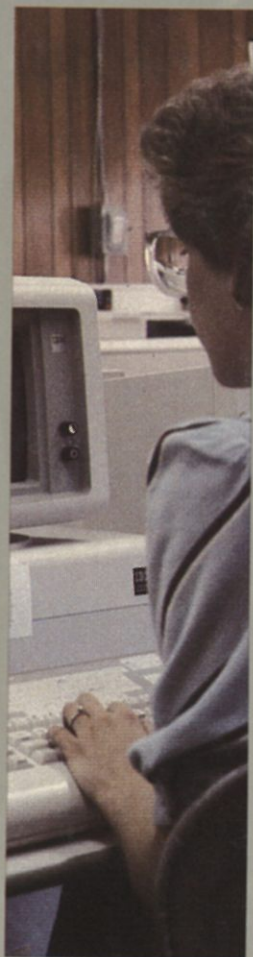
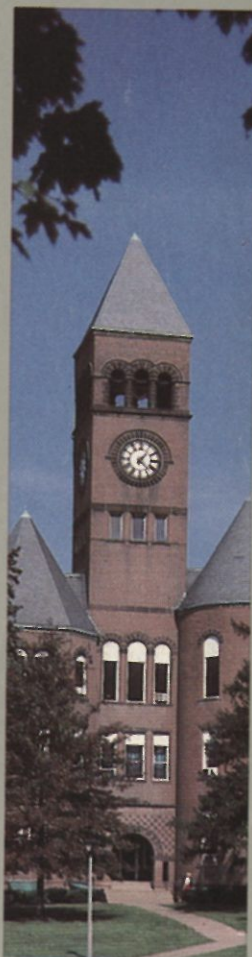


**UNDERGRADUATE CATALOG**  
**1984-86**



**SLIPPERY ROCK**  
**UNIVERSITY**







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SLIPPERY ROCK UNIVERSITY  
SLIPPERY ROCK, PENNSYLVANIA 16057

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## SLIPPERY ROCK UNIVERSITY

of Pennsylvania of the State System of Higher Education

SLIPPERY ROCK, PENNSYLVANIA 16057-9989

412/794-2510

## UNDERGRADUATE CATALOG 1984-86



## SLIPPERY ROCK UNIVERSITY

SLIPPERY ROCK, PENNSYLVANIA 16057

Dear Students:

It is a pleasure to greet you on behalf of Slippery Rock University. From its beginning as a traditional "normal school" founded in 1889 for the purpose of training teachers, Slippery Rock has emerged as a multi-purpose University, serving the diverse needs of the Commonwealth, the nation and the world. A student body representing over 40 states and more than 30 foreign countries attests to the wide-spread reputation that this University enjoys.

Slippery Rock University offers a wide variety of academic programs and co-curricular activities as well as providing ample opportunity for students to explore their academic and career interests. Regardless of your career choice, our faculty believe that each graduate should have a strong liberal arts background to be adequately prepared to face the challenges of the future. The members of the faculty, distinguished in their academic preparation and experience, are committed to quality education and to assisting all students to achieve to the highest level of their ability and aspirations.

The University has excellent facilities, equipment, laboratories and a campus of over 600 acres to facilitate the learning process. Our entire staff strives to create an academic community that is friendly, one where the student is treated as an individual and given every opportunity to excel. It is this concern for the welfare of the individual student that gives Slippery Rock University a special place among institutions of higher education.

I extend to you a cordial invitation to become part of the excitement, the living/learning atmosphere, and the friendliness that make Slippery Rock University a very special place.

Sincerely,

Robert N. Aebersold  
Interim President

GRADUATE CATALOG  
1984-85



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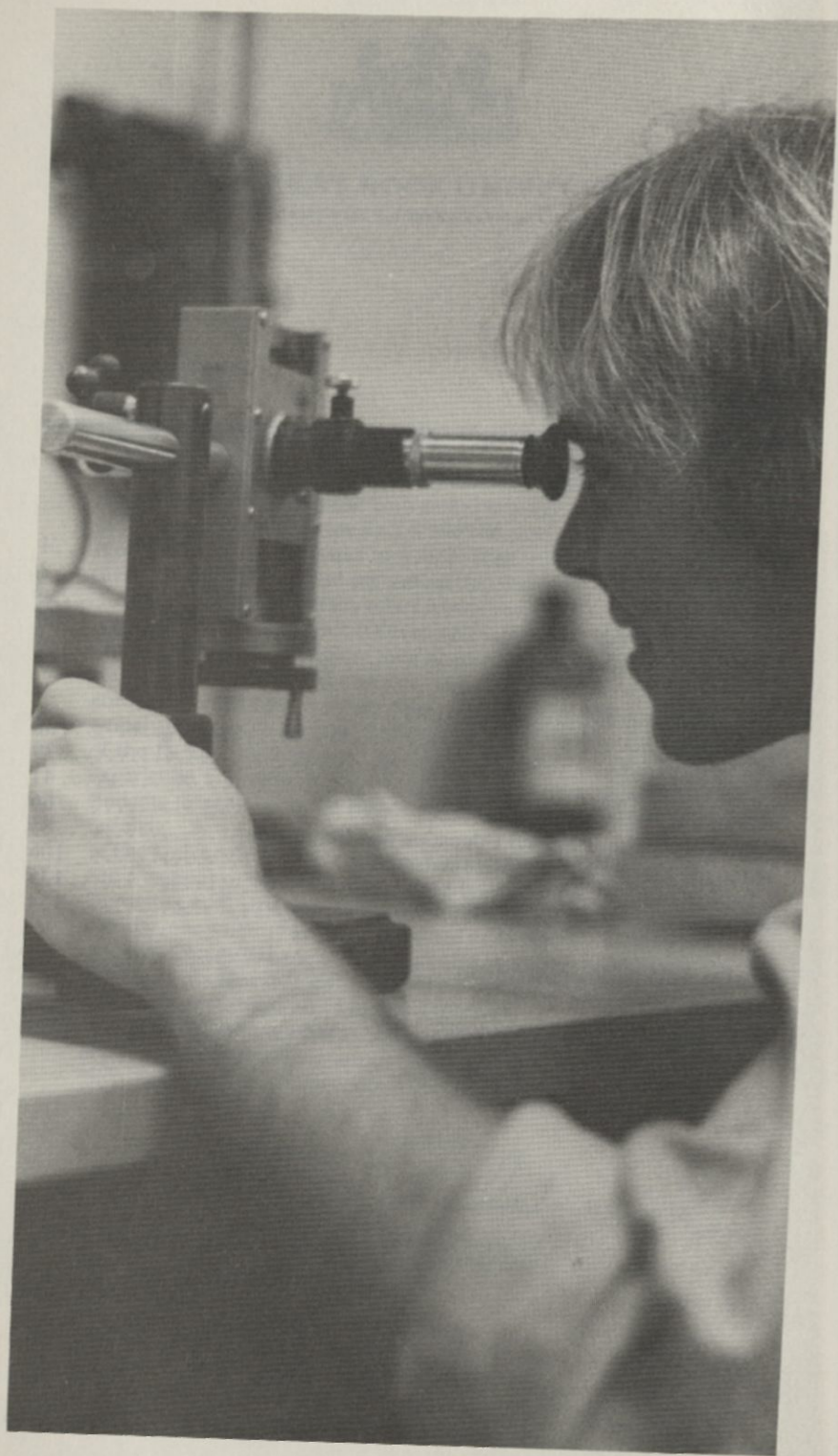
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## THE UNIVERSITY

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Slippery Rock University, one of 14 state-owned institutions of higher education in the Commonwealth of Pennsylvania, has a long tradition of providing quality education to its students. Started in 1889 as a teacher training institution, it has emerged as a multi-purpose institution with some 6,000 students and with over 60 degree programs in six academic divisions: Education; Health, Physical Education and Recreation; Humanities and Fine Arts; Natural Sciences and Mathematics; Social and Behavioral Sciences; and the Graduate School. Besides on-campus instructional experiences, students use learning facilities at nearby Moraine State Park, Jennings Environmental Education Center, and McKeever Environmental Learning Center, as well as the Wallops Island Marine Science Laboratory in Virginia. Most disciplines also sponsor an internship program which allows students to get on-the-job professional training.

**Purpose and Objectives.** Philosophically committed to excellence as an institution of higher education, Slippery Rock University has as its major purpose the development of graduates who are capable of assuming leadership in their professions, of conceiving and expressing ideas, and of perceiving the problems of humanity, its culture, and its environment. The development of students who are curious, quick to inquire, and able to make objective decisions based on experimentation and on information arrived at logically, who can integrate systematically major ideas and principles of knowledge, and who are able to build a personal system of ethical and moral values is paramount. Specifically, the institutional objectives are:

- to develop thorough, rigorous programs which will meet the requirements of both general education and concentrations in specific fields.
- to strengthen the commitment of faculty not only to teaching and to the guiding of students toward intellectual maturity and self development, but also to research and community services.
- to prepare students who can both think for themselves and enter upon a career—who are “thinkers” as well as “doers.”
- to reconcile the objectives in the departmental and school planning documents of 1977-82.

**The Students.** More than half of the SRU students are from western Pennsylvania, with the Pittsburgh-Allegheny County area serving as home to the largest number of students. Another one-fourth of the student body hails from central and eastern Pennsylvania, and the remainder, around 20 percent, are from other states and other countries. A high percentage of Slippery Rock students are first generation college students.



Most of the students are graduates of college preparatory curricula in their high schools. This usually includes four years of English, four years of social studies, two years of foreign languages, two years of mathematics, and three years of sciences.

**The Campus.** Slippery Rock's rolling, tree-lined campus can best be described as expansive. The campus proper spreads over more than 600 acres, with woods, streams, ponds, and wide-open spaces. Another 44 acres make up the Miller Tract, a natural area located about a mile from the main campus.

Thirty major buildings, blending traditional and modern architecture, fill the core of the campus for an optimum living and learning environment. The modern Bailey Library ranks as one of the best in the state, among both public and private institutions, with more than 700,000 catalogued items and a seating capacity of more than 1,000, including 420 individual study carrels. Swope Music Building, the newest building on campus, is designed as both a performing and a learning center. The circular Vincent Science Hall houses, in addition to laboratories and classrooms, a planetarium and a green-house. One of the busiest instructional and recreational facilities on campus is Morrow Field House, which includes a gymnasium, swimming pool, handball court, dance studio, indoor tennis court, and indoor track. Besides standard classroom buildings, the university has one of the most up-to-date computer centers, a television studio, two radio stations, eight state-owned and three privately-owned residence halls, six auditoriums, 22 tennis courts of which 12 are lighted, three major athletic fields and nine auxiliary fields, a 9,000-seat stadium, and two dining halls. The University Union is the campus hub with a bookstore, grille, recreation areas, and meeting rooms.

Slippery Rock University has recreational and cultural facilities and programs to suit most any interest, from skiing to movie-going to hiking.

**Location** Set in western Pennsylvania, the university is easily accessible. Pittsburgh, one of the country's largest cities, is an hour's drive south. Erie, which takes its name from the Great Lake on which it is located, is 75 miles north, and Youngstown, Ohio, is just 35 miles due west. Though the university is located in a town of about 2,500, it is in the middle of a population center of about 120,000. Two major interstate highways, I-79 and I-80, intersect within seven miles of the university.

**Accreditation.** Slippery Rock University is accredited academically by the Middle States Association of Colleges and Schools and by the National Council for Accreditation of Teacher Education. Academic Programs are also individually accredited by appropriate professional organizations.

**Alumni.** Slippery Rock University has nearly 20,000 living graduates, about 60 percent having graduated in the past 10 years. They are in a multitude of professions and are living throughout the world. Graduates are encouraged to join the Alumni Association, a separately incorporated organization devoted to serving the university and its alumni. Funded principally by membership dues, its scope is directly dependent on the number of alumni who choose to continue their affiliation with the university through association membership. Among services of the Alumni Association are Maree McKay and N. Kerr Thompson scholarships awarded for academic and athletic excellence; a bi-monthly newsletter, "The Rock", mailed to dues-paying members; group life term insurance program; alumni tours; constituent and regional chapters; and cooperation with the university's Office of Career Development and Placement to help graduates in career counseling and job placement. The Association also assists the Slippery Rock Foundation with its annual giving program to provide necessary funds to maintain academic excellence and bolster vital areas of the university. To offer student alumni programming that would encourage graduates to remain active, the Association recently established a Student/Parent Membership Program. Information on alumni and the Association is available at the Alumni House on campus, (412)794-7280.



## UNDERGRADUATE ADMISSIONS

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Students are admitted to Slippery Rock University for terms beginning September, January and June and are considered for admission on the basis of general scholarship, standardized test scores and satisfactory character and personality traits. The university reserves the right to establish or change admission standards as it deems necessary.

**Recommended Curriculum.** It is recommended that entering freshmen have a college preparatory curriculum consisting of four years of English, four years of social studies, three years of science, three years of mathematics, and two years of a foreign language.

**Application Procedures for Freshmen.** Applications will be accepted beginning July 1 following the junior year of high school. To be certain of consideration, the application should be initiated by December of the senior year. The following procedures are required for initiation of an application.

**\*\*\*Application Form** — This form is available by writing to the Office of Admissions. Upon completion of the form, it should be mailed to the Director of Admissions.

**\*\*\*Application Fee** — The non-refundable fee of \$15 in the form of a check or money order, payable to the Slippery Rock University, must accompany the application form.

**\*\*\*Official Secondary School Transcript** — This transcript is to be requested from your guidance counselor or principal and sent to the Director of Admissions. This transcript should be sent as soon as the senior year schedule of classes and junior year class rank and grade point average are available.

