALGEBRA (3 CRS.)

Linear algebra is one of the most widely applicable branches of mathematics. Course will expand upon the students' background in linear algebra and study specific applications of the tools of linear algebra to areas such as economics, game theory, optimization, statistics, computer science and physics. Prerequisite: MAT320 and MAT329.

MAT430 COMPLEX VARIABLES (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. Prerequisites: MAT212 and MAT225.

MAT441 ADVANCED CALCULUS I (3 CRS.)

Designed to give a fundamental understanding of the concepts used in elementary calculus. The method of logical proof is developed and used throughout. Topics include the set of real numbers, sequences, limits, continuity, derivatives and the Riemann integral. Prerequisites: MAT212, MAT213, MAT320.

MAT442 ADVANCED CALCULUS II (3 CRS.)

Continuation of Advanced Calculus I. Attention is given to further topics from the theory of the Riemann integral, including improper integrals; infinite series; and sequences and series of functions. Additional topics may be drawn from integration theory and topology. Prerequisite: MAT441.

MAT444 MODERN GEOMETRY (3 CRS.)

Covers a subset of the following topics: the finite geometries of Desargues and Pappus; transformations (geometric affine, projective); convexity; recent Euclidean, Ceva, Menelaus geometry; 9 point circle; constructions; projective geometry. Prerequisite: MAT333 or at least junior standing.

MAT450 COMBINATORICS (3 CRS.)

Concerned with computing within discrete mathematical structures and combinatorial problem solving. Topics include sets and graphs; counting and enumeration techniques including recurrence relations and generating functions; and graph theory algorithms. Prerequisite: MAT320.

MAT456 DETERMINISTIC METHODS OF OPERATIONS RESEARCH (3 CRS.)

After a brief historical introduction, course presents a detailed study of mathematics related to linear programming. Theory will include the simplex method, duality theory, sensitivity analysis and matrix games. Some applications will be given. Prerequisites: MAT212 and MAT329.

MAT470 SENIOR SEMINAR (2 CRS.)

Weekly seminar which teaches research techniques and independent learning skills through reading and presentation of journal articles and original work. Prerequisite: MAT320.

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: MAT212, MAT213, MAT329.

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.)

Provides the opportunity for the department to offer experimental courses at the senior level in areas of mathematics not covered by the regular courses. Topics such as foundations of mathematics, number theory, graph theory, cryptography and advanced applications of mathematics are appropriate at this level.

Military Science

MIL131, MIL132 MILITARY SCIENCE I (2 CRS.)

Introduces the fundamentals of the U.S. Army through individual skills training and group exercises. Meets two hours per week each semester. Offers the opportunity to participate in several different types of adventure training, on and off campus. Scholarship opportunities are available for qualified cadets. Prerequisite: Must have proof of U.S. citizenship.

MIL231, MIL232 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 prob-

lems. Meets two hours per week each semester. Includes numerous voluntary sessions of adventure training, on and off campus. Scholarship opportunities available for qualified cadets. Prerequisite: Must have proof of U.S. citizenship.

MIL240 BASIC CAMP LEADERSHIP 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 six weeks at Fort Knox, Kentucky, during the summer months. Room, board, travel expenses, medical care and pay are provided to all participants.

MIL331, MIL332 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: Advanced course status.

MIL350, MIL351 MILITARY SCIENCE IV (3 CRS.)

Emphasizes managerial skills and decision-making capabilities in military operations, logistics and administration. Students will plan, organize, conduct and evaluate selected training events. Meets four hours per week with weekend seminars scheduled into the syllabus; requires participation in three 45-minute physical training sessions per week and weekend seminars. Offers a variety of adventure training opportunities. Prerequisite: Advanced course status.

Music

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 and 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 concerts on campus and an annual tour.

**MUS107, 108, 207, 208, 307, 308, 407, 408
CUMBELAIRES (1 CR.)**

Women's chamber choir who perform a variety of treble-voice literature from the different periods of music history. Activities include concerts on campus and an annual tour.

MUS110 FUNDAMENTAL MUSIC SKILLS (3 CRS.)

Develops both knowledge and performance skills in music. Classes present the rudiments of music including, e.g., 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 are required. Content is 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 the 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. The 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 first, to assist the student in becoming perceptively aware of the components of music and musical form; second, to acquaint the student with the great musical literature that makes up the nucleus of our Western heritage. Listening to music and developing listening skills is emphasized. May have a concert attendance requirement.

**MUS132, 133, 232, 233, 332, 333, 432, 433 UNI-
VERSITY-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.

**MUS141, 142, 241, 242, 341, 342, 441, 442
INSPIRATIONAL CHORALE (1 CR.)**

Ensemble that performs the sacred music of the African-American culture. Styles included are traditional and contemporary gospel music, hymns, anthems, spirituals and praise and worship. Activities include concerts on campus and periodic tours.

MUS150 BASIC GUITAR (3 CRS.)

Studies guitar performance as both a folk and a classical instrument. Content includes playing technique, posture, instrument position and arm and hand position. Fundamentals of different (multiple) tuning, scales, chords, reading music notation and tablature, tonal and rhythm patterns, meter and phrasing will be addressed. Literature will include easy to medium-easy folk and classical material. Student will be able to play melodies and create accompaniments to melodies. Regular performance proficiencies are required. 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 is emphasized. Course may have a concert attendance requirement. Prerequisite: 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.

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. Course will focus on the main lines of development of 20th century music as reflected (1) in its treatment of the traditional components of music (melody, harmony, rhythm, timbre, form) and (2) 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. Course may have a concert attendance requirement. Prerequisite: MUS121 or permission of instructor.

MUS227 OPERA AND MUSIC THEATRE (3 CRS.)

Explores the 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 is 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. Course examines various instruction books, teaching methods and diagnostic techniques. 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. Course 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 the present day. Classes present 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. Classes consider 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 audition, 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.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular offerings.

MUS490 SELECTED TOPICS IN MUSIC (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular offerings. Prerequisite: Permission of instructor.

Philosophy

PHL101 INTRODUCTION TO PHILOSOPHY (3 CRS.)

Acquaints student with the 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 student's 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.

PHL103 INTRODUCTION TO PHILOSOPHY OF MIND (3 CRS.)

Introduces the views of important philosophers regarding the basis, kinds and methods of justification and acquisition of human knowledge. Investigation will be oriented toward answering the questions as to how a rational being's faculties must be organized to enable it to know.

PHL105 INTRODUCTION TO 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 student's ability to formulate, analyze and evaluate moral arguments and to work out a consistent reasoned moral personal viewpoint.

PHL210 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 will be included.

PHL248 HISTORY OF ANCIENT AND MEDIEVAL PHILOSOPHY (3 CRS.)

Examines the important philosophical themes up to approximately 1500. Among the philosophers that will be examined are Parmenides, Plato, Aristotle, Epicurus, Augustine and Anselm. Goal will be 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 the important philosophical themes since approximately 1500. Among the philosophers that will be studied are Descartes, Locke, Berkeley, Hume and Kant. Focus will be on how philosophical skepticism, humanism, idealism, empiricism and rationalism affected and were effected 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. A 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. Investigation is made of the literature they have produced.

PHL301 FORMAL LOGIC (3 CRS.)

Deals with the study of argumentation and the 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.

PHL335 CONCEPTS IN CHRISTIANITY (3 CRS.)

Investigates the religion of Christianity and some of the concepts essential to it. Different ways Christians have interpreted their religion, from Gnostics to American Fundamentalists, are examined. Some developments in Christian doctrine to be investigated are: The God/Man Debate, the problem of evil, the role of Christianity in government, the fate of the soul and Christian ethics. Development of specific Christian traditions, such as Eastern Orthodoxy, Roman Catholicism and Protestant Reformers will also be studied.

PHL336 CONCEPTS IN BUDDHISM (3 CRS.)

Investigates the religion of Buddhism and some of the concepts essential to it. History, development, nature and contemporary relevance of these essential concepts are examined. These concepts are considered from the perspective of the different forms of Buddhism, such as Zen, Theravada and Mahayana. Some concepts to be 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. To cultivate this understanding, 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, we will have to look beyond theoretical writings to the existential fiction of Kafka, de Maupassant, de Beauvoir, Hemingway and Camus.

PHL393 SELECTED TOPICS IN PHILOSOPHY (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.

PHL490 SELECTED TOPICS IN PHILOSOPHY (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

PHY105 PROBLEM SOLVING IN THE SCIENCES (3 CRS.)

Provides beginning students a transition into the physical sciences and engineering programs. Utilizes a structured approach to enhance the student's ability to read and master physics subject matter and solve associated problems, particularly word problems. Develops a facility with micro-computer operation through an integrated problem solving approach. Level of subject matter content deliberately chosen so the challenge is in the problem-solving aspects. Prerequisite: Competence in high school algebra and trigonometry or pre-calculus math taken concurrently.

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 is upon 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 (4 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. The origin, characteristics, transmission and detection of sound are also studied. Three periods lecture and two periods lab/week. Prerequisite: Competence in high school algebra and trigonometry or pre-calculus math taken concurrently.

PHY122 INTRODUCTORY PHYSICS II (4 CRS.)

Introductory course in electricity and magnetism, optics, atomic physics and nuclear physics. Some topics introduced are the 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. Three periods lecture and two periods lab/week. Prerequisite: PHY121 or competence in high school algebra and trigonometry or pre-calculus math taken concurrently.

PHY150 ENGINEERING GRAPHICS (3 CRS.)

Presents the kind of graphical representations used by draftsmen, technicians, engineers and other persons in industry. Student will acquire the fundamentals of standard graphical practices. Specifically, learning the theory of multiview and isometric projection, auxiliaries, sections and standard dimensioning practices, as well as skill in drawing and the proper drafting room procedures. Graphics is a laboratory and lecture course in which the student spends two double periods per week in class.

PHY205 INTERMEDIATE PHYSICS I (4 CRS.)

Introductory study of the laws of mechanics governing the motion of objects acted upon by forces. Beginning weeks are spent on kinematics (the study of motion in terms of position, velocity and acceleration). Newton's laws, which determine how forces generate motion, are studied next. Remainder of semester spent on direct applications of Newton's laws. These include the description of motion in terms of energy, the description of collisions and a brief study of rotational dynamics. The very end of the course presents a brief introduction to some of the elementary concepts

involved in the theories of Special and General Relativity. Vectors and differential calculus are both used in the course. Three periods lecture and two periods lab/week. Prerequisite: MAT211 (or equivalent course) may be taken concurrently.

PHY308 MODERN PHYSICS (4 CRS.)

Designed to present an elementary but rigorous treatment of the fundamentals of the physics of the 20th century. Covers the Theory of Special Relativity, early 20th century experiments showing the need for a revision of classical physics and the ensuing development of quantum mechanics. A sequential and detailed study of the one dimensional Schroedinger Equation is presented. Three periods lecture and two periods lab per week. Prerequisites: PHY313 (or its equivalent) and MAT213 (at least concurrently).

PHY313 INTERMEDIATE PHYSICS II(4 CRS.)

Introductory study of electricity and magnetism. Begins with a study of stationary charges and the introduction of electric field, electric potential, capacitance and Gauss's law. Charges in motion are then introduced, leading into topics on magnetism, induction, Ampere's law and Faraday's law. Some D.C. and A.C. circuit analysis is also covered. Vectors, differential calculus and integral calculus are utilized throughout the course. Three periods lecture and two periods lab/week. Prerequisites: PHY205 (or equivalent course) and MAT212 (or equivalent course). The latter may be taken concurrently.

PHY314 INTERMEDIATE PHYSICS III (4 CRS.)

Introduction to wave motion, geometrical and physical optics and heat and thermodynamics. Matter waves are studied with applications to the science of sound. Study of electromagnetic waves leads into the various aspects of the nature of light and optical instruments. Concludes with a study of heat, temperature, the kinetic theory of gases and the laws of thermodynamics. Three periods lecture and two periods lab per week. Prerequisites: PHY205 (or its equivalent) and MAT212 (at least concurrently).

PHY325 ELECTRONICS (4 CRS.)

Theory of vacuum tube and transistor circuits and applications. Emission, vacuum tube characteristics, transistor characteristics, rectifiers, amplifiers, oscillators and transistor theory are treated through problem solving and laboratory experiments. Two periods lecture and four periods lab/week. Prerequisites: PHY122 or PHY313 and MAT211.

PHY330 TRANSITIONAL MECHANICS (4 CRS.)

Designed for second semester sophomores in the Physics programs and is a precursor to Mathematical Physics. Also useful for mathematics and chemistry majors. Provides a bridge between freshmen-level and upper-division mechanics. Emphasis is on development of linear algebra methods (vectors, determinants, matrices, linear equations and transformations, fourier series) with a strong correlation to physical systems through applications to Special Relativity (with 4-vectors) and to simple harmonic oscillators: underdamped, damped, driven and coupled. Three periods lecture and two periods lab per week. Prerequisites: PHY313 and PHY314 and MAT213 (at least concurrently).

PHY393 SELECTED TOPICS IN PHYSICS (1-3 CRS.)

Provides the opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PHY400 MECHANICS (4 CRS.)

Intermediate course in treatment of Newton's laws of motion, vector analysis, rectilinear and curvilinear motion in a plane. Further study in the areas of statics and dynamics, including concurrent and non-concurrent forces, movements and torques, energy, rotational motion, moments of inertia and oscillatory motion, is included in laboratory and problem solving periods. Three periods lecture and two periods lab/week. Prerequisites: MAT213, MAT229 or PHY330, MAT223 (at least concurrently) and PHY314.

PHY401 ELECTRICITY AND MAGNETISM (4 CRS.)

Advanced course in general electricity and magnetism. Electric and magnetic fields, D.C. and A.C. circuits, capacitance, inductance, electromotive force and electrical instruments are among the topics developed. Three periods lecture and two periods lab/week. Prerequisites: MAT213, MAT229 or PHY330, MAT223 (at least concurrently), PHY313.

PHY410 HEAT AND THERMODYNAMICS (4 CRS.)

Intermediate course in heat. Basic concepts and principles are developed more intensively in the study of properties of gases and in thermodynamics. Some specific topics studied are temperature, measurements, expansivity, specific heats, thermal conductivity of solids and liquids, thermal properties of gases, change of phase and heat engines. Three periods lecture and two periods lab/week. Prerequisites: MAT213, MAT229 or PHY330, MAT223 (at least concurrently), PHY314.

PHY415 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, MAT229 or PHY330, MAT223 (at least concurrently), PHY314.

PHY430 NUCLEARY PHYSICS (4 CRS.)

Includes an introductory treatment of nuclear structure, quantum mechanics, elementary particles, nuclear reactions, radiation, measurement, detection and safety, particle accelerators and reactors. Lab experiments include statistics of counting, range of alpha particles, absorption of alpha, beta and gammas, half-life, neutron induced activity. Three periods lecture and two periods lab/week. Prerequisite: PHY308.

PHY441 QUANTUM MECHANICS (3 CRS.)

Introduction to the physical concepts and mathematical formulations of non-relativistic 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 the 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 are studied. Heavy emphasis is placed throughout on applications to simple systems. Three periods lecture/week. Prerequisites: PHY308, MAT229 or PHY330, MAT223 (at least concurrently).

PHY442 MATHEMATICAL PHYSICS (4 CRS.)

Fairly rigorous development of mathematical techniques widely used in upper division physics courses. Topics covered generally include: functions of many variables and partial differentiation, infinite series and expansion techniques, curvilinear coordinates, vector calculus and a study of ordinary and partial differential equations often encountered in physics. Three periods lecture and one period lab/week. Prerequisites: MAT213, MAT229 or PHY330, MAT223 (at least concurrently), PHY205.

PHY450 SOLID STATE PHYSICS (3 CRS.)

Introduction to solid state physics which studies the geometry of perfect crystals, symmetry of crystals, crystallographic notations, determination of crystal structure by x-ray diffraction, lattice vibration, specific heats of solids and the electronic states in solids. Physical properties of conductors

and semiconductors, ferromagnetism, paramagnetism, ferroelectricity, nuclear magnet resonance and electron spin resonance are included topics. Two periods of lecture and two periods lab/week. Prerequisite: PHY308.

PHY490 SELECTED TOPICS IN PHYSICS (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Political Science

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 INTRODUCTION TO INTERNATIONAL POLITICS (3 CRS.)

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 INTRODUCTION TO POLITICAL SCIENCE (3 CRS.)

Examines the philosophy behind the discipline of political science and the different fields within political science. Introduces students to political science theories and theory building. Examines political behavior, political structures, decision-making and the foundations of political systems. Provides students the tools to conduct literature reviews, access information, assess political developments and develop and critique theories and 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. Such subjects as 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 the field of management in governmental offices; includes organization of executive offices, controls over administration, budgeting and personnel procedures and methods to achieve administrative objectives. Prerequisite: 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 the 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: MAT170.

PLS302 PUBLIC POLICY ANALYSIS (3 CRS.)

Examines the policy making process(es) and the implications for the conduct of policy analysis. Reviews the policy implementation process(es) and the implications for the conduct of policy analysis. Focuses upon specific quantitative and qualitative policy analysis/program evaluation techniques. Prerequisite: PLS301.

PLS303 PUBLIC SECTOR FINANCIAL CONTROL

AND REPORTING SYSTEMS (3 CRS.)

Provides basic concepts and principles of governmental accounting and their application to managerial control and financial reporting requirements in the public sector; evaluates the link between planning and performance in public administration.

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 will be 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 (3 CRS.)

Deals with the nature of public opinion and its role in the political process; myths and symbols in opinion formation; modern methods of opinion measurement (e.g., surveys, polls, samples); the nature and role of propaganda under democratic and totalitarian systems of government and the role of newspapers, radio, television and other media of communication in opinion formation. 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 AMERICAN POLITICAL PARTIES AND

POLITICS (3 CRS.)

Reviews the development and status of political parties in American society and its governing units. Functioning of the major parties is pursued in the real setting of practical politics as is feasible. 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.

PLS331 MUNICIPAL GOVERNMENT AND ADMINISTRATION (3 CRS.)

Study of the development of city government in the United States; the governmental organization of several typical cities; the problems of law enforcement, health, housing, welfare, planning and zoning; and the future of cities. Prerequisite: PLS231 or permission of instructor.

PLS332 FEDERAL-STATE-LOCAL RELATIONS (3 CRS.)

Fosters understanding of the continuity, current dimensions and interrelated nature of the issues characterizing American governmental relations and the feasibility of various approaches offered for their assuagement. Prerequisite: PLS231 or permission of instructor.

PLS341 INTERNATIONAL LAW & 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.

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. Prerequisites: PLS100 or PLS141.

PLS357 GROUP MOBILIZATION AND STATE CHANGE (3 CRS.)

Comparative analysis of efforts by minority groups in the developing world to mobilize for state change. Analyzes separatist movements based on ethnic, linguistic, racial, religious and caste identities and political movements whose goal is to change a government's policy agenda. Focuses on topics such as: ethnonationalism, religious separatism, environmental justice, women's uplift, economic justice, global integration and human rights. 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: PLS101 or PLS102 or permission of instructor.

PLS362 20TH CENTURY POLITICAL IDEOLOGIES (3 CRS.)

Considers the major ideologies and -isms of the Western World that have arisen or have acquired political significance during the 20th century. Examines ideologies and -isms in terms of the root political concepts and theories they express and in terms of the interplay between the ideas and the political environment of major ideologies. Prerequisite: PLS101 or PLS102 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 I: 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 II: FIRST AMENDMENT FREEDOMS (3 CRS.)

Examines body of constitutional law associated with the First Amendment including: establishment and free exercise of religion; the freedom of speech, press and assembly. Discusses issues sur-

rounding the freedom of expression and the right to privacy.

PLS367 CONSTITUTIONAL LAW III: 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. Course will cover 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. The roles of the various levels of management in the development and implementation of personnel policy and administration will be covered as well as those of the functional specialist. Impact of American culture and public policy upon public personnel administration will also be 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 the political aspects of the budgetary process will be covered. Appropriate references will be 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 will be surveyed. Course will emphasize 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 the 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 MGT331. Students taking PLS381 cannot enroll in MGT350 and vice versa.

PLS382 LEGAL FRAMEWORK FOR COLLECTIVE BARGAINING IN THE PUBLIC SECTOR (3 CRS.)

Analyzes labor relations law at the federal, state and local levels of government. Prerequisite: PLS381 or MGT350.

PLS383 DISPUTE RESOLUTION IN PUBLIC SECTOR LABOR RELATIONS (3 CRS.)

Examines in detail the theory and techniques for resolving disputes in negotiating and administering collective bargaining agreements in the public sector. Class will focus on use of mediation, fact-finding and various forms of interest arbitration as tools for resolving bargaining impasses and grievance arbitration in the resolution of disputes arising out of the implementation and administration of the contract. Prerequisite: PLS381.

PLS384 REGIONAL & URBAN PLANNING (3 CRS.)

Designed to introduce the fundamentals of planning and the direction it is taking in the second half of the 20th century. Practical situations will be studied in the locality of the university. Field studies will also be pursued. Prerequisite: PLS231 or permission of instructor.

PLS391 SELECTED TOPICS IN POLITICAL SCIENCE (1-3 CRS.)

Provides the opportunity for the department 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.)

PLS431 PENNSYLVANIA LOCAL GOVERNMENT (3 CRS.)

Concerns the structure and administrative functions of local governments in Pennsylvania. Extensive emphasis will be on analyzing local government functions and problems emanating from the jurisdictions' political, social and economic environment. Prerequisite: PLS231 and PLS271 or permission of instructor.

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.)

Intended primarily for psychology majors and designed to prepare them for subsequent upper division courses in psychology. Topics to be covered 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.)

Intended primarily for psychology majors and the first course in a two-semester sequence of courses in research design and statistics as applied to the behavioral sciences. Topics to be covered 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 or B.S.Ed. 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 will be 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 will be 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.

Psychology

PSY265 CHILDHOOD & 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.)

Designed to provide an 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 the 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 covered include the current mental disorder classification system and contemporary forms of psychotherapy. Prerequisite: PSY101 or PSY102.

PSY335 PSYCHOLOGY OF SOCIAL INFLUENCE (3 CRS.)

Introduction to the principles of social influence. These principles will be 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 will not be taught how to do assessment or psychotherapy but will learn about the assessment and psychotherapy approaches used by clinical psychologists. The purpose is to provide the opportunity to integrate material learned in other courses and to learn more about the field of clinical psychology. Prerequisite: PSY240 and PSY330.

PSY352 ADULTHOOD AND AGING (3 CRS.)

Studies human development from the beginning of puberty to the climax of maturity. This psychosocial period of time is conceived as a transitional phase during which an individual completes his personal autonomy. Prerequisites: PSY101 or PSY102 and sophomore standing or permission of the instructor.

PSY355 PSYCHOLOGY OF THE EXCEPTIONAL CHILD (3 CRS.)

Psychological investigation into the nature of human differences as manifested in children and youth. Concerned with the 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 will be emphasized. Treatment and educational systems will be 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 con-

cerning understanding the differences within the United States in the way we think, feel and behave. Designed to introduce students to 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. Course satisfies a diversity requirement for all students. Prerequisite: PSY101 or PSY102.

PSY374 ADVANCED RESEARCH IN PSYCHOLOGY I (3 CRS.)

Psychology majors are provided with opportunity to engage in a research project in psychology. Typically this would include the selection of a topic, background research on the topic and the writing of a research proposal. The stages of collection of data and analysis of data may also be included, depending on the nature of the project. Prerequisites: PSY301 or PSY305 and permission of instructor.

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 are encouraged to attend scientific conventions and to submit proposals to conventions for poster and/or paper presentations.

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 taping and small group exercises. *For psy-*

chology majors only.

PSY385, PSY386 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 (1-3 CRS.)

Provides the opportunity for the department 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 the 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 will be discussed, as well as their application to perception, memory, language, intelligence and wisdom development. Course will also introduce the student to practical applications of current theories of cognitive human development. It is recommended to have prior courses in Developmental Psychology and/or Cognition. Prerequisites: PSY101 or PSY102.

PSY410 PSYCHOLOGY AND WOMEN (3 CRS.)

Focus first on views of women in early psychology; then turn to an in-depth analysis of the psychological aspects of issues affecting women. Topics discussed will 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.