**\*\*\*Admission Examination** — Scores from either the Scholastic Aptitude Test (SAT) or the test battery of the American College Testing Program (ACT) should be sent to the Director of Admissions from the testing service or high school. The University recommends that the SAT or ACT be taken late in the junior year and/or early in the senior year. The guidance counselor of the secondary school has information concerning these examinations.

**\*\*\*Interview and Campus Visit** — An on campus interview is probably one of the best ways of learning about a university. It allows students to meet with members of the university community and gives the admissions staff an opportunity to know them better. An interview is not required, but strongly recommended.

**\*\*\*G.E.D.** — Students having earned a General Equivalency Diploma (GED) or PA Commonwealth Diploma must submit a copy of their diploma with test results to the Director of Admissions. In addition, an official transcript of all high school work completed must be submitted. Upon offer of admission and acceptance of the offer, the student is required to submit a non-refundable "Advance Tuition Deposit" and a physical examination report using the form provided by the university.

**Application Procedures for Transfer Students.** The student who has registered for courses at any post-secondary level institution, regardless of time enrolled, is classified as a transfer student. Students on academic suspension from their most recent institution are not eligible for admission to Slippery Rock University until one calendar year has passed. In order to be considered for transfer to Slippery Rock University, the student must satisfy one of the following requirements for admission:

1. Have a cumulative quality point average of at least 2.0 on a 4-point scale based on a minimum of 12 semester hours of non-remedial credit from the last accredited institution attended.
2. Have at least a 2.0 combined quality point average on a 4-point scale for coursework completed at all accredited post-secondary schools attended.
3. If the most recent institution is non-accredited, a 2.5 QPA is required. The following materials must be submitted to the Director of Admissions.

**\*\*\*Completed Application Form.**

**\*\*\*Non-refundable \$15 application fee.**

**\*\*\*Official transcript from each post secondary institution attended.**

**\*\*\*An official high school transcript is required if fewer than 12 semester hours of collegiate work have been completed.**

**\*\*\*Test scores may be required at the discretion of the Director of Admissions.**

A qualified student who is enrolled at another institution at the time of application to Slippery Rock University will be granted conditional admission until all current coursework is successfully completed. A student not meeting the aforementioned criteria may schedule an appointment with the Director of Admissions. An unofficial evaluation of credits earned is provided upon request and also accompanies an offer of admission. An official evaluation is provided when a student accepts an offer of admission. Courses in which grades of A, B, C or D are earned are normally acceptable in transfer providing the student meets all regular admission requirements. A maximum of 67 semester hours may be transferred when the last institution attended is a two year non-baccalaureate degree-granting institution, except in the Medical Technology program. (See Medical Technology under Special Programs.) There is no limit to the number of semester hours a student may transfer from a baccalaureate degree-granting institution. However, to qualify for graduation a student must fulfill program requirements and complete the last 36 semester hours at Slippery Rock University.

**Admission of International Students.** International students are invited to apply for admission to Slippery Rock University by initiating an application to Slippery Rock University as early as July 1 for the Fall Semester of the following year. March 15 of the year the student desires to enroll is the deadline for filing a completed application. International students are only admitted for the Fall Semester.

To be considered for admission the following credentials must be submitted:

**\*\*\*Completed international student application.**

**\*\*\*An application fee of \$15 submitted in the form of a check or money order made payable to Slippery Rock University of PA.**

**\*\*\*Official secondary school records, college or university transcripts, certified copies of diplomas or certificates and recommendations (All records must be translated into English).**

**\*\*\*Score reports from either the Test of English as a Foreign Language (TOEFL) or the Scholastic Aptitude Test (SAT).**

**\*\*\*Proof of financial support (documentation showing the student will have the ability to cover expenses).**



Students applying for financial aid must submit an international student financial aid application and the aforementioned credentials by February 1.

**Admission of Graduate Students.** A student desiring to take graduate courses must be admitted to the Graduate School. To be eligible for admission, a student must have completed the requirements for a bachelor's degree at an accredited college or university. An application is submitted to the office of the Dean of the Graduate School. For specific information, an application request should be made directly to the Graduate School Office, 101 Old Main. A Graduate catalog is available for those desiring specific information on admissions, programs or transfers.

**Advanced Placement Programs.** A student may qualify to earn a maximum of 45 semester hours of credit by making satisfactory scores on tests administered through special examination programs, and thereby earn credit or be exempt from certain college courses.

*\*\*\*The Advanced Placement Program of the College Entrance Examination Board permits high school students to earn college credits at their schools while attending high school. Students must first take an Advanced Placement Course prior to the Advanced Placement Exam. High school counselors can assist in this procedure.*

*\*\*\*Each department at the University offers credit by examination for its courses. Students may arrange for these tests through their faculty advisor, departmental chairperson, and dean.*

*\*\*\*The National College Level Examination Program (CLEP) is administered by the Office of Continuing Education and Conferences. This program is open to all students who meet the eligibility criteria. Under the program, students who feel their knowledge of certain subjects is extensive can elect to take the CLEP exams. The examinations are of two types: General and Subject. The General Examinations are designed to reflect the learning that ordinarily takes place in a student's first two years of college. The Subject examinations are designed to reflect the more specific knowledge which a student may have acquired in a particular subject area. General Examinations each carry six (6) hours of credit; Subject Examinations each carry three (3) hours of credit. Upon successfully passing an examination, the student will receive credit for the corresponding course(s) and may then go on to more advanced courses.*

**Department of Academic Support Services.** Students who might not qualify for regular admission to Slippery Rock University because of an inadequate academic background may be referred to the Department of Academic Support Services which sponsors several programs for the culturally, economically, physically, and educationally disadvantaged student. The department seeks students who are highly motivated and have demonstrated a potential to achieve despite deficiencies. The department administers an intensive summer program, as well as a fall support program to assist students in their transition from high school to university life. Throughout the academic year, department faculty provide personal and academic counseling, tutoring services, and other special assistance programs.



## STUDENT LIFE AND STUDENT SERVICES

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The Student Affairs staff believes that each student is an individual of dignity, worth and responsibility who has elected to attend this university for the purpose of attaining an education in an academic area and to grow and mature as a person through additional learning experiences outside of the classroom.

The basic goal of the Student Affairs staff is to assist in the total development of each student by providing appropriate, life-centered educational programs and services. Primary concerns of the staff focus on helping students to develop decision-making competencies, self-discipline, respect for others, skills of self-evaluation, and the learning and development of social responsibility and human relations skills.

In order to provide those activities and services which will help each student achieve optimum personal development, the Student Affairs division has professional staff assigned to the following areas, which are coordinated and supervised by the Vice President for Student Affairs: Residence Life (Housing), University Union, Student Activities, Financial Aid, Health Services, Orientation, Counseling, Career Development and Placement, Student Standards, and special programs such as Veterans' Affairs and International Student Affairs.

### Orientation to the University

---

Orientation is a required process to acquaint new students (freshmen, transfers, veterans, foreign students) and their parents with the university and to assist the students in their adjustment to a new environment. Students, faculty, and staff provide help in areas such as academics (including advisement and registration for classes) through placement testing and workshops, social and recreational activities, and information about the university and many of its services. The program also provides an opportunity for students to interact with each other in small groups. Although the Orientation Office is staffed year round, the main emphasis is on the two-day Orientation sessions during the summer for both students and parents, a period of activities prior to the start of classes in August, and a program for new students entering in January.

## Residence Life

---

The philosophy of university housing at Slippery Rock is an educational one of student development that maintains that residence halls are not merely places to eat and sleep. They are environments in which students grow and develop through out-of-class learning experiences and various activities on the personal, social and academic levels. A variety of living-learning programs are conducted in the residence halls in an attempt to achieve these objectives.

The on-campus residence halls have professionally trained Resident Coordinators of Education and selected trained students as Resident Advisors. The Residence Life Office is responsible for housing students in university-owned residence halls. During the month of March, residence hall room request cards for the following academic year are given to all students presently residing in the university residence halls. These students then have the option of participating in the individual residence hall lottery. Housing information for university-owned residence halls will be sent on a weekly basis to freshmen as they are accepted, beginning early in February and continuing until June 1st. Final housing assignments are made in May on a yearly basis.

Slippery Rock University has residents representing all creeds, races and ethnic groups living in university residences. Therefore, in compliance with the Pennsylvania Fair Education Practice Act, all residence assignments are made without regard to race, religion, color or national origin. Having accepted the Act, we feel that a cross-section of cultures provides a cosmopolitan community environment.

**Residence Halls** (on-campus). There are eight state-owned residence halls, housing 2,600 men and women. Currently, three are assigned to women, one to men, and four are co-ed. Because of limited space, students cannot be guaranteed housing on-campus for their full four years.

**Residence Hall Facilities.** Residence hall rooms are furnished with beds, chairs, desks, and window covers (shades). The beds are supplied with a mattress only. Students furnish their own blankets, pillows, towels, bedspreads, dresser covers, pillow cases, and sheets. Students may bring their own drapes and other accessories to make the room more attractive. Self-service laundries and pressing rooms are maintained in each residence hall for convenience of the students, as are lounges, recreation areas, storage, TV, and exercise rooms.

**Closing the Residence Halls.** Campus residence halls will be closed to all students during regular vacation periods as listed on the university calendar and also during the periods between summer sessions and semesters. All students will be expected to leave the residence halls not later than 10:00 p.m. the last day of final examinations. Designated residence halls will be open for summer sessions.

**Policy for Withdrawals.** Students must vacate their rooms within 24 hours of withdrawal from the university.

**Food Service for Residents.** Students who reside in state-owned residence halls **must** contract to eat in the university dining facilities. No extensive cooking is permitted in the residence halls. Students who live off-campus may contract to eat in the university dining facilities.



**Off-Campus Housing.** Adjacent to the campus are privately-owned residence halls and a townhouse complex that are designated as college-related. The staffs of these major housing units are college-trained personnel who work closely with the Director of Residence Life for the university.

In addition to this housing, a number of rooms and apartments are available in the community. Off-campus housing lists are available in the Residence Life Office for the convenience of those seeking such housing.

The Director of Residence Life also acts as a mediator in landlord-tenant problems for students living off-campus.

## Health Services (North Hall) ---

The McLachlan Student Health Center philosophy is to promote high-level wellness at Slippery Rock University. Cost-effective, comprehensive, holistic health care is provided in a confidential setting. Primary care is provided by certified registered nurse practitioners in cooperation with a licensed physician. The Health Center is staffed by registered nurses, 7 days/week, 24 hours/day, during the academic year (except scheduled break periods). Emergency transportation is provided when needed.

The facility includes outpatient clinics, an emergency room, and an inpatient infirmary. There is no charge for routine care which may include referral to the staff physician, medication dispensed in the clinic, educational material and the Cold Self-Care Center. The student is responsible for all additional medical expenses that may be required such as lab tests, x-rays, referral to specialists or dentists, hospitalization and prescription medications.

## Student Health Insurance ---

Full-time undergraduate students are required to be covered by health and accident insurance. This may be done by the student through an independent source, or the student may elect to purchase coverage through the university Student Insurance Program at the time of university fees payment. If students do not purchase the school insurance, they must sign a waiver card indicating the name of the independent insurance company and the policy number. The coverage procured in that manner must be comparable to that recommended by the university. The university reserves the right to determine comparable coverage.

To take advantage of the Student Insurance Program benefits, students must report promptly to the Health Center all cases of accident or illness requiring medical attention.

Brochures explaining the student insurance coverage are supplied by the insurance company holding the contract with the university and are made available to the student in the fees mailing and/or in Room 302 Old Main. Full-time graduate students may also purchase the student insurance.

Students who will be participating in varsity athletics and international students must purchase coverage or show proof of comparable coverage.



## Dining Accommodations

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Cafeteria service is provided in Weisenfluh and Boozel Dining Halls. Students may purchase food contracts or purchase meal tickets at transient rates. There is also a Grille in the University Union for fast food service. Students who do not have a food contract may not eat in the dining halls unless they have purchased a transient meal ticket. The dining halls and Grille are closed during university recess periods.

## Counseling and Testing

---

Counseling is a learning experience which encourages students to exercise health life styles and to question some of the assumptions which are considered so absolute. Counseling helps students learn to cope with the personal and educational problems which they may encounter in the process of their growth and development so that they may become healthier, happier, more effective people. Through the process of counseling, students may increase their knowledge and understanding of themselves, their relationships with others, and with their world.

Psychologists and professional counselors are available to talk with students on a confidential basis regarding personal, educational, and career matters, in the Student Counseling Center, located in 107 Maltby Center.

**Testing.** Tests, while not perfect and infallible, can be helpful in assessing one's self more realistically. The Counseling Center administers a variety of tests for students which can aid them in their self-understanding.

## Career Development and Placement

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**Career Lab.** The "Do-It-Yourself" Career Laboratory in 107 Maltby Center is a step-by-step, primarily self-help, career resource center designed to provide students with efficient and effective career development information and help. As a career development resource, the Career Lab can assist students to:

1. Gain greater self-knowledge in relation to choosing a major and a career;
2. Acquire career knowledge (careers, outlook and preparation);
3. Learn more about careers related to one's college major;
4. Learn more about personal leisure interests and current and future leisure opportunities;
5. Enhance decision-making skills; and,
6. Acquire knowledge about job-search techniques and methods.

**Career Development and Placement.** The Career Development and Placement Office located in Maltby Center, has professional staff members who offer a variety of services to aid students in planning and securing a satisfying career. These services include: career counseling; career workshops; credential file service; on-campus professional interviews; job vacancy listings, including vacancy exchange information from many other colleges and universities; video-taped mock interviews; computerized job vacancy referral system; resource information for both summer and professional employers; overseas career information; and resource stations dealing with career and job search techniques and strategies, internships, and assistance for non-traditional students.