PSY420 HEALTH PSYCHOLOGY (3 CRS.)

Explores the biopsychosocial approach to understanding health and illness. Role of psychology in health promotion and prevention of illness will be discussed. Possible topics include pain management, encouragement of health-related behaviors and the relationship between stress and disease. Prerequisite: PSY101 or PSY102, junior standing or permission of instructor.

PSY422 THE SOCIAL PSYCHOLOGY OF AGING (3 CRS.)

Social psychology has reached a high level of sophistication in its explanations of human behavior, social perception and judgment. As a result, social psychological theories are now helping people understand important social, health, interpersonal and intergroup issues as they age. Using a social psychological approach, this course will cover a variety of topics in aging such as perceived attractiveness of older people, age stereotypes and relationships over the lifespan. Other topics will investigate cross-cultural, intergenerational and intergroup issues and present a special section on how older people can avoid becoming victims of con artists by understanding the social psychological factors involved in being conned.

PSY430 SENSATION AND PERCEPTION (3 CRS.)

Includes the study of human senses, sensory coding, neurological basis of sensation, perceptual processes in vision, hearing and the chemical senses, perceptual development, theories of perceptual experience and the physiological basis of perception. Some experiments will be performed in the area of sensation and perception. Prerequisite: PSY102, PSY103 or permission of instructor.

PSY432 THE PSYCHOLOGY OF COMPUTERS AND THE INTERNET (3 CRS.)

Will examine the psychological implications of computers and their related Internet technologies on our social interactions and behaviors. Topics will include the influence of technology on our self-concept and identities, norm development in CMC and virtual communities, cyber-support, internet addiction, the influence of gender and status in our on-line social interactions and the digital divide. The course format will be 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, metabo-

lism and elimination of psychoactive drugs. The mechanism of drug action, addiction, tolerance and physical dependence for drugs of abuse and therapeutic drugs will be studied. Prerequisites: PSY103 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: PSY101 or PSY102 or senior status or permission of instructor.

PSY445 THE PSYCHOLOGY OF THINKING (3 CRS.)

Deals with the higher mental processes including problem solving, judgment, decision-making, reasoning, language and intelligence. The aim of this course is to inform the student of theories and research in these areas as well as to improve their thinking skills. Prerequisite: PSY101 or PSY102.

PSY447 MULTICULTURAL HEALTH PSYCHOLOGY (3 CRS.)

Investigates health and illness in traditionally under-represented groups. Psychological models of behavior and social interaction will be 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 will include the impact of ethnicity, gender and age on health in the United States and in a global context. Course will include 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 and PSY420 or by permission of instructor.

PSY450 CRISIS INTERVENTION (3 CRS.)

Conceptual and practical frameworks for providing crisis intervention are presented. Topics covered 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: Permission of instructor.

PSY465 HUMAN FACTORS (3 CRS.)

Focuses on the application of psychological prin-

ciples of human behavior, perception and cognition to real-world environments. Topics include: improving workplace and transportation safety, improving human-computer interaction and discussing general ways that humans can work more easily and naturally with complex technologies in today's society. Prerequisite: PSY301 or PSY305.

PSY470 LEGAL PSYCHOLOGY (3 CRS.)

Informs students about the relationship between psychology and law by introducing them to contemporary psychological knowledge as it applies to the legal system. Topics will include: psychology of evidence, social psychology of the jury, the psychologist as an expert witness, the psychology of jury selection and research methods used by legal psychologists.

PSY475 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY (3 CRS.)

Surveys the theoretical and empirical research relevant to the behaviors and experiences of individuals in relation to the human constructs called organizations and the economic activities called work. Prerequisite: PSY101 or PSY102.

PSY485 TESTS AND MEASUREMENT (3 CRS.)

Focuses on the statistical and psychological theory of tests and measurements. Prerequisite: PSY205 or permission of instructor.

PSY490 SELECTED TOPICS IN PSYCHOLOGY (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Reading

RDG050 DEVELOPMENTAL READING AND STUDY SKILLS (3 CRS.)

Designed to aid student in mastery of reading and study skills necessary for success in nearly all academic fields. Individual attention will be 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 will be based on careful diagnosis of strengths and weakness.

RDG232 READING IN THE ELEMENTARY SCHOOL (3 CRS.)

Emphasizes the nature of the reading process, general principles of instruction and translating learning theory into sound classroom practice. Participation in an educational field experience will be required.

RDG329 READING IN THE CONTENT AREAS (3 CRS.)

Offers the opportunity to view reading instruction as it applies to content areas. Specifically, course will deal with: vocabulary development, development of cognitive skills, application of the D.R.A./D.R.T.A., application of reading/study skills, test administration, interpretation and evaluation, application of research findings to reading methodology, readiness as applied to reading in the content areas.

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 will implement classroom practices in a tutoring situation with local K-8 students. Prerequisites: RDG232 and RDG334.

RDG422 STUDIES IN CHILDREN'S LITERATURE (3 CRS.)

Planned to evaluate role and importance of literature in the elementary classroom. Emphasis on critical analysis of current research in the field and the incorporation of literature within the curriculum.

RDG431 SEMINAR ON SELECTED TOPICS IN READING (3 CRS.)

Focuses on a critical and in-depth analysis of topics in reading related to the following specific areas: the reading process and methodology; research findings; evaluation of materials and techniques; and practical application of theory and research to classroom procedures.

RDG490 SELECTED TOPICS IN READING (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Social Work

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 1) understand components of effective interaction; 2) develop self awareness about your own strengths and limitations; 3) gain feedback about others' perception of you; 4) establish personal goals for growth and development; and 5) evaluate your 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 and social data as well as life cycle or situational specifics that may influence behavior. *This is a required course for all social work majors.* Is the basis of social work practice with individuals.

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. This "human behavior in the social environment lens" approach calls for students to examine their own cultural roots, learn more about other cultures/human diversities and be exposed to the role of history on present day diversity issues. Students will be asked to self investigate and identify areas where differing customs or values could have an impact upon intervention, identify their own biases and be willing to develop a reversible mind set. Course rests on the 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 op-

pressed due to racial, cultural, religion, gender or sexual orientation 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. Also provides the foundation of generic skills that are deemed applicable to all practice contexts, i.e., individual, family, group organization and communities. Range of competencies and skills covered includes, but is not limited to, the use of the ecological perspective, developing the social history, problem-solving/critical thinking, an overview of the single subject design, the four phases of the Interactional Approach to Helping Model, the Dual Perspective and service planning. These skills are studied in the classroom and made operational via classroom and lab exercises, simulated experiences and external assignments. *During the latter part of this course, a student who is successfully completing this course must apply to the Social Work Program for Professional Status in order to continue to take higher-level social work courses. Policies and application procedures are described in the Social Work Handbook.* Prerequisites: SWK102, SWK150 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 will 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.)

This practice course offers a skills foundation for generalist practice with families. As mediators with families, students will 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 orga-

nization and community systems. Builds upon the ecological/system's 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 THROUGH SWK359 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), Child Welfare (SWK352), 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 MAT170.

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.)

Provides the opportunity for the department 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 senior social work students seminars and individual consultation about the field practicum process. These will include topics about field work objectives, procedures and roles and responsibilities of all parties involved. Also 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 the establishment of a field practicum will be met through this course.

This course is required of all social work majors in the semester prior to registering for field practicum. Prerequisite: SWK270.

SWK389 FIELD WORK IN SOCIAL WORK I (3 CRS.)

Majors in social work must take all of these, (SWK389, SWK390, SWK391, SWK392 and SWK393) concurrently for a total of 12 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 spending a minimum of 450 clock hours in placement. The program outcomes are the evaluation criteria for successful completion of the field work. Prerequisites: Social work major and successful completion of all courses in the major (exception may be made to take SWK450 concurrently.) Note: *Students must have earned a C or better in all required social work courses before enrolling.*

SWK390 FIELD WORK IN SOCIAL WORK II (3 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-IV to integrate the concepts and skills constituting the program outcomes for entry-level social work practice. Emphasis is 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 is required. Prerequisites: Social work major and SWK370; SWK388.

SWK392 FIELD WORK IN SOCIAL WORK III (3 CRS.)

See SWK389 for the course description.

SWK393 FIELD WORK IN SOCIAL WORK IV (3 CRS.)

See SWK389 for the course description.

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: SWK270 or junior status.

SWK450 SOCIAL WELFARE POLICIES AND SERVICES (3 CRS.)

Presents analytical framework for social welfare policies and services analysis and formulation. Critically examines social welfare policy issues related to the context of social welfare policy analysis and current policies, programs and services. These practice areas might be: income maintenance, poverty, health and behavioral health, housing, aging, child welfare and corrections. Relates social welfare policy to social service delivery systems; social action, planning and administration; racism, sexism and pluralistic society; and alternative programs to meet social welfare needs. Prerequisites: SWK270 and PLS100.

SWK490 SELECTED TOPICS IN SOCIAL WELFARE (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Sociology

SOC101 INTRODUCTION TO SOCIOLOGY: SOCIETY AND DIVERSITY (3 CRS.)

Introduction to the discipline of sociology. Reviews basic sociological concepts, theories and research methods. Shows the 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. Course will define diversity, discuss its functional and dysfunctional consequences and analyze its relationship to social structure and culture.

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 is 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 are 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. The 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. It 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 will be 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 is on socialization and social differentiation in sport and leisure. Prerequisite: SOC101.

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 will be 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 & 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 are emphasized. Prerequisite: SOC101.

SOC346 URBAN SOCIOLOGY (3 CRS.)

Provides an analysis of the process of urbanization with major emphasis upon contemporary urban society. Approach is centered around urbanism as a way of life, with emphasis on people and their actions and relationships. Course is also concerned with social ecology, the dynamic system of spatial patterns and relationships that make up the structure of city growth. Prerequisite: SOC101.

SOC351 RACE RELATIONS (3 CRS.)

Studies sociological principles underlying race relations with emphasis on black-white relations in the United States. The concepts of race and patterns of interaction between racially and culturally diverse groups will also be 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 the 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 is on the composition, cohesion, organization and homogeneity of elites. In addition, class, education, lifestyle, political activity and deviance of elites will be explored. Prerequisite: SOC101.

SOC369 MEDICAL SOCIOLOGY (3 CRS.)

Addresses the contributions and relationships of sociology to medical and health care. Course 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. Course will examine 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, the course 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.

SOC385 INTRODUCTION TO SOCIAL RESEARCH (3 CRS.)

Deals with the 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 MAT170. *Course restricted to sociology majors and minors. Other students admitted by permission of the instructor.*

SOC386 DATA COLLECTION AND ANALYSIS (3 CRS.)

Provides students with extensive computer analysis skills and questionnaire design experience that is 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 that violence has on individual lives.

SOC410 FAMILIES AND SOCIETY (3 CRS.)

Focuses on the family as a social institution, a social process and as an interacting system. Includes emphasis on the historical development and the 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 will be included. Prerequisite: SOC101 or SOC257.

SOC415 SENIOR SEMINAR (3 CRS.)

Capstone course is required for sociology majors in their senior year. Students will review basic sociological concepts, explore career options, study current primary research, read and discuss works of contemporary social theory and apply a sociological perspective in a final paper. Evaluation includes a concepts examination, several group projects, an oral report, a written career plan and a final comprehensive essay. Prerequisite: SOC101 and senior status.

SOC425 SOCIOLOGY OF LAW (3 CRS.)

Designed to be an introduction to the study of sociology of law and also sociology in law. Course will primarily look at the legal systems of the United States, the primary actors in those legal systems, the social/cultural contexts in which laws exist and are created and how laws both reflect and affect the social structure. Course is not designed to be a law course in the law school sense. Rather this course examines and applies sociological theories, concepts and research to a particular arena of the social structure—laws and legal systems. Prerequisite: SOC101 and junior status.

SOC450 CLASSICAL SOCIAL THEORY (3 CRS.)

Provides a critical and comparative study of the development of sociology, giving historical backgrounds and focusing on 19th century, European theorists. Prerequisite: SOC101.

SOC452 CONTEMPORARY SOCIOLOGICAL 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 will also be reviewed. Prerequisite: SOC450.

SOC490 SELECTED TOPICS IN SOCIOLOGY (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Spanish

SPN101 BEGINNING SPANISH I (3 CRS.)

Designed for students who have never studied the language before. Both textbook and authentic

materials will be used to enable students to express themselves on personalized topics.

SPN102 BEGINNING SPANISH II (3 CRS.)

Continuation of SPN101. Both textbook and authentic materials will be 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 will be 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 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 will also be given to the Hispanic civilization and culture of the Americas.

SPN202 INTERMEDIATE CONVERSATION (3 CRS.)

Training in speaking everyday Spanish by means of daily prepared speeches, free discussion and real language practice including listening to authentic recorded Spanish conversations. Practice in pronunciation and intonation patterns will be provided. Prerequisite: SPN103 or department placement.

SPN204 IDEAS AND CULTURES FROM THE SPANISH-SPEAKING WORLD (3 CRS.)

Introduction to Spanish and Latin American cultural studies. In addition, it will introduce students to the richness and diversity of the Hispanic cultures from their inception to the present. A wide selection of themes will reveal the political, social and artistic components that contributed to the unique cultural development of the Hispanic countries. Prerequisite: SPN103 or department placement.

SPN260 INTRODUCTION TO LITERARY STUDIES (3 CRS.)

Introduces and develops the knowledge of different literary movements and genres (drama, fiction, poetry) within Hispanic literature. Such components as plot, structure and style of narrative will be analyzed and evaluated and written assignments will focus on the recognition of these components. Prerequisite: SPN202, SPN204 or permission of instructor.

SPN302 ADVANCED SPANISH CONVERSATION (3 CRS.)

Offers additional practice in conversational Spanish with an emphasis on the more abstract cultural conflicts and the like. Recommended for juniors and seniors who have completed the majority of their Spanish courses. 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 SPANISH GRAMMAR (3 CRS.)

Designed to present a thorough and systematic survey of Spanish grammar to students who have completed the intermediate level of training. Prerequisite: SPN202, SPN204 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 COMMERCIAL SPANISH (3 CRS.)

Emphasizes skills in communication in the daily world of business; commercial correspondence, report writing, orders, complaints, telephone messages, banking and insurance problems, as well as oral practice in meeting and entertaining associates or visitors from abroad. Prerequisite: SPN202, SPN204 or permission of instructor.

SPN360 MASTERPIECES OF SPANISH LITERATURE (3 CRS.)

Designed to pursue selective readings of Spanish 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 in their cultural context. Prerequisite: SPN202, SPN204, SPN260 or permission of instructor.

SPN361 MASTERPIECES OF SPANISH-AMERICAN LITERATURE (3 CRS.)

Designed to pursue selective readings of Spanish-American literature from the Pre-Colonial 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 in their cultural context. Prerequisite: SPN202, SPN204, SPN260 or permission of instructor.

SPN385 ASPECTOS DE LA CIVILIZACIÓN HISPANA (3 CRS.)

Seeks to enhance an understanding of and an appreciation for the many cultures that comprise the Spanish-speaking world. Focuses on important historical, political, social and artistic events and figures that made significant contributions. Prerequisite: SPN202, SPN204 or permission of instructor.

SPN400 SEMINAR: ADVANCED STUDIES IN SPANISH LANGUAGE AND LITERATURE (3 CRS.)

Detailed examination of specific aspects of Spanish literature; authors, genres, literary and philosophic schools and linguistic problems such as translation and dialects. May be taken more than once provided a specific topic is not repeated. Prerequisite: Permission of instructor.

SPN420 THEORY AND PRACTICE OF TRANSLATION (3 CRS.)

Introduces students to various types and tools of translation and provides extensive practice in translating technical, commercial, diplomatic and literary materials. In addition to practice in written translation of Spanish to English, other elements of the translation field, such as interpretation, adaptation and subtitling will be discussed. Prerequisite: Permission of instructor.

SPN490 SELECTED TOPICS IN SPANISH (3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses. May be taken more than once provided a specific topic is not repeated. Prerequisite: Permission of instructor.

Speech

SPE100 BASIC ORAL COMMUNICATION (3 CRS.)

Assists the student in developing effectiveness in the speaking-listening situation. Emphasis is on a conversational style of speaking suitable for communicating with an individual or a group. Acceptable diction and knowledge of the communication process are also stressed.

SPE104 INTRODUCTION TO INTERPERSONAL COMMUNICATION (3 CRS.)

Explores communication concepts, attitudes and skills in informal and formal conversational situa-

tions. Emphasis is on practical knowledge on the ways in which people use human communication to build and maintain relationships.

SPE105 INTRODUCTION TO HUMAN COMMUNICATION (3 CRS.)

Fundamental examination of human communication from rhetorical, oral communication theory perspectives. Included are explorations into the process, myths, effects, ethics and criticism of this pervasive phenomenon. Students analyze interpersonal, group, public and mass communication to discover how these operate to become vital to daily living.

SPE160 INTRODUCTION TO 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 culture. A primary objective is the improvement of interactive skills of students and the development of sensitivity toward individuals of other groups and cultures. Additional hours will be scheduled.

SPE200 DISCUSSION (3 CRS.)

Emphasizes discussion as both a problem solving technique and as a means of enlightenment. Areas explored include the analysis and practice of group and leadership roles with emphasis on student initiative and participation.

SPE205 INTERVIEWING (3 CRS.)

Surveys the human communication process of information and opinion sharing and seeking. Students undertake training in formulating and responding to various interviewing procedures then apply this skill to interview situations including information-gathering interviews, problem-solving interviews, employment interviews.

SPE255 SPEECH CRITICISM (3 CRS.)

Examines the process of analysis and evaluation of speeches, including the steps involved in criticism, the tools of analysis and evaluation available to the critic, as well as the different approaches to criticism advanced in recent years. The student will receive practical application of the methodology by criticizing rhetoric using several tools and methods.

SPE256 AFRICAN-AMERICAN COMMUNICATION (3 CRS.)

Examines the body of oral discourses, styles and traditions of African-Americans and provides

a foundation for understanding the nature and power of the generative spoken word. A student develops appreciation for communication theory through the rhetoric of resistance to the human condition of oppression. Afrocentric communication theory and analysis provide the foundation for exploration of African-American rhetoric. Masterpieces from this body of discourse are sampled.

SPE313 COMPUTER-MEDIATED COMMUNICATION (3 CRS.)

Theoretically, this course discusses the effect of computer-mediated communication on issues such as human relationships, privacy, identity, gender, pornography, ethics, democracy and religion. Practically, this course teaches the learners to create and apply some basic computer-mediated communication instruments such as web page composition (including graphics, different types of links and using tables for page configuration), web form construction, special uses of the electronic mail, discussion bulletin board and the TeleWeb.

SPE334 WOMEN SPEAKERS IN AMERICA (3 CRS.)

Brings to critical attention and discussion the public speeches of outstanding American women from the 1600s to the present. Course will also focus on some of the dominant reform movements and events in American history that brought these women to the forefront. Students will examine the historical and rhetorical contributions of significant women speakers providing a view of women's roles in advocating social, moral, cultural, economic and political change in America.

SPE351 PUBLIC SPEAKING (3 CRS.)

Emphasizes effective preparation and delivery of speeches to a group. Advanced instruction is given and practice is provided in logical organization of the speech and analysis of the audience, the speaker, the occasion and the topic.

SPE355 GENDER & COMMUNICATION (3 CRS.)

Assesses 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 sphere) and how this division becomes the basis for the gender roles our culture prescribes. Through the lectures, discussions, group projects and research, the student develops an awareness of how cultural prescriptions for gender roles come to bear upon perception and judgment of others and the development of self-concept.

SPE356 CONTEMPORARY AFRICAN-AMERICAN PUBLIC ADDRESS (3 CRS.)

Emphasizes biographical-historical-critical analysis of significant speeches by African-American women and men from the 1940s to the present. Included are public addresses by such rhetors as W.E.B. DuBois, A. Phillip Randolph, Walter White, Roy Wilkins, Benjamin Hooks, Thurgood Marshall, Martin Luther King, Jr., Whitney M. Young, Norman Hill, Stokely Carmichael, Huey Newton, James Forman, H. Rap Brown, Eldridge Cleaver, Bayard Rustin, Angela Davis, Malcolm X, Shirley Chisholm, Barbara Jordan, Jesse Jackson, Eleanor Holmes Norton, Louis Farrakhan and others.

SPE358 AFRICAN-AMERICAN PUBLIC ADDRESS (3 CRS.)

Emphasizes biographical-historical-critical analysis of significant speeches by African-American women and men up to the 1940s. Included are public addresses by such rhetors as Richard Allen, Sojourner Truth, David Walker, Henry Highland Garnet, Frederick Douglass, Maria W. Stewart, Morris Brown, Daniel Payne, Booker T. Washington, Ida B. Wells-Barnett, W.E.B. DuBois, Marcus Garvey, Mary Church Terrell, Mary McLeod Bethune, Benjamin E. Mays, A. Phillip Randolph, Charlotte Hawkins Brown and others.

SPE373 POPULAR CULTURE AND GENDER CONSTRUCTION (3 CRS.)

Examines the impact the agents of popular culture have on the construction of gender ideals. Television, cinema and popular music will be the focus on exploring the ways females and males are portrayed and how the images serve as role models for mass audiences.

SPE374 FEMINIST PERSPECTIVES ON COMMUNICATION THEORY & METHODS OF RESEARCH (3 CRS.)

Examines 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 which is masculine biased. Traditional understanding of the interaction process in different communication contexts as well as the role of the researcher in assessing communicative encounters will be deconstructed on the basis of the insights gained through diverse feminist perspectives. Alternative approaches to communication studies will be laid out.

SPE375 RESOLVING CONFLICT THROUGH COMMUNICATION (3 CRS.)

Develops communication skills that assist in the settlement of disputes. Communication tech-

niques such as listening, interviewing, responding and persuading are reviewed and applied to conflict situations. These skills are applied to non-adversarial methods of conflict resolution such as interest-based negotiation and third-party mediation. Prerequisites: Basic oral communication, one additional course in speech communication skills and junior standing.

SPE380 SEMINAR IN SPEECH (3 CRS.)

Advanced study in selected areas of the field of speech. Admission by advisement only.

SPE393 SELECTED TOPICS IN SPEECH (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

SPE394 INTERNSHIP IN SPEECH COMMUNICATION I (3 CRS.)

Offers a planned program of full- or part-time work in a field related to speech communication to supplement classroom study. Work content must be given prior approval by the department chair and the dean and be supervised by a faculty member. Prerequisites: Open to speech communication majors and minors with junior status and at least 12 credits completed in the major or minor, 2.5 QPA in major and 2.5 QPA overall.

SPE397 INTERNSHIP IN SPEECH COMMUNICATION II (3 CRS.)

Provides opportunity to gain additional experience through an internship. If taken with the same organization as THE394, at least 25% of the work duties must be new or involve increased responsibility. Prerequisite: THE394.

SPE402 ORAL COMMUNICATION THEORY (3 CRS.)

Emphasizes the theories developed by speech specialists and social scientists dealing with oral communication, its reception and its effects. Units such as listening, audience analysis, psychological factors in persuasion, teaching and learning through oral communication, selective perception and retention and teaching effective oral communications are covered.

Teacher Education

TCH160 CHILD DEVELOPMENT (3 CRS.)

Considers the processes of the growth and development of young children from birth through

the early school years as well as the implications these processes have for the education of young children. Presents techniques for observing and recording observational data. Regularly scheduled observations in an early childhood setting required.

TCH205 THE AMERICAN SCHOOL (3 CRS.)

Focuses on the contemporary school. Introduces in perspective philosophies, functions and structures that have shaped American education. Examines present educational practices and conceptions of learning as they relate to changing scientific, social and technological realities. Studies American youth in relation to the school, the world of work and contemporary diversity in ethical and aesthetic positions. Some of the most disturbing issues confronting the American school are defined and analyzed.

TCH250 ELEMENTS OF INSTRUCTION (3 CRS.)

Emphasis will be on introducing undergraduate students to current validated instructional models of teaching, developing technical skills needed for effective classroom management. The teacher as decision maker and growing professional will be stressed. Theoretical and practical applications to the classroom will be presented.

TCH255 MULTICULTURAL ISSUES & STRATEGIES IN BASIC EDUCATION (3 CRS.)