## Veterans Affairs

---

The Office of Student Affairs, 302 Old Main, handles all paperwork for veterans or dependents of veterans who wish to apply for VA benefits.

Application for benefits should be done as early as possible, preferably 45 days before the start of classes. Students will need to know the exact number of credits they will be taking during the semester/session in order to be certified for benefits. In many instances, original documents must also be provided (e.g. DD214, marriage certificate, children's birth certificates).

Additional information regarding VA benefits, financial aid, tutorial assistance, and credits for military service is available in the Student Affairs Office. Ask for a Veterans Information Pamphlet.

## International Student Affairs

---

Located in the Office of Student Affairs, 302 Old Main, this office provides the following services for international students, their wives and children: Immigration information and assistance, processing paperwork (e.g. visa and passport renewal, extensions of stay, work permit, I-20's) and counseling.

## Child Care Center

---

The Slippery Rock University Child Care Center is open to the children of students, faculty and staff of the university. It is located on the ground floor of McKay Education Building.

The Child Care Center follows the university calendar and is open Monday through Friday from 8:00 a.m. to 4:30 p.m. The Center accepts children from age three years (must be toilet-trained) to school age (5-6 years). Children bring their own lunch if remaining through the noon hour. Snacks are available for a small fee.

The Center offers structured programs in music, recreation, arts and crafts, and motor skill development.

Fees schedules may be obtained from the Child Care Center.

## Vehicle Registration

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All students may operate motor vehicles on campus. Students who intend to park motor vehicles in official student parking areas must register their vehicles with the University Police and obtain an authenticated decal, according to the University Motor Vehicle Regulations.



## Student Activities

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At Slippery Rock, students have the opportunity to develop their leadership skills, social skills and special abilities. Student activities programs are designed to complement the academic programs and to help students become intellectually and socially independent. The university encourages students to participate in activities related to their interests and abilities.

Besides the student organizations, students serve with faculty and administration on curriculum, discipline, library and student welfare committees. Through participation, students can begin increasingly to assume responsibility. The opportunities are available; it is up to students to take advantage of them and to learn to budget their time and talents to best fulfill their role as a member of the academic community.

## The University Union

---

The University Union staff coordinates activities, provides specific services to students, advises student organizations and assists in developing social and educational programs. Among Union programs which are planned by students on the Union Programming Board (with the University Union staff) are: lectures, mini courses, the contemporary music series, travel series, artist series, entertainment spectrum series, film series, and social events. The services offered by the Union include the Information Desk, candy shoppe, duplication center, games room, Outfitter, the University Bookstore, and the Grille. The Union also has several lounges, meeting rooms and a multi-purpose room available for registered student organizations.

## Student Organizations

---

Student organizations at Slippery Rock University are viewed as opportunities for self-development and self-expression. Therefore, the success of student activities rests largely with the students. Students are encouraged to become involved in organizations as their time and interest warrant.

There are more than 100 organizations, activities, and teams which have been created from student interest. The scope of the organizations includes athletics, drama, music, service, social, scholastic interest, the media, scholastic honoraries, and the Student Government Association.

## Student Government Association

---

All students, by virtue of their undergraduate registration and payment of fees, are members of the Student Government Association.

The Student Senate is the central representative and legislative organization of the university Student Government Association. The Student Senate recommends to the University the recognition of student organizations, allocation of the General Service (activities) Fee money, and carries out other responsibilities as included in the Student Government Association constitution. The student representatives, through the University Union Activities Board and in cooperation with the University Union staff, plan student activities programs.

## Association of Residence Hall Students (ARHS) —

ARHS is composed of representatives from each of the university-owned residence halls, plus the House Council Presidents. This group recommends living standards and plans special programs for residence hall students.

## Fraternities and Sororities

The Greek System has played a definite role on the SRU campus for many years. Interfraternity and Panhellenic Council member groups believe that Greek organizations can make a positive contribution to their individual student members, to the university as a whole, and to the community. Membership is open to all students regardless of race, color, or national origin.

### National Fraternities

Alpha Phi Alpha  
Alpha Sigma Phi  
Kappa Delta Rho  
Lambda Chi Alpha  
Phi Sigma Epsilon  
Sigma Pi  
Tau Kappa Epsilon  
Theta Chi

### National Sororities

Alpha Kappa Alpha  
Alpha Omicron Pi  
Alpha Sigma Tau  
Delta Zeta  
Kappa Alpha  
Sigma Sigma Sigma  
Zeta Tau Alpha

## Honor Societies

**ALPHA BETA ALPHA** is a national honor society recognizing scholastic achievement in Library Science. Membership is open to all students who have library science as either a major or an area of concentration. Students are required to have completed nine hours in library science with a QPA of 3.0 and to have good academic standing, overall. Each semester, the children of the community are entertained with a puppet show staged by Alpha Beta Alpha. Book reviewing sessions, which are open to the public, are offered annually. In addition, the outstanding senior is recognized with the society's **Plavny Award**.

**ALPHA EPSILON RHO** is a national broadcasting honorary, established in 1943 for broadcast students. The local chapters serve as a tool for bringing professional and student members together and is determined to improve and maintain the values of excellence and integrity within the industry. They provide the opportunity to find the "extra edge" necessary to succeed in the business.

**ALPHA LAMBDA** is the honor society for freshman students with superior scholastic achievement. It was established early in 1981 and is now affiliated with Phi Eta Sigma, the national freshman honor society. All freshman men and women (from any field of study) who have a 3.5 cumulative average and have been enrolled for at least 14 semester hours are eligible to join. All members of the society become lifetime members.



**ALPHA PSI OMEGA** is the honorary fraternity which encourages excellence in dramatic activities on campus. Members are working participants in major dramatic productions, as well as one-act plays. Requirements for membership include active participation in technical work or acting. Invitation for membership is determined by the accumulation of points in the above areas.

**BETA BETA BETA**, the biology honorary, was founded in 1922 to stimulate scholarship, further scientific knowledge and promote scientific research. Active members must be second-semester sophomores and must have nine hours in biology with a 3.0 QPA. Associate members must only show an interest in biology. The Slippery Rock (Lambda Lambda) chapter of Tri-Beta co-operates the second-hand bookstore, publishes a biology newsletter, assists with the recycling center and schedules field trips.

**DELTA MUDELTA** honor society recognizes and rewards superior scholastic achievements by students in the field of Business Administration (accounting, business and economics). To become eligible for membership, a student must have completed 63 semester hours, including 18 hours in the Economics and Business Department, with an overall QPA of 3.2. The Alpha Psi chapter co-operates the secondhand bookstore and sponsors other worthwhile projects.

**DELTA PSI KAPPA** is a national professional physical education honorary. The society furthers the high ideals and best interests of physical education while recognizing the achievements of women physical educators. Through both professional and social activities, it develops interest within the profession and promotes leadership and fellowship among its members. The honorary is open to women physical education majors with high overall academic achievements in general studies and physical education.

**DELTA SIGMA RHO** is organized and operated exclusively for educational purposes. Specifically, it promotes interest and recognizes excellence in forensics and original speaking. Requirements for membership include two years of undergraduate participation in forensics activities, and candidates must rank in the upper third of their class.

**ETA SIGMA GAMMA** is a national professional honorary in Health Science which strives to elevate the standards, ideals, competence and ethics of professionally trained members of the health science discipline. The Slippery Rock Omicron chapter, in existence since 1974, works to increase awareness of careers open to health science majors.

**GAMMA THETA UPSILON**, the geography honorary, strives to further professional interest in geography, providing professional training through academic experiences and increasing social relationships among those interested in geography. Requirements for induction include a 3.0 QPA in nine hours of geography and an overall QPA of 2.5. Associate members with a 3.0 in three hours of geography are also eligible to join. One of the past projects of Gamma Theta Upsilon was the restoration of the Old Slippery Rock cemetery. The fraternity also offers slide-lecture presentations on travel topics.

**KAPPA DELTA PI**, the national honor society in education, is eager to promote a closer bond among the students in education and fellowship with those dedicated to teaching as a profession. The Delta Tau chapter was established at Slippery Rock in 1938. The society is responsible for the Dean's List Tea, Honors Week activities and, at times, sponsors meetings of all the campus honoraries to promote joint projects. Any education major with a QPA of 3.25 or higher is invited to join the honorary.

**KAPPA GAMMA** is the scholastic honor society for students in communication. It also functions as a service and support organization for the Department of Communication in its activities. Minimum requirements for induction include second-semester sophomore class standing, a 3.0 QPA in communication, a 2.5 overall QPA and 18 credit hours in communication courses at Slippery Rock.



**LAMBDA EPSILON DELTA** is the honor society for elementary education majors. Students are required to have a 3.0 overall QPA after completing at least 60 semester hours. Members are required to participate in a pledge project and they also vote annually for the recipient of the Senior of the Year Award.

**LAMBDA SIGMA**. The purpose of this honorary is to recognize sophomore students who have enriched the life of the campus through their scholarship and leadership potential. Active members are chosen according to an election system approved by the National Board and are initiated in the spring of their freshmen year for membership as sophomores.

**MU KAPPA GAMMA**, the music honorary, is the service organization for the Music Department. It assists at recitals and other music events by publicizing and ushering. The honorary also serves to recognize talented musicians by offering chances to perform. Each spring a scholarship is awarded to one of the club's members. Initiation is sponsored each semester for students who have participated for at least three semesters in a campus music organization and who have maintained a 3.25 QPA.

**PHI ALPHA THETA**, organized in 1921, is an international honor society in history. The Slippery Rock Rho Iota chapter is comprised of students and professors who have shown excellence in the study of history. The objective of Phi Alpha Theta is the promotion of research, instruction, publication and exchange of experiences among historians. Any student may become a member by maintaining high academic standards in both history and general studies.

**PHI EPSILON KAPPA**, the national physical education honorary, was established at Slippery Rock in 1962. It honors outstanding male physical education majors. The objectives of the fraternity are to promote scholarship and to elevate the standards, ideals and ethics of those engaged in the teaching of physical education. The requirements for membership include a minimum overall QPA of 2.75 and a sophomore class rank.

**PI DELTA PHI** Gamma Chapter of the national French honorary, aims to recognize excellence in French studies. Members also communicate French language and culture to others by tutoring and sponsoring French cultural presentations. Neophytes are initiated annually. To be eligible to join, the student must have completed French Conversation and Composition (301) with a grade of "B" or better and must have a 2.8 overall QPA.

**PSI CHI**, the psychology honorary, aims to provide academic prestige to members by high standards for eligibility, to offer a congenial climate for professional growth, and to make active attempts at nourishing and stimulating that growth. Basis for memberships: (1) completion of twelve or more credits in psychology; (2) registration for major or minor standing in psychology or related program; (3) high standards of personal behavior; (4) good academic standing; (5) three-fourths vote of approval for membership at a regular meeting of the chapter. The honorary has several professional, social, and fund-raising activities.

**RHO PHI ALPHA** is the national honor society for students who have made outstanding contributions to the field of recreation. Initiates must be second semester sophomores with a 2.8 overall QPA and a 3.25 QPA in at least twelve hours of recreation at Slippery Rock.

**SIGMA DELTA PI**, the Spanish honor society, honors those who seek excellence in the study of Spanish language and literature. The society has four classes of membership. A student must have studied at least three college years of Spanish with a QPA of 3.0.

**SIGMA PI EPSILON DELTA**, the first Special Education honorary in the United States, was established at Slippery Rock University in 1977. The honorary seeks to recognize outstanding special education majors for academic achievement and service for handicapped persons. Members must have a QPA of 3.25 or higher with a minimum of nine credit hours in special education. They must also have accumulated 100 hours of volunteer work and be members of the Council for Exceptional Children.



**SIGMA TAU DELTA**, the English honorary, was established at Slippery Rock in 1935. Its primary objectives are to promote mastery in the written media, to encourage worthwhile reading, and to foster a spirit of fellowship among students and faculty of English. Students are required to have a 3.0 QPA in 15 credit hours of English and good academic standing overall to be eligible for initiation.

## Musical Organizations

In conjunction with the regularly scheduled student and faculty recitals, the university maintains the following, well-developed musical organizations which contribute to the wealth of fine music on the campus:

**UNIVERSITY CHOIR.** Some 60 to 70 men and women, chosen by audition, study and perform the great choral literature from the Renaissance to the present. Concerts are presented on campus and on tours.

**SYMPHONIC CHOIR.** This is a large ensemble, chosen by audition, which studies and performs the great choral literature.

**CHAMBER SINGERS.** This is a small ensemble of well-blended voices selected and trained for the performance of madrigals and other chamber vocal music.

**MARCHING ROCKET BAND.** The band performs during the half-time at football games, both home and away, and for other special events. Much of its music is especially arranged.

**CONCERT BAND.** The Concert Band members are carefully selected to provide a balanced instrumentation of the best players. Music written for the concert band is the main repertoire. Concerts are given by this group on campus and on tour.

**JAZZ-ROCK ENSEMBLE.** Students learn to perform in both jazz and rock idioms. Improvisation, original student compositions and arrangements are encouraged. The ensemble performs on and off campus.

**ORCHESTRA.** The Orchestra is a symphonic-sized ensemble comprised of strings, woodwinds, brass and percussion. All string players are eligible; woodwind, brass and percussion players are to consult with the director prior to registering.

**CHAMBER STRING ENSEMBLE.** The selected members of the Chamber String Ensemble study and perform chamber music written for strings.

**BRASS ENSEMBLE.** The Brass Ensemble studies and performs music for brass from all historic periods. Members are selected after auditions.