Examines topics and methodologies for development of instructional strategies that promote multicultural content with existing curricula. Topics will include cross-cultural communication through education, cultural influences in learning and assessment. Techniques for teaching LEP (Limited English Proficient) and ESOL (English for Speakers of Other Languages) students will also be explored.

TCH260 EDUCATIONAL PSYCHOLOGY (3 CRS.)

Focuses upon dynamic learning situations. Alternative theories of the learning process are reviewed with attention given to the application of behavioral and cognitive techniques in the classroom, agency or industrial teaching program. Topics examined include problem solving and creativity, retention and transfer of knowledge, individual differences and human abilities and motivational theory. Prerequisite: PSY101 or PSY102.

TCH303 BOOKS & 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.

TCH321 LANGUAGE AND READING IN THE ELEMENTARY SCHOOL (3 CRS.)

Designed to explore the curriculum in language arts to acquaint students with how children learn language and to identify appropriate strategies and materials for use in teaching oral and written language in its many forms. Classroom participation on an assigned basis.

TCH341 MATHEMATICS IN THE ELEMENTARY SCHOOL (3 CRS.)

Acquaints students with the characteristics of a modern program in elementary mathematics. Emphasis is on the structure of our system of numeration, learning by discovery and provision for the great range of ability in a class. Students are alerted to ways in which conventional arithmetic may be greatly enriched and strengthened by applying the basic laws, principles and set terminology clearly defined and effectively used in modern mathematics. Methods of mathematical thinking as well as the basic concept of mathematics are explored. Classroom participation on an assigned basis.

TCH345 ASSESSMENT & EVALUATION STRATEGIES (3 CRS.)

Explores concepts of assessment in all areas of teaching. Specifically focuses on assessment of language/communication skills as a basis for an understanding of diagnostic processes.

TCH346 SCIENCE IN THE ELEMENTARY SCHOOL (3 CRS.)

Introduces prospective teachers to the organization of science in the elementary schools, strategies and methods of science teaching, evaluation methods, acquisition and use of materials and planning lessons. Students will have first-hand experience with new curricula, textbooks and environmental issues. Emphasis is on the selection and use of activities to promote learning of science concepts, processes and attitudes. Classroom participation on an assigned basis.

TCH347 SOCIAL STUDIES IN THE ELEMENTARY SCHOOL (3 CRS.)

Surveys contemporary and traditional teaching methods and strategies as they relate to the various social sciences. Stresses the incorporation and evaluation of a rich variety of instructional materials that can be utilized in unit teaching. Includes ways of individualizing a social studies program as well as small group instruction. Explores current topics including cultural diversity,

values, career education, environmental education and consumer education. Classroom participation on an assigned basis.

TCH393 SELECTED TOPICS IN ELEMENTARY EDUCATION (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

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 will be discussed along 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 the 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 a 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.

TCH475 INCLUSIVE EDUCATION: A PRACTICAL APPROACH FOR EDUCATORS (3 CRS.)

Designed to prepare general and/or special educators to effectively teach students with disabilities in general education settings. Practical guidelines, strategies, methods, adaptations and materials including definition, standards, classroom organization/management and collaborative consultation will be emphasized to meet the academic, social and affective needs for students with disabilities in inclusive settings. Prerequisite: EEC411 or permission of instructor.

TCH490 SELECTED TOPICS IN ELEMENTARY EDUCATION (1-3 CRS.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Theater

THE121 INTRODUCTION TO THE THEATRE (3 CRS.)

Introduces theater as an art form. Designed to stimulate a taste for theater, improve standards for critical judgment, consider theater's relation to allied arts and provide an understanding of the part it plays in the social and cultural development of civilization.

THE123 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: SCENE STUDY (3 CRS.)

Provides an introduction to scene study and textual analysis. Students will present scenes from modern and contemporary dramatic literature. Course will also study the theories behind a variety of methodologies. Specific acting techniques will be examined.

THE229 INTRODUCTION TO TECHNICAL PRODUCTION (3 CRS.)

Introductory course in technical theatre. Area of studies include stagecraft, scenery design and basic lighting design. Students are also expected to engage in technical laboratory work as part of whatever supervised extracurricular activity is functioning at the time. Such involvement is to be 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 are expected to engage in evening histrionic laboratory work as part of whatever supervised campus extracurricular theatrical activity is functioning at the time. Such involvement is to be considered a part of the student's grade.

THE324 THEATRE PRACTICUM (3 CRS.)

Requires the theater student to perform and to supervise work production areas and 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. Students electing a theatre minor must earn at least one credit hour of their practicum in both performance and production work. The remaining two credits may be in either concentration.

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 are expected to engage in evening technical laboratory work as part of whatever supervised campus extracurricular theatrical activity is functioning at the time. Such involvement is to be considered a part of the student's grade.

THE329 THEATER HISTORY (3 CRS.)

Survey of the history of the theater from its roots to current times. Course will investigate the origins of theater 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.

Women's Studies

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. The goal is to better understand women in our pluralistic society—how America shapes women and how women shape America. Course will examine 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 will be given to African-American women, Asian-American women, Native American women, Hispanic women and women of European ethnic groups. To encourage students to consider their own cultural identities, as well as appreciate human diversity, we will learn how our lives connect with the lives of women around us. 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. To do so, this seminar 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 are encouraged to interrelate their lives and major field of study with what they have learned in Women's Studies. Since WST100 focuses on American women, students in WST300 are encouraged to take cross-cultural approaches to women's issues. The class 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, we will consider women's issues, women's lives and our own lives. Students will have the opportunity for creative representation, for example by writing a story, making a film, designing an art project, etc. Students may also do a project involving community service. Prerequisites: WST100 plus 6 elective hours in Women's Studies or permission of the instructor.

WST390 INTERNSHIP IN WOMEN'S STUDIES (3 CRS.)

The internship must be approved by both the student's major department and the Women's Studies Minor director.

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 students in nine residence facilities. Of the nine, seven are traditional residence halls, one is a facility featuring a suite configuration, and one is an apartment building. 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.

Absent special individual circumstances or general policy exceptions, all entering first year and transfer students with fewer than 30 credits are required to reside in campus housing. The exceptions to this standard are those students who reside full-time within the home of their parents or legal guardians, those who are 21 years of age or older, and those who are legally married. A student who either chooses or is required to live in campus housing is obligated to reside there for the entire academic year. Those students who live in campus housing, with the exception of those living in the apartment building, are required to enroll in one of the required campus food service plans. Furthermore, all students living in 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 that they will be able to live in campus housing throughout their tenure at the university.

For more detailed information concerning campus housing, please visit the Office of the Dean of Students area of the Shippensburg University website at www.ship.edu.

Student Services

Health Services

University Health Services is located at the Etter Health Center on the east edge of campus next to the water tower, between the Reisner Dining Hall and Seavers Apartments. It is open 24 hours a day, seven days a week when school is in session. Hours may vary during semester breaks and holidays. When the Etter Health Center is closed, students in need of medical attention should contact the University Police who will notify Health Center personnel. The nursing staff is on duty 24 hours a day. Health care services are provided by registered nurses, a licensed medical and osteopathic physician, a physician's assistant and a registered nurse practitioner providing reproductive health services. The physician has daily hours in the health center; he is also on-call for emergencies at all other times. Students with questions regarding health services should call ext. 1458.

Full-time undergraduate and graduate students pay a Health Center Fee which entitles them to services performed at the health center without charge, including a limited variety of medications. However, charges for any services that must be done elsewhere are the student's responsibility. University faculty and staff, part-time students, conference participants, visiting athletes, and other visitors will be given treatment on an emergency basis only. Limited lab tests are performed at Health Center without charge, but charges for X-rays or tests be performed elsewhere are the student's responsibility. In the case of a serious medical emergency that requires treatment beyond the capabilities of the Etter Health Center, students will be transported by ambulance to an area hospital. Any charges for either an ambulance or paramedic service are not the responsibility of Shippensburg University. We recommend students purchase health insurance coverage because an uninsured injury or sickness may impair the student's ability to continue her or his education due to financial hardship. An insurance policy is available through Shippensburg University. For more information on the Student Insurance Plan, please contact the Etter Health Center.

Athletic insurance coverage, which is provided through the Department of Athletics, applies only to varsity athletes in that specific sport during that particular season. Athletes should have their own coverage for other periods of the year,

and for accidents which occur outside of their varsity sport. Students involved in any extracurricular or intramural activities are strongly encouraged to have their own health coverage.

Etter Health Center is primarily an outpatient facility, but if a student's illness warrants a short stay in the Health Center, beds are available for nursing care and observation. Etter Health Center will cooperate within the limits of its services to provide any continuing treatment recommended by the students' family physicians who has previously spoken with the Medical Director.

Insurance

An insurance company offers students insurance which covers the student from August 15 through August 15. The student insurance is also available for the summer sessions.

The Student Insurance Plan supplements the university health program by protecting the student from some of the expenses of the more costly illnesses and injuries requiring hospital care, surgical treatment, X-ray examinations, or consultant's services. Rates and detailed information can be secured through the Etter Health Center. This plan or a similar plan should be purchased if the student is not covered by parental plans.

Counseling Services

A comprehensive program of counseling/psychological services is available to all students in attendance at the university. Counseling is intended not only to provide help for students with clearly identified problems, but also to facilitate individual growth and development to supplement the process of education. Services provided include: 1) short-term individual, couples, and group counseling/therapy; 2) crisis intervention, including after-hours crisis coverage; 3) psychiatric services; 4) career exploration including vocational and interest inventories; 5) outreach programming to residence halls and other student service areas; 6) consultation to university community and concerned others; 7) referral to off-campus mental health agencies when appropriate. The existence of a fully staffed counseling center is one tangible indication of the university's concern for the total development of its students.

The University Counseling Center is fully accredited by the International Association of Counseling Services, Inc. It is located on the first floor of Wright Hall and may be contacted at 488-1481.

Career Development Center

All students are encouraged to explore career options throughout their educational experience. By investigating their interests and abilities continuously, students are better prepared to make appropriate career decisions regarding their education and eventual employment.

The staff provides students with assistance in career planning (i.e., DISCOVER program) in collaboration with the Career Education Program, and developing job search strategies such as resumé writing, professional correspondence, and interviewing skills. The *Ship Career Connection* newsletter keeps the student educated on general career topics and recruitment information. Interviews with employers are arranged on campus and throughout consortia job and internship fairs. Reference files may be established at the Career Development Center, which are distributed upon request. Students can ascertain additional information about career planning through the resource library located in the center or by visiting the center's website at www.ship.edu/career. The homepage affords the student an easy access to a wealth of information especially in finding employment in both the private and public sector as well as information on graduate schools. The CDC mission is to assist students in the development, evaluation, and implementation of their career plans and searches. Stop by our office in the CUB to see how we can help you on your career path. Interested individuals may obtain detailed information regarding programs, events, and services by contacting the CDC at 477-1484.

Career Education is involved with the instructional and counseling roles related to the career process in and out of the classroom. A career planning orientation is offered to first year students to inform them about available career resources and to involve them with career assessment and exploration early during their collegiate life. Computer programs, along with other resources, are used to aid students in their career decisions. Students should call 477-1054 to obtain more detail and to schedule an appointment.

Women’s Center

The Women’s Center (located in Horton Hall) provides a wide variety of opportunities and support services for students. The center sponsors programs, small group discussions, activities, and speakers, in addition to providing a peer referral service, meeting room space, and information about women’s issues as well as campus and community events. An attractive lounge area provides a relaxing place for students to gather for conversation, study, or just to get away from it all.

Multicultural Student Development Center

The Multicultural Student Development Center (located in Gilbert Hall 200), is a student-centered office that assists groups such as the African-American Organization, Minority Affairs A.P.B., the Latino Student Organization, Cultural Differences Committee, and others with program development and implementation. The office serves as a focal point and resource for faculty, students, and others. MSDC also serves as a liaison with areas such as financial aid, residence life, career development, and academic departments. The office strives to expose students to individuals and experiences that will enhance their awareness of self and culture. It works to improve the quality of life for all students enrolled at the university.

Religious Life

During orientation, incoming students are requested to complete a religious preference sheet which are 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 Inter-faith Chapel. In addition, various student religious organizations—Christian Fellowship, and the Jewish Student Organization—are open to the campus community.