**WOODWIND ENSEMBLE.** The Woodwind Ensemble is a small, selected group of students which studies and performs music for woodwind.

**GOSPEL CHOIR.** The Gospel Choir is made up of students who enjoy singing Gospel music. The group sings on campus and goes on tour.



## Publications and Radio

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**ROCKET—weekly campus newspaper.** Its staff is made up of student reporters and editors who write on a wide variety of matters which directly concern the students and the university community. The paper serves as an outlet for student opinion, through the editorial and letter-to-the-editor columns. The Rocket publication covers news, sports, campus announcements, and special features. This publication provides an excellent experience for those students whose career goals are in the areas of journalism, advertising, layout and design, and general newspaper management.

**SAXIGENA—university yearbook.** Saxigena is published as a pictorial record of the year and of the graduating class. As a student operated organization, Saxigena encourages student involvement in management, photography, layout, copywriting, art work, typing and various clerical tasks, all necessary to make such a publication possible.

**WRCK—A.M. university radio station** is a student-operated network serving the campus community. Its format consists of popular contemporary artists, rock and roll, progressive rock, music and concert news, special features and local, national and international news and sports. WRCK operates during the day throughout the academic year and broadcasts exclusively to on-campus residence halls and some off-campus living facilities.

**WSRU—F.M.:** non-commercial, educational campus radio station.

**GINGER HILL—Campus literary magazine.** Poetry, prose, short fiction, drawing and photography submitted by members of the university community are presented in this magazine. It is published once a year, and the staff encourages total university participation.





## Religious Organizations and Places of Worship

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Students may find fellowship and opportunities for religious experience through the following groups:

Black Campus Ministry	Campus Crusade for Christ
Protestant Campus Ministry	Solid Rock Ministries
Catholic Campus Ministry	Canterbury Club
Lutheran Students Association	Slippery Rock Christian Fellowship
United Brothers for Christ	

The *Catholic Campus Ministry*, housed in the Newman Center, challenges students to learn, understand, and give witness to the Word in a contemporary society. Student-initiated programs and activities at the Newman Center attempt to give vision to the needs of students and help them develop Christian leadership.

The *United Campus Ministry* is an ecumenical ministry supported by seven Protestant denominations in Pennsylvania: the American Baptist Church, Christian Church, Church of the Brethren, Episcopal Church, United Church of Christ, United Methodist Church, and United Presbyterian Church. The purpose of the United Campus Ministry is to provide pastoral care for the university community and to be a visible witness to the Christian faith. As part of the Newman Center community, it proclaims the unity of Christ and seeks to make it visible.

The purpose of the *Black Campus Ministry* at Slippery Rock University is to educate, as well as spiritually uplift minority students. Church services are held every Sunday in the Newman Center. All students, faculty, administrators and staff are welcome to attend the worship services.

The *Newman Center*, located just off-campus near the Old Main building, was established for the purpose of providing a meeting place for worship and social gatherings for students. As noted above, many of the campus religious groups hold church services in the Newman Center each week.

Students are also always welcome at the many places of worship in and near the borough of Slippery Rock. Jewish students are provided with transportation to the Synagogue in Butler by university faculty members. The Campus Ministers at the Newman Center will assist in arranging for such transportation.

## Theatre Productions

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The Department of Theatre sponsors an active co-curricular program in theatre production. Each year, it presents four to five faculty-directed productions and a number of student-directed productions, one-act and full-length.

The season typically features a balance of Broadway hits, new plays and classics of the world theatre.

Participation in the program is open to any interested student and is not confined to theatre majors. Points qualifying one for membership in Alpha Psi Omega, the dramatics honorary, are earned through participation in this program.

## Continuing Education and Conferences

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**CONTINUING EDUCATION.** In keeping with its commitment to public education, the university provides high quality programming for the non-traditional student. Credit courses, workshops, and seminars are regularly scheduled to be convenient to the part-time student both in time and location. This permits the student to complete most of the required coursework for a variety of degrees while still holding a full-time job.

For those seeking professional development, but not needing college credit, Slippery Rock University awards Continuing Education Units (C.E.U.'s). The programs that are approved for C.E.U.'s have been created to insure maximum professional growth. The Continuing Education Office, through the faculty, has the resources to develop specialized programs to meet the needs of virtually any group, organization, or population.

In addition, leisure education, special short-term clinics and workshops are all integral parts of the continuing education function. For information, call (412) 794-7551.

**CONFERENCES.** More than 20,000 people take advantage each year of the excellent conference facilities at Slippery Rock. With housing for 2,600 on campus and banquet rooms that can seat from 20 to 500, arrangements can be made for almost any size group.

Slippery Rock University has carpeted meeting rooms which provide a warm intimate atmosphere, or, if the group is larger, the university has nine auditoriums. When combined with the classroom space, gymnasiums, practice fields, and the remainder of the campus, the university offers a totally self-contained resource for most any program.

Further details are available from the Conference Office (412) 794-7551.

## The Athletic Program

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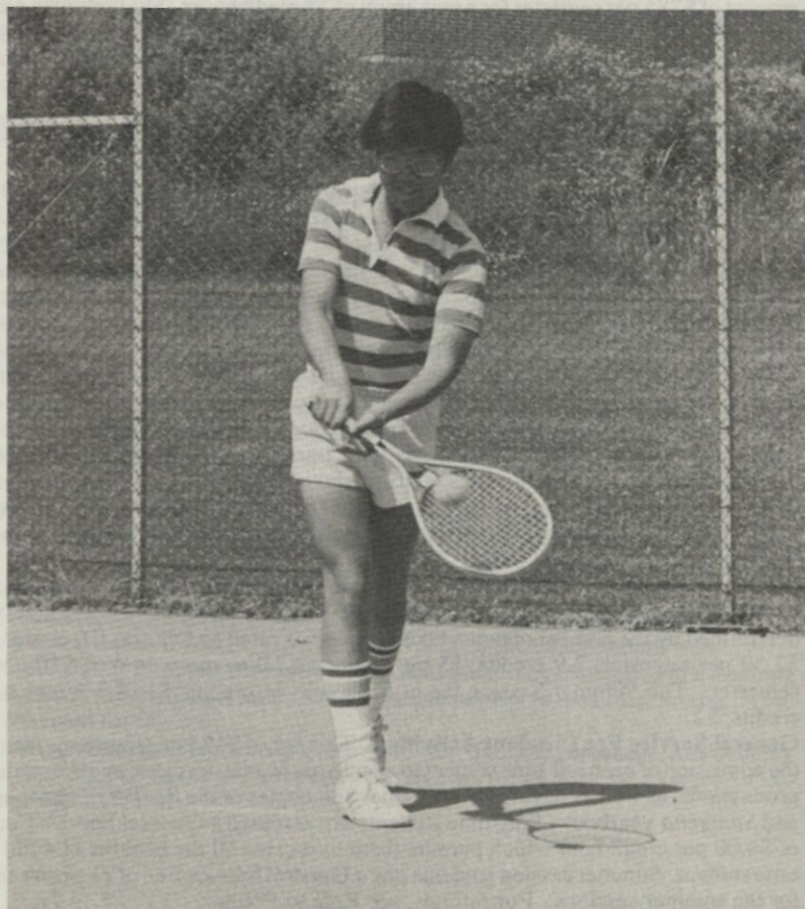
Always a strength at Slippery Rock, the athletic program is broad-based and affords **every** student at the university an opportunity to participate. The belief that sports and physical fitness help to expand the scope of today's education has led to a strong institutional commitment to athletics. Three types of athletic activities flourish:

**Intramural** activities attract students who want to participate in athletic competition with other students on campus. Seasonal schedules, tournaments, and special events are held between residence halls, fraternities, sororities, clubs, faculty, and commuting students. Intramural sports are provided for men and women separately, as well as together in coeducational activities. No less than 15 sports are currently offered as intramural activities and some sports have more than 1,500 students participating. Slippery Rock has one of the most extensive and healthy intramural programs in the country for a school its size. The sports presently being offered on the intramural level are flag football, kickball, volleyball, racquetball, broomball, tennis, basketball, wrestling, foul shooting, swimming, soccer, softball, track & field, golf, and gymnastics.



**Club** sports provide the opportunity for competition with teams from other colleges and organizations but at a less formal level than the intercollegiate athletic program. Each club sport is under the supervision and guidance of a qualified faculty member. Included in the present club sport offerings are soccer and water polo for women, plus ice hockey, lacrosse, powerlifting, rugby, volleyball, and water polo for men.

**Intercollegiate** athletics include a varied array of sports and make an important and meaningful contribution to the total educational objectives of the university. The strength of the SRU intercollegiate athletic program is its competitive framework as well as its desire for excellence in all 22 of the university's varsity teams. The program is also academically accountable. One of the strengths of the program is the quality athletic facilities which are unsurpassed on the college division level. The list of competitive, intercollegiate teams for women include cross country, tennis, volleyball, and field hockey in the fall; basketball, gymnastics, swimming, judo, and indoor track in the winter; and lacrosse, softball, and track & field in the spring. The men's sports include football, soccer, and cross country in the fall; basketball, wrestling, gymnastics, swimming, judo, and indoor track in the winter; and baseball, tennis, golf, and track & field in the spring. Slippery Rock is a member of the Pennsylvania State Athletic Conference (PSAC), and the National Collegiate Athletic Association (NCAA).



## FEES AND FINANCIAL AID

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The following fee information applies to all undergraduate students and is subject to change without notice.

### Basic Fees

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**Pennsylvania Residents.** Full-time students who are residents of the Commonwealth of Pennsylvania pay a basic fee to attend Slippery Rock University in the amount of \$785 per semester for a maximum of 18 credit hours. Students who are permitted to carry more than 18 credit hours will be charged \$66 for each additional credit hour. Part-time or extension students who are Pennsylvania residents taking 11 or fewer hours will pay \$66 for each credit hour. Full-time status is given to a student taking 12 or more semester hours.

**Non-Pennsylvania Residents.** Students who are not legal residents of Pennsylvania and register for 12-18 credit hours will be charged a flat rate of \$1,374 per semester. If more than 18 hours a semester are taken, a rate of \$115 for each additional hour will be charged. Out-of-state students who take fewer than 12 hours (part-time) will pay tuition at the rate of \$115 per credit hour. These rates apply to all curricula. The fees for room and board, General Service Fee and the cost of books and supplies are the same for all students, resident or non-resident. Students who enter the university from an out-of-state address will generally continue to be classified as non-Pennsylvania residents for fee purposes during their years at the university. An exception is made if the students' parents establish a legal residence in Pennsylvania. Establishing a Pennsylvania mailing address or a certificate of registration for voting purposes does not change students out-of-state status for fee purposes as long as their parents reside out-of-state. The establishment of a residence with a relative who is a Pennsylvania resident does not change a student's out-of-state status for fee purposes unless the relative legally adopts the student. For more information on residency requirements, contact the Student Accounts Office.

**Student Community Building Fee.** Mandated by state law, this fee is required to retire the general obligation bonds for the new University Union building. It is determined by the number of hours taken and is pro-rated as follows: 1-6 credits, \$2.50 per semester; 7-9 credits, \$5 per semester; 10 or more credits, \$10 per semester. The Summer Session fee is 1-3 weeks or credits, \$1; 4-6 weeks or credits, \$2.

**General Service Fee (Student Activities).** This fee of \$48 per semester covers the admission of each full-time student to all athletic events, lectures, and dramatic productions, as well as paying for class dues and copies of the *Rocket* newspaper and *Saxigena* yearbook. Part-time students are assessed a General Service Fee of \$4.00 per credit hour which permits them to receive all the benefits of a full-time student. Summer session students pay a General Service Fee of \$1 per week for the summer sessions. For refunds, see Refund Policy.



## Health Services Fee

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This fee is \$40 per semester for full-time students (12 credits and above) or \$16 per semester for students taking 6-11 credits. There is no charge for students taking less than 6 credits during a semester.

This fee provides the budget for operating the Student Health Center. All students registering for 6 or more credits are entitled to utilize the facility. (See also HEALTH SERVICES)

## Room and Board Fees

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**Board Fees.** If students reside in a campus residence hall, they are required to eat in the university dining halls. Students who live in off-campus housing may also board in the university dining halls if they choose. The dining halls are available to students during the time that the university is officially in session. The board fee is \$392 per semester.

**State-Owned Residence Hall Fees.** For students who live in one of the state-owned residence halls—Bard, Harner, North, Patterson, Rhoads, Dodds, Kraus and Founders the room fee is \$485 per semester. A non-refundable deposit is requested at the time a room is reserved.

**Privately-Owned Residence Halls.** A list of privately-owned residence halls and their fees is available in the Housing Office.

## Miscellaneous Fees/Charges

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**Graduation Fee.** A fee of \$20 is paid by each candidate for a degree to cover the cost of the diploma, one transcript, and Commencement expenses.

**Certification Fee.** A fee of \$15 must be paid and an application for certification made by each graduating senior seeking certification in teaching.

**Transcript Fee.** A fee of \$2 is charged for each copy of a transcript of grades.

**Private Music Instruction Fee.** The charge for private music lessons to students (voice, piano, band or orchestra instruments) is \$50 per semester per credit. Rental of room for practice one period per day is \$6 per semester. Withdrawal from the course on or before the last day to enter class constitutes 50 percent forfeiture of these fees. After that date, 100 percent of the special fees is forfeited.

**Parking Decal.** Students permitted automobiles on campus will be charged \$2 for a parking decal, removable each September.

**Overseas Student Teaching.** Students selecting overseas student teaching assignments will be charged an additional \$150 during that semester.

**I.D. Replacement.** A charge of \$10 is made for the first I.D. replacement and \$15 for all others.

**Credit by Examination.** Students challenging a course by examination must pay a \$50 fee for each course, payable in advance of the examination.

**Admission to Teacher Education.** Students pursuing certification in a teaching education program must pass a test of basic skills prior to the fifth semester. A fee is charged for this test.

**Damage Charges.** Students are responsible for damages, breakage, loss or delay in returning of university property, the cost of which may be charged to the individual student.

## Fee/Charge Regulations

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**Payment of Fees.** Prior to the opening date of each semester a notice requesting the payment of fees will be mailed to each student who has pre-registered. All student accounts must be paid as directed by the notice. Failure to comply with this requirement will postpone a student's enrollment to classes.

**Late Payment.** A student who does not make payment of university fees at the time stipulated will pay a charge of \$10. This applies to each individual payment date.

**Bad Checks.** A charge of \$10 will be assessed students for each check returned because of insufficient funds.

**Delinquent Accounts.** No student shall enroll, graduate, or receive a transcript of records until all fees have been paid in full.

**Late Registration Fee.** Each student registering after the date or time officially set for registration will pay a Late Registration Fee of \$10, except when permission for late registration has been secured in advance from the Registrar because of illness or any other unavoidable cause.

## Refund Policy (Graduate and Undergraduate)

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**Applicability.** The refund policy applies to all students (undergraduate, graduate, credit, non-credit) and all terms (regular semesters, summer school, mini-courses, workshops). It applies only to fees paid directly to the university. It does not apply to fees paid to others, such as off-campus housing and insurance.

**Cancelled Course or Workshop.** The student will receive a full refund of all fees paid for this course or workshop.

**Scheduled Course or Workshop is Changed by the University.** If the student elects not to attend, a full refund of all fees paid for this course or workshop will be made.

**Students Refused Readmission for Academic Reasons.** The student will receive a full refund of all fees paid for the new semester or term.

**Withdrawal from the University on or Before the First Day of Class of a Semester, Summer Sessions or Workshop.**

- A. Written notice. The student must notify the Registrar's Office in writing, and this notice must be received not later than the first full class day.
- B. Withdrawal from the university means that the student is withdrawing from all courses for a semester or summer session. When the student withdraws from some courses but remains in the university, refund is computed as in OVERPAYMENT section at the end of this policy.
- C. All fees paid for this semester, summer session or workshop will be refunded except:
  1. New full-time undergraduate students for a regular semester (not summer sessions) Students who are attending their first semester at Slippery Rock (including transfer students) will forfeit an amount equal to 10 percent of the full-time flat rate tuition for an in-state undergraduate student.
  2. The application fee (currently \$15) is not refunded.



**Withdrawal from University After the First Day of Class of a Semester, Summer Session or Workshop.** The student must complete the official withdrawal procedure.

- A. The fees refundable in all paragraphs of this section include tuition, health service, general service, residence hall and dining hall. They are refundable only for the percentages or number of weeks indicated.
- B. The following fees will not be refunded: Application Fee, Community Building Fee, Late Payment Fee.

**C. Regular Semester:**

1. Voluntary withdrawal The university will refund the following percentage of all fees in section A above, counting from the first full class day:

WITHDRAWAL DURING	PERCENTAGE REFUNDED
1st through 2nd week .....	80%
3rd week .....	70%
4th week .....	60%
5th week .....	50%
After 5th week .....	No Refund

2. Withdrawal forced by the illness, disabling injury, or death of the student or student's parent, guardian, spouse, or child. Illness or disabling injury must be substantiated by a physician's written statement. The charge will be only for the number of weeks attended based on the regular semester, and any amount of the fees listed in Section A above paid beyond this will be refunded.

**Summer Sessions Withdrawal/Refund Policy**

- A. Withdrawal on/or before the first day of class:

A student may obtain a full refund if the registration is officially cancelled on or before the first day of class.

- B. Withdrawal after the first day of class:

1. Voluntary withdrawal: 75% of basic tuition will be refunded to students who have officially withdrawn, based upon the following cut-offs.

Pre-Session. .... 3 class meetings

Summer Session .... 4 class meetings

Sessions I & II. .... 5 class meetings

Workshops. .... 25% of instruction

After the above cut-offs, no basic tuition will be refunded. Refund of Residence Hall rent, General Service Fee, and Meal Plan Fee will be based on weeks of attendance. Any portion of a week attended will count as a full week. The student Community Building Fee is not refundable after the first day of class.

2. Withdrawal forced by the illness, disabling injury, or death of the student or student's parent, spouse or child. Illness or disabling injury must be substantiated by a physician's written statement. The student will be charged for the number of weeks attended and only tuition, room, or board paid beyond that will be refunded. Any portion of a week will count as a full week.

- C. Official Withdrawal Defined:

For a student to be considered officially withdrawn, he/she must process forms through the following offices.

1. Office of the Registrar—for students withdrawing from Pre-Session, Session I, Session II, and Summer Session.
2. Office of Continuing Education and Conferences—for students withdrawing from workshops.

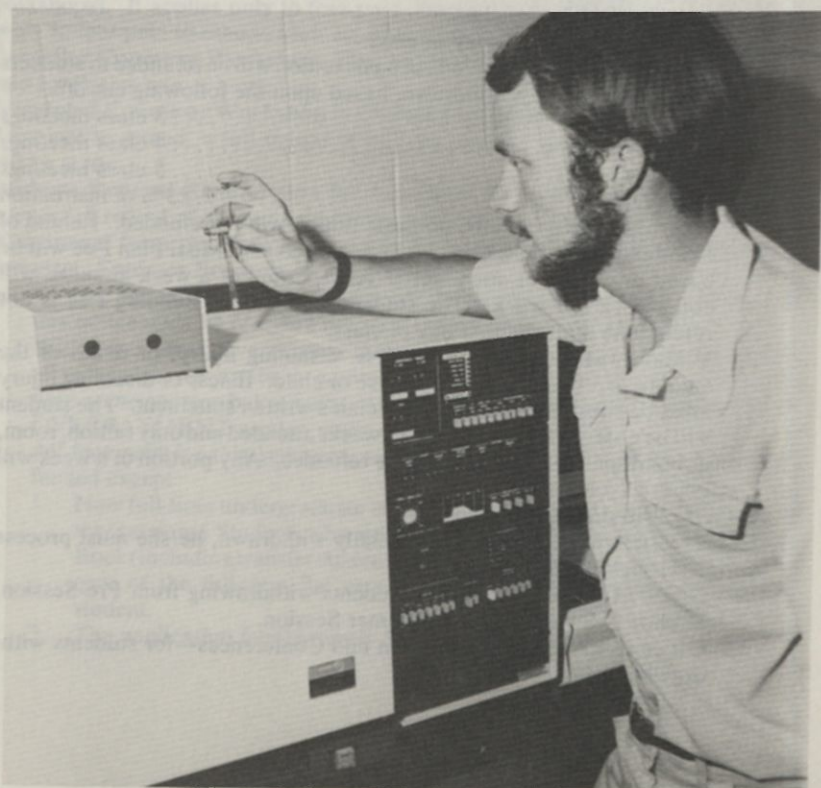
**Overpayment of Account with Student Remaining in University:** When the student's account is overpaid for one of the following reasons, the unearned fees will be refunded.

A. Reduction of the number of credit hours when the student is paying on an hourly basis:

1. Regular Semesters—The percentage of tuition refunded for the hours dropped will be as stated under "Regular Semester Voluntary Withdrawals" in the section of this policy concerning withdrawals from the university after the opening date of regular semester.
2. Summer Sessions—When the reduction takes place after the first week, there will be no refund or fee credit for the hours dropped. When the reduction takes place during the first week, the student shall be charged for those credit hours that remain plus one week of the reduced credit hours. For example: A student registers for six hours during a five-week summer session, but drops three hours during the first week. That student shall be charged for three hours plus one-fifth of three hours for the dropped course. When the reduction takes place after the first week, there will be no refund or fee credit for the hours dropped.

B. Approved withdrawal from the dormitory and/or dining hall (applicable only when withdrawal is preapproved by the appropriate Vice-President or designee). The student will be charged only for the number of weeks the student was in the dormitory or dining hall, based on a 15-week semester.

**Suspension or Dismissal from University other than for Reasons of Academic Standing.** No refund will be made to any such student; all money paid will be forfeited.





## Financial Aid

**Pell Grant.** To obtain a Pell Grant, the student must obtain a Pennsylvania State Grant and Federal Student Aid Application, complete it according to instructions and submit it to PHEAA, Towne House, Harrisburg, PA 17102.

About six weeks after submitting the application, the student will receive a Student Aid Index Report. This report will have printed on it an eligibility index number. If this number is 1700 or less, the student is eligible for a grant and all three copies of the Report should be sent to the Financial Aid Office.

Here based on the payment schedule published by the Federal Government, the actual award will be computed and the student copy of the Report returned.

If your Eligibility Index Number is	Your Approximate Pell Grant award is:
0 .....	\$1900
200 .....	1750
400 .....	1550
600 .....	1350
800 .....	1150
1000 .....	950
1200 .....	750
1400 .....	550
1600 .....	350
1700+ .....	0

In 1983-84, about 1700 Slippery Rock students received \$1,800,000 from the Pell Grant Program—an average award of \$1,060.

The deadline date for applying for this grant is May 1, 1986, for an award for the 1985-86 academic year.

**PHEAA State Grants.** Each year the Pennsylvania State Legislature appropriates funds to be administered by the Pennsylvania Higher Education Assistance Agency (PHEAA) for making grant awards to needy Pennsylvania students.

To apply for a state grant, the same application as is submitted for the Pell Grant must be submitted directly to the Agency in Harrisburg by May 1. Based on the family financial data, the cost of education at the student's selected college, and the amount to be received from the Pell Grant Program, the Agency determines the amount of the grant and notifies both the student and the college. These announcements are usually forthcoming sometime after May 1.

If the student is eligible for a grant, the minimum amount is \$100 a year; the maximum amount is 80% of tuition and fees. The amount received from the Pell Grant is taken into consideration in determining the grant amount. PHEAA, therefore, **requires** the student's applying for a Pell Grant before the state grant announcement is made.

In 1983-84, about 1,450 SRU students received \$750,000 from the PHEAA State Grant Program—an average award of \$517.

**College-Based Federal Program.** Each year, Slippery Rock receives an allocation from the Federal Government to operate (1) the Supplemental Educational Opportunity Grant Program, (2) the National Direct Student Loan Program, and (3) College Work Study Program.

The same State-Federal application submitted to Harrisburg is also used to apply for these programs. The deadline date is May 1 preceeding the academic year for which the student is requesting aid.

The student does not directly apply for any of the three programs. Based on the data received from Harrisburg, the financial aid director determines to whom and how much is awarded from each program.

**Supplemental Educational Opportunity Grant.** Because these funds are so limited, the University awards SEOG only to very needy students. The minimum award is \$200 the maximum is \$2,000. In 1983-84 about 400 SRU students received \$130,000 from the program—an average award of \$325.

**National Direct Student Loan Program.** The maximum aggregate amount that can be borrowed through the NDSL Program is \$6,000 for four years of undergraduate study—\$12,000 if the student continues into graduate study.

Repayment to the University begins six months after the student graduates or leaves school for other reasons. During the repayment period, the student will be charged five (5) percent interest on the unpaid balance of the loan principle.

The program provides certain loan cancellation benefits for borrowers who serve in the Armed Forces of the United States after receiving the loan or who enter certain types of teaching service.

In 1983-84, about 400 students received an average award of \$675.

**College Work Study Program.** During the 1983-84 year, 525 students worked on campus and earned \$400,000—an average earnings of \$695.

The University permits the student to work up to twenty (20) hours a week. The wage rate is the current minimum wage.

The student must find his/her own job on campus. All jobs are posted at both the Financial Aid Office and the place of employment. The names of all students who demonstrate a need are submitted to all employers on campus prior to the start of fall semester. Students on this list are given priority in the hiring process. No student, however, is guaranteed a job.

**Basis for Awarding Aid.** For the 1983-84 academic year, the following estimated budget was used in computing a student's financial need:

	In-State	Out-of-State
Basic Fee	\$1,570	\$2,748
University Union Fee	20	20
General Service Fee	96	96
Health Service Fee	80	80
Room & Board	1,754	1,754
Books & Supplies	300	300
Personal Expenses	700	700
	<hr/> \$4,520	<hr/> \$5,698

From the data submitted on the State-Federal application, the amount the family is capable of contributing is computed. Included in this family contribution is a student summer savings figure of \$700 for a freshman; \$900 for a sophomore, junior and senior. The difference between the budget and the family contribution is the financial need.



From this need figure, the amount received from Pell and/or PHEAA is deducted. Remaining need is then met, assisting neediest students first, with SEOG, NDSL, and CWSP until all funds from all three programs are exhausted.

**Self-Support (Independent) Students.** To qualify as a self-support student, all of the following conditions must be met. For the year preceding and during the year in which the aid is to be received:

- (1) *the student cannot live with parents for more than six consecutive weeks.*
- (2) *the student cannot be listed as an exemption on the parents' Federal Income Tax return.*
- (3) *the student cannot receive assistance worth \$750 or more from the parents.*

If the student meets all of the above conditions, only student data need be submitted.

Qualifying as a self-support student for PHEAA is somewhat different—this determination will be made by the Agency in Harrisburg.

**Non-Pennsylvania Residents.** The same PHEAA Federal application form used by Pennsylvania residents is required of non-Pennsylvania residents who wish to apply for assistance from the SEOG, NDSL and/or CWS programs. The form will automatically be sent to out-of-state applicants. In addition, the student should complete whatever application form is required by that student's state grant agency.