Child Care

The university offers child care through the Learning and Day Care Center on the Shippensburg University campus. Located in Grace B. Luhrs University Elementary School at the edge of campus, the facilities are designed for children. The facility offers structured activities designed and led by state certified teachers as well as plenty of free play supervised by caring, fully trained assistant teachers and aides. Programs are tailored to four age ranges and children are encouraged to participate at their own level without pressure to conform to some predetermined pattern. Age ranges are: Toddlers (18-36 months), pre-schoolers, kindergarten, and grade school children. Students enrolled at Shippensburg University are eligible to make use of the child care facility. For information call 717-477-1792.

Tuition and Fees

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

Summary of Costs

*Fees Per Semester 2004–05
(Pennsylvania Residents)*

COMMUTING STUDENTS

Tuition	\$2,405.
Technology Fee.....	50.
Student Activity.....	100.
Student Recreation Fee.....	20.
Student Union Fee.....	102.
Health Services Fee	76.
Educational Services Fee	240.
Total.....	\$2,993.

RESIDENCE HALL STUDENTS

Tuition	\$2,405.
Technology Fee.....	50.
Student Activity.....	100.
Student Recreation Fee.....	20.
Student Union Fee.....	102.
Room and Board**	2,637.
Health Services Fee	76.
Educational Services Fee	240.
Total.....	\$5,630.

OFF-CAMPUS STUDENTS

Tuition	\$2,405.
Technology Fee.....	50.
Student Activity.....	100.
Student Recreation Fee.....	20.
Student Union Fee.....	102.
Board*	1,042.
Health Services Fee	76.
Educational Services Fee	240.
Total.....	\$4,035.

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

**Based on 15 meal plan; other plans are available.

***Fees for Summer Sessions 2005
(Pennsylvania Residents)***

Fees and due dates are subject to change.

Tuition – per credit	\$200.
Consolidated fee – per credit.....	44.
Technology fee.....	25.
Room – 3 weeks.....	297.
5 weeks.....	495.
Board – 3 weeks.....	192.
5 weeks.....	320.

Payment of Fees

The fees for each student are payable in advance as indicated below. Payment by check or money order is preferred. Unless otherwise indicated, all checks shall be made payable to Shippensburg University of Pennsylvania. **Do not send cash by mail.** To be admitted to classes, the dining halls, or any university activity, each student must be in possession of a valid identification card.

Payment of Fees for 2004–2005	
<i>Semester</i>	<i>Payments Due</i>
First.....	August 16, 2004
Second.....	December 17, 2004

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

Tuition for Pennsylvania Residents

A basic fee of \$2,405 per semester will be charged to each full-time student (**all fees subject to change**). Students taking 11 or fewer credit hours per semester shall pay at the rate of \$200 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 \$200 per credit for all hours over 18.

Summer session basic fee shall be \$200 per credit hour for all Pennsylvania residents.

Full-time undergraduate students taking graduate courses within the 12-18 semester credit hour range pay the full-time undergraduate rate; undergraduates taking graduate courses beyond 18 SCH pay the graduate rate for each such course.

Part-time undergraduate students taking a mix of undergraduate and graduate courses pay at the undergrad rate and the grad rate respectively for any combination of courses short of a total of 12 SCH. If the combination of courses falls into the 12-18 SCH range, the full-time undergraduate rate is charged.

Out-of-State Students

Full-time students whose legal residence is not in the state of Pennsylvania shall be charged an out-of-state basic fee of \$6,013 per semester in addition to all other fees. Students taking more than 18 credit hours shall pay the out-of-state basic fee plus \$501 per credit hour over 18.

Out-of-state students who are part-time campus students shall be charged a basic fee of \$501 per credit hour and other applicable fees. Summer sessions fees are \$501 per credit hour. Fees and due dates are for the 2004–2005 year 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

The room and board fee for students is currently \$2,637* per semester. All students residing in the residence halls must pay the room and board fee. The fee for the five-week and three-week summer sessions is currently \$815 and \$489 respectively.

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.

**Based on a 15 meal plan. Fees subject to change.*

Student Activity Fee

This fee is collected from all undergraduate students and is administered through the Student Association 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 \$100 per semester for students taking 12 or more credits and shall be paid in advance. Students taking 1-6 credits and 7-11 credits pay \$41 and \$71 respectively. The summer activity fee is \$7 per credit.

Fees are subject to change.

Student Recreation Fee

This fee is collected from all undergraduate students and is administered through the Student Association under regulations approved by the Council of Trustees. This fee is used to fund the bond and maintenance of the indoor weight room in Heiges Field House 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 \$20 per semester for students taking 12 or more credits; \$15 per semester for 7-11 credits; and \$10 per semester for 1-6 credits; and shall be paid in advance.

The summer recreation fee is \$2 per credit.

Student Union Fee

State law and policies of the Board of Governors of the State System of Higher Education require the cost of constructing the original Cumberland Union Building and its addition 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 \$102 per semester for undergraduates taking 12 or more credits; \$76 per semester for 7-11 credits; and \$51 for 1-6 credits. The summer student union fee is \$9 per credit.

Health Service Fee

A health service fee of \$76 per semester will be charged to each full-time student to support the student health center and its programs.

The summer health services fee is \$6 per credit.

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 \$240 per semester for students taking 12 credits or more. Students taking 1-11 credits pay \$20 per credit.

The summer educational services fee is \$20 per credit.

Technology Fee

This fee is established by the Board of Governors of the State System of Higher Education. Purposes of the technology tuition fee are: 1) to acquire, install, and maintain up-to-date and emerging technologies for the purpose of enhancing student-learning outcomes; 2) to provide equitable access to technology resources; and 3) to ensure State System graduates are competitive in the technologically sophisticated workplace.

The technology tuition fee is not a user fee, but is instead 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 \$50 in-state and \$75 out-of-state. Part-time students are charged \$25 in-state and \$38 out-of-state. The summer technology tuition fee is \$25 per session in-state, \$38 per session out-of-state, not to exceed the full-time rates of \$50 and \$75 respectively for all summer sessions.

Special Fees

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

Application Fee

An application fee of \$30 for students seeking admission or readmission to the university shall accompany the application for admission. This fee is to cover processing the application and is not refundable. A check or money order for the amount should be made payable to Shippensburg University of Pennsylvania.

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 \$5 per semester per residence hall student will be charged.

Degree Fee

A fee of \$25 shall be paid by each candidate to cover the cost of the diploma.

Bad Check Fee

A fee of \$15 may be charged for each check which is not honored by the payer's bank.

Credit by Exam Fee

An administrative fee of \$25 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 completing registration or requesting a change of course or courses after the date officially set for registration may be required to pay a late registration or change of course fee of \$25.

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 intention of the applicant 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.

New students who submit a written request to the Dean of Admissions to cancel their application for admission by June 1 for the fall semester or December 1 for the spring semester, shall receive a refund of \$50 of the advance registration deposit.

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 \$100 deposit. New students will pay the deposit when they are approved for admission to the university. This \$100 deposit will be an advanced 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 \$100 deposit.

A refund of this \$100 deposit will be allowed only if the student is dismissed from the university for academic reasons.

A refund of \$50 will be given if the housing reservation is cancelled before June 1, through the Office of the Dean of Students. Cancellations must be in writing.

New students who cancel their application for admission and submit a written request to the Dean of Students to cancel their room confirmation before June 1 for the fall semester or before December 1 for the spring semester, shall receive a refund of \$50 of the residence hall room deposit.

Refunds or Credits to Students

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

Refunds will be made to students withdrawing from the university in accordance with procedures set forth elsewhere in this catalog, except for students who are suspended. Refunds are not authorized for temporary absences. 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. If refund requests are not made within four weeks after the end of a semester, all rights to refunds are forfeited. Refund requests will also be considered from those part-time students who reduce their credit hour load within the adjustment period. Date of withdrawal is the date the college dean approved withdrawal.

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 classes or from the University. The policy is mandated by the Board of Governors of the State System of Higher Education.

Fall and Spring Semesters:

Tuition and Fees

0-1 day	100%
1st week	90%
2nd week	80%
3rd week	70%
4th week	60%
5th week	50%
6th week	0%

Room and board charges are prorated through the 10th week. Unspent flex dollars, less a \$10 administrative charge, are refunded through the 10th week.

Summer Sessions:

Tuition, fees, room, & board

	3-Week Session	5-Week Session
0-1 day	100%	100%
1st week	90%	90%
2nd week	25%	50%
3rd week	0%	25%
4th week	—	0%
5th week	—	0%

The refund schedule assumes that the student account is paid in full and that 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 withdrawal date. 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 Stafford Loan
2. Federal Subsidized Stafford Loan
3. Federal Perkins Loan
4. Federal Parent PLUS Loan
5. Federal Pell Grant
6. Federal SEOG

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

Information concerning the detailed application of the refund policy can be obtained by contacting the Student Accounts Office.

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

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 which 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 and dates 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 institutional funds and student employment. Students should allow for a 3-6 week processing delay, and are advised to complete the FAFSA by March 15. Late applications will be processed only after all on-time applicants have been reviewed.

Academic Progress

Federal regulation require students to make satisfactory academic progress towards 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 Stafford Loan, and Federal PLUS Loan. At Shippensburg University, in order to make satisfactory academic progress for financial aid purposes, a full-time student must complete 24 new** credits per year and maintain a 1.7 cumulative QPA as a freshman, and a 2.0 cumulative QPA as a sophomore, junior, or senior. A part-time student must meet identical minimum QPA requirements, and must complete 75 percent of all attempted credits each year.

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 a two half-time awards are awarded in a year, the student must complete at least 12 new credits in that year).

Students will be notified at the close of spring semester if financial aid eligibility is terminated due to unsatisfactory academic progress. The student may resolve the situation by taking summer courses, or if extenuating circumstances exist, may file an appeal to have eligibility for federal funding reinstated. Awards will be made based on the availability of funds at the time of reinstatement.

***Repeated courses count as new credits only if the student originally received an "F" in the course. Courses with a previous grade of "D" do not count as new credits unless the course catalog specifically states that a higher grade is required for a prerequisite or major.*

Student Employment

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

Part-time employment opportunities on campus are available through the Federal and Commonwealth work programs. Students with demonstrated financial need 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, classes, residence halls, and on the campus grounds.

If a student is interested in employment, a job application (available in the Financial Aid Office) should be completed by May 1 of the upcoming academic year. *Reminder: A Free Application for Federal Student Aid must also be filed by the appropriate deadline for a student to be eligible for Federal student employment.*

Additional employment opportunities are available through the food service and the Student Association in the Cumberland Union Building are not administered through the Financial Aid Office. Students should apply for jobs through those organizations directly.

Summer Work

The Financial Aid Office administers a summer work program for current students seeking full- and part-time employment on- or off-campus during the summer. Applications for this program may be picked up in the Financial Aid Office after March 1.

Grants and Loans

PHEAA State Grant

PHEAA State Grants are awarded to students who are Pennsylvania residents. Awards vary from \$100 to \$3,300. At the state universities, the amount of the award may not exceed 80 percent of tuition costs.

Students may apply for the State Grant by completing the FAFSA by PHEAA's May 1 deadline. Information from the FAFSA will automatically be released to PHEAA unless the student indicates otherwise on the application. After the initial application is filed, students and parents should respond to the PHEAA Grant Division if additional information is required for the State Grant application.

Federal PELL Grant

The Federal Pell Grant is awarded based on a federal formula using the information provided on the Free Application for Federal Student Aid (FAFSA). Awards vary from \$200 to \$4,050 depending on financial need.

Federal Supplemental Educational Opportunity Grant (SEOG)

A limited amount of additional funds from the SEOG program are available for students with high financial need. The information provided on the FAFSA will be used to determine student eligibility. Awards vary from \$300 to \$800 based on financial need and fund availability.

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 from \$600 to \$3,200 per academic year, depending on financial need and fund availability.

Federal Family Education Loan Program

Federal Stafford Loan

The Federal Stafford Loan is available for students through participating lenders and credit unions. There are two types of Federal Stafford Loans: subsidized and unsubsidized. The subsidized loan is interest-free while the student is in school, and is awarded based on financial needs. 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 Stafford Loan per academic year is \$2,625 for freshmen, \$3,500 for sophomores, and \$5,500 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.