**PHEAA State Guaranteed Loan Program.** If students receive insufficient aid from all the preceding aid programs, they may investigate the possibility of obtaining a guaranteed loan from their own local lending institution.

A maximum of \$2,500 per academic year with a \$12,500 aggregate maximum for undergraduates may be borrowed under this program. Any amount obtained will be used as part of the students' financial aid package. (Maximum loan for graduate students is \$5,000 per year \$25,000 aggregate.)

**To apply:** Obtain an Application for a State Loan Guaranty and Needs Test Form from the student's local hometown lending institution. Complete both forms and submit them according to instructions.

Six months after the student terminates his/her education, repayment will begin to the lending institution at nine (9) percent interest. There are no forgiveness provisions.

There is no deadline date for applying for this loan. Once a student receives one loan, applications for succeeding years will automatically be sent by PHEAA at the expiration date of the previous loan.

While the above briefly explains the Guaranteed Loan Program in Pennsylvania, all other states have a similar program.

Recent legislation has brought about the following provisions governing the guaranteed loan program:

- (1) Students whose family's adjusted gross income is \$30,000 or more must undergo a financial needs test to determine if they are eligible.
- (2) A student with demonstrated need of \$1 to \$499 may get a loan up to the need amount.
- (3) A student with demonstrated need of between \$500 and \$1,000 may process a loan for up to \$1,000.
- (4) A student with a demonstrated need greater than \$1,000 may get a loan up to need amount.
- (5) A five (5) percent origination fee will be deducted from the face value of each student's loan by the lending institution.



**Family Partnership Loan.** Students who are rejected for the State Guaranteed Loan or who have their requested amount reduced by \$1000 or more because of family income may be eligible for the new Family Partnership Loan. Details of this program are available in the University's financial aid brochure or by calling (412) 794-7247.

**Parental Loan for Undergraduate Students.** This program enables the parent to borrow up to \$3,000 annually \$15,000 cumulatively. The maximum interest rate is twelve (12) percent; repayment begins within 60 days of disbursement. The total amount borrowed by the student under the state guaranteed loan program and the parent under the parental loan program cannot exceed the total cost of education.

**State Student Employment Program.** For those students who do not demonstrate a financial need and thus do not qualify to work under the Federal Work Study Program, the University operates an extensive employment program using state funds. Maximum hours and the wage rate are the same as the CWS Program.

In 1983-84, about 1,000 students earned about \$800,000 from this program with average earnings of \$800.

**The Billing Process.** The University bills on a semester basis—in July for the fall semester, in December for the spring semester. Summer courses must be paid for at the time of registration.

Any amounts received from Pell, state and institutional grants, and NDSL will be deducted from the bill. Any balance must be paid by the due date.

**General Comments.** To be eligible for the PHEAA State Grant, a student must be full-time (12 or more credits per semester). All other programs are available to less than full-time students. Carrying less than a full load will, however, reduce the amount of the award considerably.

All aid programs require the student's making satisfactory academic progress. Academic progress for financial aid purposes is defined as the successful completion of 24 new credits after two semesters with a 1.5 QPA; 48 after four semesters, 1.75 QPA; 72 after six semesters, 2.0 QPA; 96 after eight semesters, 2.0; and 120 after ten semesters, 2.0 QPA. For a more detailed explanation of progress, check the Financial Aid Program brochure.

**Academic Management Services.** A plan which enables the annual fees to be paid in ten monthly payments is available through this private organization (AMS). There is a charge of \$40 a year (subject to increase) for this service. Advance monthly payments begin in June. Information about this plan is automatically mailed to all new students in the spring before their enrollment. Persons desiring information in advance of this spring mailing or upperclassmen may obtain details of the plan by writing to Academic Management Services, Inc., 1110 Central Avenue, Pawtucket, Rhode Island 02861, or calling them toll free at 800-556-6684.

## Academic Scholarships

Several scholarship sources are available for academically talented persons, in addition to the aid available to all students through the state and federal government. One such program, the University Academic Scholarship Program, is funded through contributions from students, staff, faculty and friends of the university. It provides for ten renewable (on attainment of a 3.250 QPA) scholarships of \$750 each to incoming freshmen whose high school records and SAT scores indicate superior ability.

Some individual colleges and departments within the University also have scholarship awards based on achievement, in addition to alumni funded scholarships. Information is available from the Financial Aid Office.



## ACADEMIC PROCEDURES AND POLICIES

Academic procedures and policies are subject to change during the time a student is enrolled in the University. These changes will usually be in course content, but may also involve the requirements in departmental majors. Any such changes are publicized to students through the *Green and White*, *The Rocket* and/or by the specific department involved.

**Classification of Students.** Undergraduate students are classified according to the number of semester hours completed.

95 semester hours or more .....	senior
63-94 semester hours .....	junior
25-62 semester hours .....	sophomore
24 semester hours or less .....	freshman

Classification questions are to be directed to the Registrar.

**Advanced Standing.** During the semester in which 60 semester hours are to be completed, a student will be reviewed for **Advanced Standing**. A student who has transferred more than 48 or more semester hours must apply no later than the second semester of registration. To receive **Advanced Standing** the student must have accomplished the following:

1. Completed 60 semester hours.
2. Earned a minimum 2.0 cumulative quality point average at Slippery Rock University.
3. Satisfactorily completed basic skills courses (competencies) in English, Communication, Fundamental Mathematics and Reading and Study Skills.
4. Chosen a major and received approval from the appropriate department chairpersons. Approval is based upon criteria developed by the department and approved by the appropriate dean.

A student who does not meet these requirements will not be permitted to register for upper level major courses and, during the next semester will be expected to complete the necessary requirements for **Advanced Standing** by taking the appropriate fundamental skills courses and/or repeating those courses in which D or F grades were earned.

\*Department may establish requirements beyond those listed above. Departments that have done so are identified below. Specific requirements should be obtained from the departmental chairperson.

Business Administration	Modern Language
Communication	Nursing
Computer Science	Philosophy
Curriculum and Instruction	Physical Education
Economics	Physics
Mathematics	Sociology/Anthropology/Social Work

**Course Levels.** The following course numbering system is used: 100-199 are freshman level courses; 200-299 are sophomore level courses; 300-399 are junior level courses; 400-499 are senior level courses. Graduate courses are numbered 500-800. With approval of the Dean, juniors and seniors having a 2.500 cumulative quality point average may enroll in 500-numbered courses. Courses numbered above 600 are limited to graduate students.

**Academic Advisor.** Academic advisors are assigned in the freshman year by each school's freshman advisement coordinator. Students are reassigned academic advisors according to major during the sophomore year. Secondary Education students are assigned academic advisors by the Department of Curriculum and Instruction in consultation with the content area department. Undeclared majors are assigned academic advisors by the Academic Advisement Coordinator.

**Change of Major.** Forms for changing majors may be obtained in the offices of the deans or registrar.

**Policy on Absence.** Slippery Rock University does not have a general policy on student absence from class. The determination of individual class attendance requirements and their enforcement rests with each individual instructor. Students are expected to attend every class session of the course for which they are registered. Attendance may be required for approved classes or fieldtrips outside the regular schedule if such activities are listed as required in a course description in the catalog and course syllabus.

**Attendance Expectations.** Instructors are required to inform their students of attendance requirements and of the circumstances and/or conditions under which an absence will be excused. An instructor is to make some allowances for absence occasioned by illness, by authorized activities for the university, and by religious holidays. Arrangements to make up work because of class absence are a student responsibility.

**Grade Release Policy.** Public Law 93-380 (The Family Educational Rights and Privacy Act of 1974) prohibits the release of educational records, other than to certain defined exceptions, without the student's consent. One such exception is Section 438 (b)(1)(H) which allows release of educational records to "Parents of a dependent student, as defined in Section 152 of the Internal Revenue Code of 1954."

Under the provisions of Section 438, the Registrar's Office will send grades to parents. Students who are not dependents, meaning they are not so claimed by their parents for income tax purposes, may have their grades withheld from their parents by filing a request at the Registrar's Office that their grades are not to be sent home.

**Grading and Quality Point Conversion System.** The following grading system is used by the faculty:

A—Excellent .....	4 quality points
B—Good .....	3 quality points
C—Satisfactory .....	2 quality points
D—Poor .....	1 quality point
F—Failure .....	0 quality points
I—Incomplete .....	0 quality points
WP—Withdrawal Passing .....	0 quality points
WF—Withdrawal Failing .....	0 quality points
P—Pass .....	0 quality points
NC—No Credit .....	0 quality points
AU—Audit .....	0 quality points
W—Withdrawal .....	0 quality points

**Quality Point Average.** Quality points for a single course are calculated by multiplying the points assigned the letter grade (as above) by the number of semester hours of the course. Total quality points are calculated by adding the quality points earned in each course. The quality point average (QPA) is computed by dividing the total quality points earned by the total number of credit hours attempted exclusive of repeat courses. Grades earned in courses taken at other colleges for transfer are not computed in the quality point average at Slippery Rock University. QPA equals Quality Points divided by Hours Attempted.



**Repeat of Course.** Students may improve their quality point average by repeating courses. The last grade earned is used in calculating the QPA. However, all grades will appear on the transcript.

**Incomplete Grades.** The assignment of incomplete grades is the prerogative of the individual faculty member and is granted when extenuating circumstances prevent a student's completing the course requirements within the time period. An incomplete grade is converted to a grade of "F" if the incomplete grade is not resolved by the close of the next semester of attendance (not including summer school).

**Pass-No Credit Grading System.** In fulfilling graduation requirements, students may schedule a maximum of 12 hours of pass-no credit in the sophomore, junior and senior years. Students must select these courses at registration and cannot change the pass-no credit designations after the first two weeks of the semester. For these 12 hours, free elective courses in the General Education block may be taken under pass-no credit. Some selected courses are not included in the 12 hour limitation. Students may not take more than one pass-no credit course during a semester.

Courses taken under the pass-no credit system are not used in computing the QPA. Credit for such courses is recorded toward meeting the total credit requirements if the course is passed. A grade of No Credit (NC) will be recorded if the course is failed.

Pass-no credit is not synonymous with "audit." In pass-no credit, all course requirements must be met by the student.

**Academic Probation.** If the quality point average (QPA) for all courses attempted at Slippery Rock University is less than a 2.0 (C) the student will be placed on academic probation. The student may continue in school under conditions agreed to by the student and the appropriate Academic Dean.

#### **Academic Suspension**

1. A student who earns a QPA of .000 (or is deficient 24 quality points) during the first semester will be suspended.
2. After the first semester, a student who earns a QPA of less than 1.00 in any semester will be suspended.
3. A student who is on academic probation for two consecutive semesters and does not earn a 2.0 in the third semester will be suspended.
4. A student who is on probation two semesters and is deficient 12 quality points will be suspended.
5. A student who is on probation three semesters and is deficient 6 quality points will be suspended.
6. A student who is on probation four semesters and is deficient 3 quality points will be suspended.
7. A student who has earned more than 95 credit hours and has a QPA of less than 2.0 will be suspended.

Ordinarily, a first suspension is for a period of one semester and a second suspension is for a period of one year.

**Academic Dismissal.** A student who has had two academic suspensions recorded on his/her official transcript and again qualifies for suspension will be dismissed from the University. This student may not be readmitted.

**Appeal of Academic Suspension and Dismissal.** A student may appeal the actions of suspension and dismissal to the appropriate Academic Dean. The Dean will appoint a review panel to consider the appeal.

**Readmission.** A student who has interrupted attendance for any reason and wants to resume studies at Slippery Rock University must apply for readmission to the appropriate dean (Dean of the College of Arts and Sciences or Dean of the College of Professional Studies) at least one month prior to the beginning of the semester/term. The student who has been on academic suspension and is readmitted will be advised of the specific conditions of readmission by the dean.

**CREDIT EARNED AT ANOTHER COLLEGE OR UNIVERSITY BY A STUDENT WHILE ON ACADEMIC SUSPENSION OR PROBATION MAY BE CONSIDERED FOR TRANSFER TO SLIPPERY ROCK UNIVERSITY FOR CREDIT TOWARD GRADUATION WITH PRIOR APPROVAL OF THE APPROPRIATE DEAN.**

**Student Semester Hour Load.** The number of credit hours a student may carry is determined by the cumulative quality point average as follows:

- If the cumulative QPA is less than 2.000, the student is limited to 12 to 16 semester hours, inclusive of any repeat courses that are scheduled.
- If the cumulative QPA is 2.000 to 2.50, a maximum credit hour load of 18 is permitted.
- If the cumulative QPA is 2.50 or above, a maximum of 21 semester hours is permitted. An additional fee is charged for each credit hour in excess of 18.
- Under certain conditions it is possible for students to take credit courses by examination in a subject field. Further information is available in the office of the dean.

**Drop, Add, Withdraw.** Full semester courses may not be added after the first week that the course has met. During the first three weeks of a semester, students who withdraw from a class will receive a "W." Students may withdraw from a class after the third week but before the beginning of final examinations with a grade of "WF" or "WP", depending on their performance. A "WF" indicates "withdrawal failing" and is treated as an "F" for purposes of calculating the quality point average. Students taking "Fundamental Skills" courses in the General Studies Program may not withdraw once enrolled.

**Transient Student Status.** Slippery Rock University students who plan to take courses at another institution must receive written permission of their dean **prior** to taking the courses. Students who have earned more than 67 semester hours toward graduation may earn credits for transfer only at four-year, degree-granting institutions.





# General Requirements for a Degree

1. **Scholarship Requirements.** The requirements for graduation are:
  - A minimum of 128 semester hours of credit.
  - A minimum cumulative quality point average of 2.0.
  - A minimum quality point average of 2.0 in the major field and/or in teacher certification areas. A higher quality point average is required in some majors.
2. **Graduation Honors.** To earn graduation honors, the following cumulative QPA must be attained:
 

Summa Cum Laude .....	3.75 - 4.000
Magna Cum Laude .....	3.50 - 3.749
Cum Laude .....	3.25 - 3.499

Graduation honors do not apply to students earning a second baccalaureate degree.
3. **Degree in Residence.** To qualify for graduation, a student must complete the last 36 hours of credit for the bachelor's degree in residency at Slippery Rock University. A student must be registered at SRU for the semester at the close of which the degree is to be conferred.
4. **Procedural Requirements for Obtaining a Degree.** Students must make formal application to the Registrar's Office prior to the semester/term in which they expect to graduate. A diploma fee is payable at that time. Eligible students should apply for a teaching certificate at the time they apply for graduation. A certification fee is payable at the time of application. Students who expect to teach in Pennsylvania must take a physical examination and a chest X-ray or a tuberculin skin test during their senior year. Arrangements must be made with the university infirmary at the beginning of the last semester of the senior year.

**Dean's List.** The Dean's Scholarship List is published each semester. To attain the Dean's List, a student must earn a quality point average of 3.50 or higher for at least 12 graded semester hours.

**Auditing Courses.** Students desiring to audit courses must receive approval of the advisor and the appropriate departmental chairperson. Normal registration procedures must be completed. Audit course fees and credit fees are the same.

**Senior Citizens.** Senior citizens (persons receiving social security or equal retirement benefits) may take courses at no cost at Slippery Rock University on a space available basis. Senior citizens must provide proof of retirement, name, address, and social security number in order to complete registration.

**Withdrawal From the University.** Students who withdraw from the university must complete an official withdrawal form obtainable at the Registrar's office. Regular charges will be assessed until the withdrawal notice is received by the Office of Student Accounts.

**Transcripts.** Transcripts of a student's academic record may be obtained from the Registrar's Office upon the **written request by the student**. Each copy costs \$2.00 and requests should include a check or money order made payable to the Slippery Rock University. Transcripts are not released if a student has outstanding financial obligations to the university.

**Academic Complaints.** Students who want to file a complaint related to their academic performance should adhere to the following procedure. Contact must first be made with the instructor. Barring resolution at the instructor level, students are to contact the appropriate departmental chairperson, and the appropriate dean. Further appeal is to be directed to the Vice President for Academic Affairs.

**Cheating and Plagiarism.** Academic dishonesty is considered a major violation of the university's code of conduct and an offense against the university. Any student charged with academic dishonesty will be dealt with by either the Coordinator of Student Standards or the course instructor. If the instructor handles the matter, the instructor is to inform the departmental chairperson of the problem and its resolution. The departmental chairperson is to forward the information to the appropriate dean who will then inform the Vice President for Academic Affairs. If the instructor decides to refer the matter to the Office of Student Standards, the Coordinator of that office will begin institutional action by bringing the case before the Academic Investigatory Committee. The student may face judicial action as a result of the Committee's investigation.

**Final Examinations.** At the termination of each semester/term, all final examinations are administered during the time stipulated in the examination schedule which is printed in the *Schedule of Classes*. The decision to give a final examination is the prerogative of the faculty members but if a final examination is given, it is to be administered according to the time as stipulated in the examination schedule. Any exceptions to this policy must be approved by the appropriate dean. The class will meet during the scheduled examination time if no examination is given.





## Group IV

Natural Sciences and Mathematics (five courses in five departments) 12-13

Biology

Geology

Chemistry

Mathematics

Computer Science

Physics

\*A course containing laboratory experience is required.

## Group V

Social and Behavioral Sciences (five courses in four departments) 12-13

Psychology 12-13

Political Science 12-13

History 12-13

Economics and Finance 12-13

Management Information Systems 12-13

Accounting 12-13

Marketing 12-13

Human Resources Management 12-13

International Business 12-13

Business Law 12-13

Business Ethics 12-13

Business Writing 12-13

Business Communication 12-13

Business Statistics 12-13

Business Calculus 12-13

Business English 12-13

Business Law 12-13

Business Ethics 12-13

Business Writing 12-13

Business Communication 12-13

Business Statistics 12-13

Business Calculus 12-13

Business English 12-13

Business Law 12-13

Business Ethics 12-13

Business Writing 12-13

Business Communication 12-13

Business Statistics 12-13

Business Calculus 12-13

Business English 12-13

Business Law 12-13

Business Ethics 12-13

Business Writing 12-13

Business Communication 12-13

Business Statistics 12-13

Business Calculus 12-13

Business English 12-13

Business Law 12-13

Business Ethics 12-13

Business Writing 12-13

Business Communication 12-13

Business Statistics 12-13

Business Calculus 12-13

Business English 12-13

Business Law 12-13

Business Ethics 12-13

Business Writing 12-13

Business Communication 12-13

Business Statistics 12-13

# UNDERGRADUATE DEGREE PROGRAMS

- General Studies
- An Overview
- Special Programs
- School of Education
- School of Health, Physical Education and Recreation
- School of Humanities and Fine Arts
- School of Natural Sciences and Mathematics
- School of Social and Behavioral Sciences

## GENERAL STUDIES

One of the purposes of the university is to provide students with a liberal education designed to make them enlightened and informed citizens. Therefore, to give greater breadth of learning and liberal arts philosophy, the university requires all students to take 60 credit hours of general studies, regardless of their major. In consultation with their advisors, students should make every effort to complete the skill courses during their freshman year and to elect courses for the group category areas of the general studies outlined during their freshman and sophomore years.

### GENERAL STUDIES CURRICULUM

Group I	Hours
Basic Skills .....	14
Fundamental Skills .....	0-12**
English 100 (by advisement only) .....	3
Curriculum & Instruction 100 (by advisement only) .....	3
*English 101 .....	3
*English 103 .....	3
*Mathematics 101 .....	3 (0)
*Communication 200 .....	3 (0)
Physical Education 141 and one additional 1 semester hour course .....	2
*Through testing, students may be exempted from these courses.	
**Credits beyond 12 that are earned in the Fundamental Skills area will be in excess of the 128 needed for graduation.	

<b>Group II</b>	
Humanities and Fine Arts (four courses in three departments) .....	12
Art	Music
English	Philosophy
Communication	Theatre
*Modern Languages	
*Proficiency at the 103 level of a modern language or the equivalent is required for the Bachelor of Arts degree. Exemption by placement is possible. The modern language courses used to satisfy the Bachelor of Arts degree requirement may not be used in the Humanities and Fine Arts area.	

<b>Group III</b>	
Social and Behavioral Sciences (five courses in four departments) .....	15
Geography & Environmental Studies	Political Science Public Administration
History	Psychology
Economics and Finance	Sociology, Anthropology,
Management and Marketing	Social Work
Accounting	



**Group IV\***

Natural Sciences and Mathematics (four courses in three departments) 12-13

Biology	Geology
Chemistry	Mathematics
Computer Science	Physics

\*A course containing a laboratory whether or not it carries a separate credit is required.

**Group V**

Electives ..... 6-19

Any course approved for General Studies offered by any department in the university, excluding major department courses, is identified in the master schedule and in this catalog by an asterisk (\*).

**The Basic Skills.** The skills of writing, reading, communication, and mathematics are of paramount importance to success in college. The faculty at Slippery Rock University has determined that each student, beginning with the first year of enrollment, will demonstrate proficiency in each of these areas to enhance the potential for a meaningful academic experience. Courses are offered in each of these areas to allow students the opportunity to become proficient. All new students will be evaluated in the skills areas so that advisors will be more knowledgeable in placing students in courses most appropriate with their level of achievement. As a result of this evaluation, some students may be exempt from all or some of the fundamental skills courses. All Fundamental Skills courses will be graded as A, B, C, or No Credit and will be governed by the "Continuous Registration Procedure."

A. *Fundamental Skills Courses* (Maximum 12 credits counted toward graduation)

- English ..... 0-9 credits  
The student will be exempt or placed into one of the English courses listed below based upon skill as demonstrated in a writing sample. The student must satisfactorily complete that course and any other in the sequence having a higher number.  
English 100, Basic English Skills ..... 3 credits  
English 101, College Writing I ..... 3 credits  
English 103, College Writing II ..... 3 credits
- Communication ..... 0 - 3 credits  
The student will be exempt or placed into Communication 200, Public Speaking
- Mathematics ..... 0 - 3 credits  
The student will be exempt or placed into Mathematics 101, Basic Mathematics.
- Reading-Study Skills ..... 0-3 credits  
The student will be exempt or placed into CuIn 100, Reading Study Skills Improvement

B. *Physical Activity Skills* (2 credits maximum in skills block)

The skills developed in the physical education activity courses are intended to serve the student in the pursuit of an active lifestyle during college and beyond. Two one-semester hour courses are required, including Physical Education 141, Personal Physical Fitness. Additional courses may be taken as electives.

**Continuous Registration Procedure.** The courses designated as "Fundamental Skills" courses are subject to continuous registration. Each student, during the first semester of enrollment, will be placed into the appropriate course in each skills area. If the course requirements are satisfactorily met, the student will receive a grade of A, B, or C. If the expectations are not met, the student will receive a "NC" (No Credit) and will repeat the course the following semester. If on the second attempt of the same course the student has not met the expectations, a grade of "F" will be posted to the permanent record.

## University Honors Program

This is a special honors program for those students who strive for academic excellence in addition to excellence in their majors. The courses are separate from those in a major and may replace many general studies courses. However, the honors courses may accompany a major in any department. A small group of faculty will work closely with honors students to teach and encourage individual development during their college years. Transcripts will designate General Honors Program for those students completing the honors curriculum. To enter, freshmen require a combination of demonstrated achievement and strong recommendations; transfer students additionally need at least a 3.5 academic average.

### Honors Curriculum

#### **Freshman Year:** *Sharpening academic skills*

- Expository Writing (3 credits)
- Principles of Reasoning or Advanced Mathematics (3 credits)
- Colloquium: Group Organization (1 credit)
- Colloquium: Creativity (1 credit)

#### **Sophomore Year:** *Understanding mind, body, and self*

- Life/Human Science (3 credits)
- History of Ideas (3 credits)
- Colloquium: Special Topics (2 credits)

#### **Junior Year:** *Exploring social complexity*

- Language, Thought, Action (3 credits)
- The Human Environment (3 credits)
- Colloquium: Special Topics (2 credits)

#### **Senior Year:** *Integrating the educational experience*

- Honors Projects (3-6 credits)





## UNDERGRADUATE DEGREE PROGRAMS—AN OVERVIEW

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At Slippery Rock, students may study for a Bachelor of Fine Arts, Bachelor of Arts, Bachelor of Science, Bachelor of Science in Education, Bachelor of Science in Business Administration, Bachelor of Science in Nursing or Bachelor of Music degrees. Majors are offered through five schools. A list of the schools and the majors offered follows. Students may get more detailed information on each major either in the Special Programs section or in the individual school descriptions on succeeding pages.

### School of Education

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- Majors in:
- Elementary Education
  - Library Science
  - Music Education
  - Secondary Education
  - Special Education

### School of Health, Physical Education and Recreation

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- Majors in:
- Administration of Occupational Health and Safety Management
  - Environmental Education
  - Health Science
  - Health and Physical Education
  - Nursing
  - Parks and Recreation/Environmental Education

## School of Humanities and Fine Arts

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Majors in:

- Art
- Communication
- English
- Modern Languages
- Music
- Music Education
- Music Therapy
- Philosophy
- Theatre

## School of Natural Sciences and Mathematics

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Majors in:

- Biology
- Chemistry
- Computer Science
- Environmental Science
- Geology
- Mathematics
- Medical Technology
- Physics

## School of Social and Behavioral Sciences

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Majors in:

- Accounting
- Economics
- Environmental Studies
- Finance
- Geography
- History
- International Business
- Management
- Marketing
- Political Science
- Psychology
- Public Administration
- Rural & Urban Studies
- Social Work
- Sociology and Anthropology

**Second Baccalaureate Degree.** If students meet all requirements for a degree in one area and would like to pursue a second degree in another area, they may do so by:

- taking a minimum of 36 semester hours at SRU **beyond** the first baccalaureate degree;
- meeting departmental requirements for the degree in respect to the required semester hours and courses for a major in that department; and
- meeting degree requirements in respect to courses required for the requested degree.



## SPECIAL PROGRAMS

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Slippery Rock has a number of areas of study that are considered "Special Programs."

Some of these are *interdisciplinary degree* programs that permit students to get a major in an area that combines related courses from several departments. These include applied science, environmental studies, environmental science, and rural/urban studies.

Some of the special programs are *pre-professional*. They give students a solid basic background for further specialized study in a professional area. These include pre-engineering, pre-law, pre-medical, pre-dental, pre-veterinary, pre-physical therapy, pre-medical record science, and pre-optometry.

A third type of special program includes those where students may concentrate in a *specific area of interest*. While these do not constitute a major, students may get a strong minor which may expand their career opportunities. They include marine science, gerontology, and women's studies.

Other special programs include the Summer Sessions, Study Abroad Programs, University Enrichment Program, Internships, Air Force ROTC Aerospace Studies, Army ROTC, and Project Ahead.

## Applied Science

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The Bachelor of Science in Applied Science (B.S.A.S.) degree is designed for the student who has already earned an Associate degree (either an Associate in Science or Associate in Applied Science) from an accredited two-year institution. The associate degree program must include a technical (applied science) major of at least 35 semester hours. A maximum of 67 semester hours completed at a two-year institution may transfer to Slippery Rock University.