Federal PLUS Loan

The Federal Parent Loan for Undergraduate Students is available for parents of undergraduate students through participating lenders and credit unions. A parent may borrow up to the cost of attendance less any other financial aid received. It is a variable interest rate loan on which the parent must begin repayment 60 days after it is disbursed.

Application Process

To apply for a Federal Stafford and/or PLUS loan, the student/parent should apply on-line at www.aessuccess.org or contact the Financial Aid Office for an application. If you are using a guarantee agency other than American Education Services Group (AES), you should submit the paper application to the Financial Aid Office directly.

The amount borrowed will be issued via electronic funds transfer or check made copayable to the borrower and Shippensburg University. 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 Stafford Loan program.

Disbursement Process

As per Federal Regulations, the school is required to delay the first disbursement of a first-time borrowers Federal Stafford Loan 30 days after the beginning of the semester. Federal loans funds will be disbursed either via Electronic Funds Transfer (EFT) or paper check. A borrower will be notified by the school when a disbursement is made to her/his account and whether a refund is available at that time. Disbursements of federal loans will be made as early as 10 days prior to the beginning of the semester, except in the case of a first-time borrower.

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 Deborah Lee, R.N., *Nurse*
 Adrienne L. Miller, R.N., *Nurse*
 Mary D. Shirley, R.N., *Nurse*
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 Michelle M. Day, M.A., *Assistant Director of Student Activities*
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 Chad Bennett, M.A., *Assistant Director of Camps & Conferences*
 Cathy M. Parson, *Administrative Assistant*
 John Gaughan, *General Manager, Campus Dining Services*
 Jeremy Paisley, *Director of Board Operations, Reisner Hall*
 Brenda E. Kunkleman, *Director of Cash Operations, CUB*
 Brad Mettle, *Director of Catering Services*
 Paula Farner, *Office Supervisor, Reisner Hall*
 Darrell L. Miller, M.B.A., *Shippensburg University Student Services, Inc., Fiscal Officer*
 Richard R. Morgan, Jr., *MIS Manager*
 Dena R. Baer, *Accounts Payable/Office Supervisor*
 Cindy L. Fraker, *Payroll Clerk/Accounting Clerk*
 Deanna Statler, B.S.B.A., *Accounting Clerk/Receivables*
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- Mark S. Werstein, B.S., *Manager, University Store*
Charles R. Yocum, Jr., *Assistant Manager/Merchandise Manager*
Charles Kunkleman, *Shipping/Receiving Clerk*
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Nancy Carroll, *Assistant Book Department Manager*
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John Abbott, *Assistant Merchandise Manager*
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Joseph Theis, M.S., A.T.C., *Assistant Director of Sports Medicine*
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C. David Springer, M.S., *Men's Head Basketball Coach*
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Jamal Palmer, B.S., *Assistant Men's Basketball Coach*
Kristin Trn, B.S., *Women's Head Basketball Coach*
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Wayne Hershey, Jr., *Electrician*
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 Thomas Weaver, *Painter*
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 Dennis Byers, *Carpenter*
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 Paul E. Gutshall, Sr., *Refrigeration Mechanic*
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 Charles E. Wingert, *Custodial Worker*
 Josette N. Wingert, *Custodial Worker*
 Judith A. Yohe, *Custodial Worker*

Department Offices

<i>Department</i>	<i>Room #</i>	<i>Phone Ext.</i>
Accounting and Management Information Systems.....	GRH 328	1436
Art.....	HAC 208	1530
Biology.....	FSC 142	1401
Chemistry.....	FSC 327	1629
Communication/Journalism.....	WRI 103	1521
Computer Science.....	MCT 156	1178
Counseling.....	SPH 123	1668
Criminal Justice.....	SPH321	1558
Economics.....	GRH 324	1437
Educational Leadership and Policy.....	SPH 127	1591
English.....	DHC113	1495
Exercise Science.....	HG 101B	1721
Finance and Information Management & Analysis.....	GRH 228	1434
Geography and Earth Science.....	GH 302	1685
History and Philosophy.....	DHC 213	1621
Management and Marketing.....	GRH 224	1439
Mathematics.....	MCT 250	1431
Military Science.....	WRI 206	1782
Modern Languages.....	FOB 109	1635
Music and Theatre Arts.....	MA 102A/B	1638
Physics.....	FSC 215B	1570
Political Science.....	GRH 424	1718
Psychology.....	FSC 123	1657
Social Work and Gerontology.....	SPH 335	1717
Sociology and Anthropology.....	GRH 428	1735
Speech.....	DHC 313	1732
Teacher Education.....	SPH 214	1688

Office hours: 8 AM - NOON; 1-4:30 PM. From off campus, dial 717, if needed, 477-plus extension.

- DHC — Dauphin Humanities Center
- FOB — Faculty Office Building
- FSC — Franklin Science Center
- GH — Gilbert Hall
- GRH — Grove Hall
- HAC — Huber Art Center
- HG — Henderson Gym
- HH — Horton Hall
- LL — Lehman Library
- MA — Memorial Auditorium
- MCT — Mathematics and Computing Technologies Center
- RH — Rowland Hall
- SPH — Shippen Hall
- SRH — Shearer Hall
- SH — Stewart Hall
- WRI — Wright Hall

Faculty and Administration

As of April 2005

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B.S., Juniata College; M.S., Shippensburg University; Ph.D., University of North Carolina at Chapel Hill

RICK E. RUTH, *Interim Provost & Vice President for Information Technologies & Services* (1982)

B.S., M.S. & Ph.D., Ohio University

(VACANT), *Associate Provost & Dean of Graduate Studies*

(VACANT), *Associate Vice President for Information Technologies & Services & Dean of Library & Media Services*

(VACANT), *Vice President for Student Affairs*

ROGER L. SERR, *Associate Vice President for Academic Affairs* (1994)

B.A., Northern State University; M.S., Western Illinois University; Ph.D., Michigan State University

LESLIE FOLMER CLINTON, *Associate Vice President for Student Affairs for Campus Programs & Director of the Performing Arts Center* (2003)

B.S., Shippensburg University; M.P.A., American University

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- TIMOTHY J. MARET, *Associate Professor of Biology* (1996)
B.S., Eastern New Mexico University; M.S., University of Wyoming; Ph.D., Arizona State University
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B.A. & M.S., University of North Texas; Ph.D., University of Denver
- MICHAEL MARSH, *Professor of Management Information Systems* (1991)
B.S., University of Nebraska; M.S., Naval School; M.B.A., State University of New York; Ph.D., Ohio State University
- MICHAEL R. MARSHALL, *Associate Professor of Biology* (1988)
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B.S., University of South Dakota; Ph.D., Iowa State University
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- DEBORAH J. MONTUORI, *Associate Professor of English* (1997)
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- SHELLEY MORRISETTE, *Assistant Professor of Management & Marketing* (2002)
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B.S., State University of New York at Geneseo; M.S., State University of New York at Albany
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- JULIE A. OLSZEWSKI, *Assistant Professor of Biology* (2004)
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- KIM VAN ALKEMADE, *Associate Professor of English* (1992)
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- ELIZABETH VAUGHAN, *Associate Professor of Teacher Education* (1992)
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- JERRY A. WEIGLE, *Professor of Business Law* (1968)
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- KIM A. WEIKEL, *Associate Professor of Psychology* (1994)
B.A., Lycoming College; M.A., University of Dayton; Ph.D., Kent State University
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- MIN-MING WEN, *Assistant Professor of Finance and Information Management & Analysis* (2003)
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- CHRISTOPHER J. WOLTEMADE, *Professor of Geography & Earth Science* (1994)
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B.S.Ed., M.S. & Ed.D., West Virginia University
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English
- HUGH M. ABERMAN (*Ret. June 25, 2004*)
Psychology
- KATHRYN K. ABERMAN (*Ret. May 28, 2004*)
Learning Center
- M. ROBERT ACKELSBERG (*Ret. Jan. 7, 1994*)
Management
- PAUL V. ADAMS (*Ret. April, 2005*)
History
- EUGENE D. ALEXANDER (*Ret. Jan. 6, 1995*)
Psychology
- PAUL B. AMBROSE (*Ret. Jan. 11, 2002*)
Political Science
- ELAINE J. ANDERSON (*Ret. June 27, 2003*)
Biology
- JOSEPH D. ANDERSON (*Ret. June 7, 1991*)
Social Work
- WILLIAM W. ANDERSON (*Ret. Jan. 3, 1997*)
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Health & Physical Education
- RICHARD A. BARR (*Ret. Dec. 27, 1991*)
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Government
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Mathematics & Computer Science
- JOHN E. BENHART (*Ret. June 10, 2005*)
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- JAMES A. BERES (*Ret. June 28, 2002*)
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- LOUIS M. BOUCHARD (*Ret. Dec. 31, 1989*)
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- CHARLES W. BOUSLIMAN (*Ret. Jan. 11, 2002*)
Speech & Theatre Arts
- THOMAS B. BRADLEY (*Ret. June 30, 2004*)
Teacher Education
- LAWRENCE A. BRADSHAW (*Ret. Aug. 13, 1999*)
English
- MARY OSGOOD BRADSHAW (*Ret. Jan. 20, 2003*)
Counseling
- LESLIE BRANHAM, JR. (*Ret. Aug. 31, 1996*)
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- PAUL J. BUHAN (*Ret. Jan. 15, 2001*)
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- J. PAUL BURKHART II (*Ret. Jan. 5, 1996*)
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- BEVERLY A. BUTLER (*Ret. Jan. 10, 2003*)
English
- CARL CAMPBELL (*Ret. June 1, 1984*)
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- H. LEE CAMPBELL (*Ret. Dec. 27, 1991*)
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- FRANCIS R. CANNON (*Ret. July 1, 1997*)
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- ALBERT R. CAREY (*Ret. June 30, 1987*)
Counseling
- HERBERT S. CASSEL (*Ret. Jan. 7, 1994*)
Accounting
- DENNIS M. CASTELLI (*Ret. Jan. 3, 1997*)
History
- BETTY M. CHURCHILL (*Ret. July 11, 1985*)
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Counseling
- CHARLES B. COATES (*Ret. June 1, 1979*)
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- RICHARD A. COFFMAN (*Ret. Jan. 1, 1999*)
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- MAX G. COOLEY (*Ret. Aug. 17, 1984*)
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- ELIZABETH PENN CUSTER (*Ret. May 15, 1992*)
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- MARTIN DAKO (*Ret. Dec. 31, 2000*)
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- WILLIAM C. DAVIES (*Ret. Aug. 16, 1985*)
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Chemistry
- DANIEL P. DEVITIS (*Ret. June, 2003*)
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Social Work
- DAVID A. DOLBIN, JR. (*Ret. Dec. 1992*)
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- WALLACE W. DREXLER (*Ret. May 24, 1996*)
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- WILLIAM A. GOULD (*Ret. Dec. 27, 2002*)
Professor & Director of Computer Center
- DONALD E. GRACEY (*Ret. June 4, 1999*)
Mathematics & Computer Science
- JOHN H. GREZLAK (*Ret. May 30, 2003*)
Chemistry
- JAMES P. HANLON (*Ret. Aug. 31, 2002*)
English
- EUGENE R. HANSON (*Ret. Dec. 27, 1991*)
Library Science
- DONNA D. HARDY (*Ret. May 19, 2000*)
Music

- ROBERT C. HARPER (*Ret. Jan. 1, 1999*)
Geography & Earth Science
- LYNN HARRIS (*Ret. May 27, 2005*)
Management & Marketing
- WILLIAM C. HARRIS (*Ret. Aug. 31, 1991*)
Management & Marketing
- HERBERT E. HAYS, JR. (*Ret. Aug. 19, 1988*)
Biology
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Health & Physical Education
- FRED B. HOCKERSMITH (*Ret. Jan. 16, 1998*)
Psychology
- RALPH T. HOCKING (*Ret. May 31, 2002*)
Information Management & Analysis
- MARGARET E. GRÜVER HOGG (*Ret. May 31, 1969*)
Elementary Education
- CHARLES J. HOLLON (*Ret. June 14, 2004*)
Management & Marketing
- PAUL K. HORRELL (*Ret. Dec. 27, 1991*)
Mathematics & Computer Science
- FREDERICK O. HOWARD (*Ret. Aug. 30, 2001*)
Biology
- THOMAS L. HOZMAN (*Ret. June 25, 2004*)
Counseling
- SARAH HUGHES (*Ret. May 31, 1998*)
History
- JOSEPH W. HUNT, JR. (*Ret. Aug. 31, 1999*)
Economics
- WILLIAM Q. HYNES (*Ret. Aug. 29, 2003*)
Art
- JOHN P. ILLO (*Ret. Sept. 1, 1986*)
English
- ROBERT H. JACOBS (*Ret. Aug. 16, 1996*)
Mathematics & Computer Science
- HUGH E. JONES (*Ret. May 31, 2002*)
Political Science
- JERRY N. JUDY (*Ret. May 31, 2004*)
Sociology
- ROBERT P. KALMEY (*Ret. Sept. 29, 2003*)
English
- GEORGE KALUGER (*Ret. May 19, 1989*)
Psychology
- EDWARD J. KARLOVICH (*Ret. Dec. 27, 1991*)
Teacher Education
- GERTRUDE KAUFFMAN (*Ret. Aug. 7, 1970*)
Art
- W. RUSSELL KELLEY (*Ret. Dec. 31, 1977*)
Biology
- CARL E. KERR (*Ret. Dec. 27, 1991*)
Mathematics & Computer Science
- BRUCE L. KESSLER (*Ret. June 25, 2004*)
Political Science
- WALTER KONETSCHNI (*Ret. June 10, 2005*)
Sociology & Anthropology
- THEODORA J. KOOB (*Ret. July 25, 1980*)
English
- JOHN KORN (*Ret. May 31, 1993*)
Physics
- W. KEITH KRAUS (*Ret. July 1, 1998*)
English
- LEON W. KREGER, JR. (*Ret. July 31, 1985*)
Biology
- ALICE PAULINE KUHNS (*Ret. Aug. 23, 2002*)
Teacher Education
- KERMIT M. LAIDIG (*Ret. Dec. 27, 1991*)
Geography-Earth Science
- NANCY A. LEATHERMAN (*Ret. Dec. 31, 1998*)
French & German
- JOHN M. LINDBERG (*Ret. May 26, 1995*)
English
- HILDA E. LINEWEAVER (*Ret. Dec. 27, 1991*)
Sociology
- RUPERT CHARLES LOUCKS (*Ret. May 31, 1997*)
History
- FRANK R. MADDEN (*Ret. May 23, 1986*)
Social Work
- JOHN D. MAGARO (*Ret. Jan. 1, 1999*)
Communication/Journalism
- DOROTHY C. MARQUART (*Ret. June 6, 1975*)
Laboratory School
- ALLEN N. MARSHALL, JR. (*Ret. May 31, 1989*)
Counseling
- JOHN F. MARTIN, JR. (*Ret. Jan. 1, 1999*)
Mathematics & Computer Science
- ALBERT A. MASON, JR. (*Ret. Dec. 31, 1998*)
Communication/Journalism
- WILLIAM G. McARTHUR (*Ret. May 24, 1996*)
Mathematics & Computer Science
- RONALD M. McCALL (*Ret. July 17, 1998*)
Geography & Earth Science
- VINCENT F. McCORMACK (*Ret. June 29, 2004*)
Accounting

- KAY McFARLAND (*Ret. Aug. 11, 1978*)
Library
- THOMAS E. McFEELY (*Ret. June 28, 2002*)
Assistant Professor & Director of the Cumberland Union Building
- SARA M. McGRATH (*Ret. June 28, 2002*)
Health & Physical Education
- DEVORAH McKAY (*Ret. May 27, 1983*)
Social Work
- LILLIAN P. McKEEL (*Ret. Dec. 31, 2000*)
Teacher Education
- ELEZE P. McKENZIE (*Ret. Dec. 31, 1976*)
English
- DANIEL J. MENNITI (*Ret. Jan. 10, 2003*)
Criminal Justice
- DALE G. MERKLE (*Ret. July 16, 1994*)
Teacher Education
- RONALD D. MICHMAN (*Ret. Dec. 31, 1993*)
Marketing
- CHARLES E. MILLER (*Ret. Jan. 1, 1999*)
Mathematics & Computer Science
- DONALD N. MILLER (*Ret. June 10, 2005*)
Exercise Science
- ADELE MITCHELL (*Ret. Jan. 31, 1961*)
Laboratory School
- ALFRED J. MOCK (*Ret. May 27, 1983*)
Communication/Journalism
- BETTY LU MORGAN (*Ret. May 26, 1995*)
Professor & Associate Dean of Students
- WILLIAM A. MORGAN (*Ret. May 31, 1999*)
Modern Languages
- THOMAS L. MORIARTY (*Ret. 2004*)
Health
- DONALD E. MORNINGSTAR (*Ret. Jan. 7, 1994*)
Physics
- JACK G. MORRISON (*Ret. May 31, 2000*)
History
- WILLIAM J. MORRISON (*Ret. May 31, 2002*)
Biology
- JOHN S. MOWBRAY, JR. (*Ret. June 27, 2003*)
Mathematics
- WAYNE MOWREY (*Ret. May 30, 1980*)
Music
- HELEN A. MOYER (*Ret. May 31, 1968*)
Library
- DOROTHY J. MUGGE (*Ret. Jan. 9, 1981*)
Elementary Education
- CORNELIA LYNNE NASH (*Ret. Aug. 11, 2000*)
Communication/Journalism
- LORI NELSON (*Ret. July 24, 1999*)
Psychology
- FRANCIS H. NORTON (*Ret. Jan. 3, 1997*)
Counseling
- BARBARA J. OBER (*Ret. Dec. 31, 1992*)
Sociology
- HUGH R. O'BRIEN (*Ret. Dec. 31, 1988*)
Library
- JOHN L. OFFNER (*Ret. Jan. 3, 1997*)
History
- AUDUN J. OLSEN (*Ret. Jan. 1, 1999*)
Communication/Journalism
- ROBERT F. ORAVETZ (*Ret. Jan. 6, 1995*)
Business Education & Office Administration
- HARRY W. PAULEY (*Ret. May 27, 1983*)
English
- JAMES I. PAYNE (*Ret. Sept. 2, 1990*)
Teacher Education
- DAVID G. PECK (*Ret. Jan. 10, 2003*)
Sociology
- WILLIAM E. PEIGHTEL (*Ret. May 31, 1991*)
Biology
- RANDALL PELLOW (*Ret. June 29, 2004*)
Teacher Education
- ALEC W. PERKINS, JR. (*Ret. Jan. 2, 1987*)
Teacher Education
- JAMES G. PRIBULA (*Ret. May 31, 2002*)
Health & Physical Education
- JAMES E. RADCLIFFE (*Ret. Dec. 27, 1991*)
Government
- GEORGE R. RAE (*Ret. May 30, 1980*)
Geography-Earth Science
- JOHN A. RAMER (*Ret. May 3, 1974*)
History
- SUSAN RAUCH (*Ret. Jan. 10, 2003*)
Accounting
- ROBERT D. REED (*Ret. May 22, 1987*)
Biology
- MARC A. REHR (*Ret. Dec. 31, 1988*)
Speech & Theatre Arts
- THOMAS P. REINWALD (*Ret. June 29, 2004*)
Economics
- JOHN W. REITMEYER (*Ret. July 1, 1985*)
Music
- WILLIAM C. RENSE (*Ret. June 25, 2004*)
Geography & Earth Science
- MORRIS E. RILL (*Ret. Dec. 31, 1998*)
Mathematics & Computer Science
- VIRGINIA M. ROBINSON (*Ret. May 31, 1978*)
Geography-Earth Science
- JOHN M. RODDICK (*Ret. May 19, 1989*)
Physics

- ROBERT ROELOFFS (*Ret. June 1, 1990*)
Management Science
- JOHN E. ROGERS, JR. (*Ret. May 31, 2002*)
English
- WILLIAM E. ROGERS (*Ret. May 22, 1998*)
Biology
- HERBERT J. ROTH (*Ret. June 2003*)
Finance
- FREDRIC A. ROUX (*Ret. Aug. 1, 1999*)
English
- JOSEPH R. RUFF (*Ret. May 24, 1996*)
English
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Social Work
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Mathematics & Computer Science
- JAMES M. ST. CLAIR (*Ret. June 25, 2004*)
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- THOMAS D. SCHROEDER (*Ret. Jan. 11, 2002*)
Chemistry
- ROBERT SCULL (*Ret. May 31, 2001*)
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- HERBERT A. SEARLE (*Ret. Aug. 31, 1978*)
Educational Foundations & Field Studies
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Mathematics & Computer Science
- STEPHEN G.-M. SHENTON (*Ret. Dec. 31, 1998*)
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- ROOSEVELT T. SHEPHERD (*Ret. Aug. 13, 1999*)
Criminal Justice
- WILLIAM R. SHIRK (*Ret. Jan. 3, 1997*)
Geography & Earth Science
- NAOMI F. SHOOK (*Ret. May 29, 1981*)
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- BARRY SMITH (*Ret. May 19, 2000*)
Educational Administration & Foundations
- FRED E. SMITH (*Ret. Oct. 1, 1989*)
Library
- JOSEPH A. SMITH (*Ret. Jan. 11, 1992*)
Psychology
- WILLIAM R. SMITH (*Ret. June 1, 1987*)
Teacher Education
- J. ROBERT SNYDER (*Ret. Aug. 22, 1980*)
Chemistry
- WILLIAM C. SNYDER (*Ret. Aug. 17, 1985*)
Mathematics & Computer Science
- AUDREY SPRENGER (*Ret. May 31, 1999*)
Teacher Education
- WILLIAM D. SPRENGER (*Ret. Jan. 1, 1999*)
Psychology
- PAUL L. STONE (*Ret. May 31, 1977*)
Elementary Education
- GEORGE L. STRINE (*Ret. Sept. 30, 2002*)
Teacher Education
- JOHN L. STUMBAUGH, JR. (*Ret. Aug. 15, 1991*)
History
- HARRY D. SWEELY (*Ret. Dec. 27, 1991*)
Psychology
- HAROLD E. SWEENEY, JR. (*Ret. June 5, 1998*)
Political Science
- JOHN P. TAGGART (*Ret. Aug. 1, 2001*)
English
- MARY JANE TAYLOR (*Ret. Aug. 16, 1996*)
Teacher Education
- RODNEY N. TOLBERT (*Ret. Aug. 27, 1991*)
Educational Administration & Foundations
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Library Science
- LLOYD A. TRINKLEIN (*Ret. July 4, 1986*)
Chemistry & Director of Grants & Federal Relations
- BENNIE S. TRUAX (*Ret. May 26, 1995*)
Music
- RICHARD W. WAHL (*Ret. Jan. 6, 1995*)
Biology
- PATRICIA WALTERMYER (*Ret. Jan. 7, 2005*)
Communication/Journalism
- MICHAEL M. WARGO (*Ret. May 31, 1988*)
History
- GEORGE P. WARICHER (*Ret. Jan. 1, 1999*)
Art
- HENRY WARKENTIN (*Ret. Jan. 1, 1998*)
German
- KATHERINE WARKENTIN (*Ret. Sept. 14, 2001*)
Library
- RICHARD M. WARNER (*Ret. Jan. 6, 1995*)
Communication/Journalism
- KENNETH C. WASHINGER (*Ret. Jan. 7, 1994*)
Mathematics & Computer Science
- HAROLD W. WEIGEL (*Ret. May 31, 1974*)
German
- WILLIAM R. WELLER (*Ret. Jan. 1, 1999*)
Mathematics & Computer Science
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Teacher Education
- SARA J. WILLOUGHBY-HERB (*Ret. May 31, 2000*)
Teacher Education

JOHN R. WILSON (*Ret. June 7, 1996*)
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KENNETH P. WINTER (*Ret. Jan. 5, 1996*)
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Psychology
SAMUEL S. ZEMAN (*Ret. May 26, 1995*)
Teacher Education

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WILBUR O. CARTHEY (*Ret. Dec. 31, 1983*)
Dean of the College of Education & Human Services
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Provost & Vice President for Academic Affairs
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Executive Vice President
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Vice President for Student Affairs
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Associate Dean of the College of Arts & Sciences and Director of Study Abroad
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Dean of the Library & Media Services

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