The requirement of an associate degree certifies the adequacy and completeness of the technical training and clearly defines the B.S.A.S. as a transfer program. Once accepted as a candidate for the Bachelor of Science in Applied Science, the student must complete the following requirements.

1. Earn a total minimum of 128 semester hours.
2. Complete the full Slippery Rock University general education requirements.
3. Complete the 12 semester hours professional block designed to prepare the student to assume leadership roles. These courses are as follows:

Comm 315:	Organizational Communication . . . . .	3 sem. hrs.
Econ 350:	Principles of Management . . . . .	3 sem. hrs.
Phil 333:	Philosophy and Alternative Futures . . . . .	3 sem. hrs.
Psyc 310:	Organization and Management . . . . .	3 sem. hrs.

Prerequisite for the above courses include Psyc 110: Principles of Behavior and Math 120: Intermediate Algebra.

Questions regarding the Bachelor of Science in Applied Science should be directed to the office of the Assistant Dean, Graduate and Special Academic Programs.

## Environmental Programs

Students at Slippery Rock have the option of working toward a Bachelor of Science degree in Environmental Studies or Environmental Science or a Bachelor of Science in Education in Environmental Education. The Bachelor of Science degree may be earned by taking course work in either of two different programs, one administered by the Department of Geography and Environmental Studies, the other by the School of Natural Sciences and Mathematics. The B.S.Ed. is administered by the Department of Parks and Recreation.

**Environmental Studies.** This program is directed by the Department of Geography and Environmental Studies. Students are introduced to environmental problems confronting contemporary society and examine these problems from various disciplinary points of view. An important goal of the program is to give students a balanced understanding of the relationships that exist between social/behavioral and environmental systems.

Students in Environmental Studies are required to take a variety of courses in both the social and natural sciences. Elective courses within the program permit students to pursue their individual interests in greater depth. Students majoring in Environmental Studies will examine environmental problems in both their physical and geographic context and will relate them to historical, psychological, political and economic conditions. Toward the end of their studies, students, under the guidance of a selected professor, identify a research problem of their choice, gather and analyze data, and prepare a formal paper on the topic.

It is suggested that students intending to enter the Environmental Studies Program contact the coordinator as soon as possible for the assignment of an academic advisor to assist in the scheduling of individual courses and in advising on career plans and other matters.

I. General Studies Program (60 sem. hours). General studies courses are distributed among various schools and departments of the university. They should be begun during the freshman year.

II. Social Science Core Courses for Environmental Studies (18 sem. hours). The following courses are all required courses in the program.

- Geog 135—Environmental Problems
- Psyc 189—Environmental Psychology
- Econ 205—Environmental Economics
- PolS 324—Politics of Ecology
- PkRc 340—Environmental Resource Analysis
- His 445—U.S. Environmental Thought

III. Natural Science Core Courses (9 sem. hours). Students select three of the following courses.

- Biol 105—Environmental Biology
- Chem 105—Contemporary Chemistry
- Geol 141—Environmental Geology
- Phys 204—Environmental Biophysics



IV. Elective Courses for Environmental Studies (12 sem. hours). Students are required to select four courses from the following list.

- Biol 207—Land Plants
- Biol 208—Wildlife Management
- Geog 150—Physical Geography
- Geog 235—Conservation
- Geog 304—Rural and Urban Planning
- Geog 331—Economic Geography
- Geog 401—Urban and Regional Systems
- Geol 321—Aerial Photo Interpretation
- PkRc 440—Open Space Planning
- PkRc 460—Resource Policy Administration
- PolS 200—State and Local Government

V. Research Skills (6 sem. hours)

VI. Required Research Courses (5 sem. hours). These are the final courses required in the program. They are structured in an organized sequence, and the first course, Environmental Science 380, should be taken during the student's junior year.

- Env. Sci. 380—Seminar in Environmental Science (1 hour)
- Env. Sci. 385—Research Methods in Env. Science (1 hour)
- Env. Sci. 480—Final Field Problem in Env. Science (3 hours)

Interested students may contact the Coordinator of the Environmental Studies Program through the Department of Geography and Environmental Studies.

**Environmental Sciences.** Directed by the School of Natural Sciences and Mathematics, this program trains students in the areas of air pollution, detection and control; the biological, geological, physical, chemical and radiological aspects of water pollution and its control; and the geochemical and mineral analyses of soil and sediments. The main goal of the program is to prepare students for occupations with state and federal agencies charged with monitoring the environment, industrial laboratories concerned with air and water pollution control, as well as with engineering firms which study industrial pollution and prepare environmental impact statements. Students in Environmental Sciences are required to take a variety of courses in biology, chemistry, geology, and computer sciences. Elective courses enable the student to pursue individual interests in the social sciences, as well as in-depth areas of the natural sciences. Students majoring in Environmental Sciences will be thoroughly trained in the laboratory and field techniques of environmental monitoring and will operate all of the equipment currently being used in laboratory and field investigation. Toward the end of their studies, the students will identify an environmental problem, conduct library research and collect and analyze data for the preparation of a formal paper on the topic.

It is suggested that students intending to enter the Environmental Studies Program contact the coordinator as soon as possible for the assignment of an academic advisor who will assist in the scheduling of individual courses and in career planning and other matters.

- I. General Studies Program (60 sem. hours). General studies courses are distributed among various schools and departments of the university. They should be begun during the freshman year.

- II. Major Courses for Environmental Science (elect 26 hours or more of the following)

- Biol 304—Applied Microbiology
- Biol 305—Aquatic Plants
- Biol 306—Aquatic Animals
- Chem 240—Industrial Hygiene
- Chem 270—Industrial Chemistry
- Chem/Geol 340—Air Pollution
- Chem 370—Water Pollution
- Chem 430—Industrial Pollution Control Engineering
- Geol 360—Water Resources
- Geol 451—Environmental Geochemistry

- III. Related Courses (21 sem. hours). Students must take the following related courses:

- Biol 210—Medical Microbiology
- Chem 107/111—General Chemistry I and Lab
- Chem 108/114—General Chemistry II and Lab
- Geol 200—Fundamentals of Organic Chemistry
- Geol 121—Meteorology
- Geol 201—Earth Materials

- IV. Suggested Elective Courses for Environmental Sciences.

- Econ 175—Environmental Economics
- Geog 135—Environmental Problems
- Geog 235—Resource Conservation
- Hist 445—U.S. Environmental Thoughts
- HSE 310—Community Environmental Health Problems
- PolS 324—Politics of Ecology
- Psyc 189—Environmental Psychology

- V. Research Skills (6 sem. hours). Computer Language or equivalent.

- VI. Required Research Courses (3 sem. hours). This is the final course required in the program.

- Env Sci 480—Environmental Systems Analysis (3 hours)



Interested students may contact the Coordinator of the Environmental Studies Program through the Dean's Office, Faculty of Arts and Sciences. For information on the Bachelor of Science in Education in Environmental Education, students may consult the Parks and Recreation section of this catalog or contact the Department of Parks and Recreation.

## Rural/Urban Studies

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Today there is a definite need for college graduates who have a basic understanding of rural/urban areas and who are equipped with some of the analytical and communication skills that are necessary for helping to meet the challenges of life in these areas. The Rural/Urban Studies Program has three basic objectives: (1) to provide the state and nation with educated men and women who have the ability to think analytically and to express themselves clearly; (2) to give students a broad interdisciplinary understanding of rural/urban areas; and (3) to teach certain basic analytical and communicative skills that will be helpful in securing employment with various local, regional, state and federal agencies or private firms involved with meeting the physical, social and economic needs of rural areas, towns, and smaller cities. Specific information on the Rural/Urban Studies Program may be obtained by contacting the Department of Geography & Environmental Studies.



## Marine Science

Marine Biology, Marine Ecology, Marine Geology and Geophysics, Chemical Oceanography, and Physical Oceanography are career areas that are best approached through an undergraduate major in either one of the basic sciences (biology, chemistry, geology or physics) or through mathematics. Slippery Rock, through its membership in the Marine Science Consortium, offers students interested in ocean-related phenomena an opportunity to pursue that interest through a series of summer courses offered at the Wallops Island Marine Science Center, near the Atlantic Ocean in the Virginia eastern shore region. Five three-week sessions are offered each summer.

Students interested in marine studies will pursue on campus a major in one of the natural sciences or mathematics, augmenting their studies with summer courses at the W.I. Marine Science Center. The number of summer courses taken will depend on the students' interests and the majors they pursue on campus. Individual programs may be tailored in consultation with an advisor.

The Marine Science Consortium pools the talents and resources of 17 colleges and universities in the eastern United States. Classrooms, wet and dry laboratories, workshops, docking facilities, dormitories, apartments, cafeterias and recreational facilities are available at the Wallops Station. Several research and training vessels are available for work in the Atlantic Ocean and the Chesapeake Bay.

Some courses offered at the Marine Science Center may be applied to the general education requirement in the natural sciences so that any Slippery Rock student, regardless of major, may take advantage of a first-hand experience in the marine environment. Advisement from one of the Slippery Rock directors of the Consortium is recommended for any student using Marine Science Consortium courses to fulfill the general education requirement in science. Students should contact the Dean's Office, College of Arts & Sciences, for names of the advisors.

Senior and graduate science education majors and teachers will find the Environmental Science Education course, MarSci 540, particularly useful. The following courses are frequently offered at the field station. Additional special topics courses are offered each summer.

**MarSci 110: Introduction to Oceanography** — An introductory course designed to introduce students from diverse backgrounds to the physical, chemical, biological and geological aspects of the oceans and to the methods and techniques of this rapidly expanding field. Emphasis is on lab and at-sea assignments which focus on the students' attention to the interrelationship and unit of oceanography, and its relation to other environmental sciences. (3 sem. hours)\*

**MarSci 211: Field Methods in Oceanography** — A course to familiarize students with the dynamic marine environment and field work on board small research vessels, to instruct in the use and application of standard oceanographic instruments and sampling devices; to promote and encourage independent research through the initial stages of scientific project. Prerequisite: MarSci 110 or consent of instructor. (3 sem. hours)

**MarSci 212: Navigation** — This course will cover navigation, i.e., the art and science of safely bringing a vessel from one position to another in a body of water. The course will be divided into three parts: (1) brief historical background, (2) navigation within sight of land, i.e., piloting; (3) navigation in the open sea, including electronic navigation methods. Prerequisite: Four years of high school math or equivalent or consent of instructor (3 sem. hours)

**MarSci 221: Marine Invertebrates** — A study of the invertebrate phyla with emphasis on development, reproduction, structure, function and classification of selected marine organisms. Laboratory field experience will be given in collection, preservation and classification of the phyla. Prerequisite: one year biology or consent of instructor. (3 sem. hours)



**MarSci 241: Marine Biology** — A study of plant and animal life in the marine environment. Emphasis will be on physical and chemical environmental factors affecting the biota in the intertidal, open water, and benthic habitats. Common biota characteristics of each habitat will be investigated in terms of their natural history, morphology, and ecological relationship. Prerequisite: one semester of biology or consent of the instructor. (3 sem. hours)\*

**MarSci 250: Wetlands Ecology** — The ecology and management of wetland wildlife with emphasis on the management of wetlands as ecological systems. (3 sem. hours)

**MarSci 260: Marine Ecology** — A study of the ecology of marine organisms, the relationship of plants and animals to physical, chemical and biological factors and their zonation and communities. Prerequisite: one year of biology or consent of instructor. (3 sem. hours)\*

**MarSci 280: Field Biology** — An introduction to basic principles of ecology and natural history of selected plants and animals in terrestrial, freshwater, and marine environments. Course is suitable for non-science majors. (3 sem. hours)\*

**MarSci 298: Topics in Marine Science for Undergraduate** — An opportunity for intensive study as a specific topic of interest. Course duration from 1 to 3 weeks. Prerequisite: Variable, depending on topic. (1-3 sem. hours)

**MarSci 331: Chemical Oceanography** — Treatment of a wide range of oceanic chemical phenomena, including salinity and age of the oceans, sources and residence times of chemical constituents in seawater, geochemical cycles of mineral resources and trace elements. Sampling and laboratory analysis techniques. Prerequisite: MarSci 110 and one year of chemistry or consent of instructor. (3 sem. hours)

**MarSci 342: Marine Botany** — A study of marine and marine fringe plants of the Middle Atlantic Coast, their taxonomy, ecology, distribution, life histories, physiology, and economic status. Techniques of collecting, preserving, identifying and herbarium cataloging will be stressed. Exercise in plant ecology, deep core pollen analysis and marine microbiology will be included. Prerequisite: a course in general biology and/or one semester of botany or consent of instructor. (3 sem. hours)

**MarSci 343: Marine Ichthyology** — A study of the fishes. Specimens collected along the Eastern Seaboard by the students will be used to illustrate the anatomy, physiology and systematics of this major vertebrate group. Field collections will also give the students the opportunity to observe the relationships of these animals to their biotic and physical environment. Prerequisite: general biology and/or consent of instructor. (3 sem. hours)

**MarSci 344: Anatomy of Marine Chordates** — A course designed to familiarize the students with the qualitative aspects of the speciation process; to lay ground work for understanding the basic and specialized structure of marine chordates; to trace the most obvious or important trends (and their functional significance) in the evolution of this basic structure in various vertebrate lines. The laboratories will be devoted in large to a reasonably thorough dissection of representative marine vertebrates particularly those collected live on field trips. Prerequisite: six semester hours of biology including general zoology. (3 sem. hours)

**MarSci 345: Ornithology** — Introduces the student to avian fauna of the seacoast and at the same time enables comparison with inland species. In addition to the field work providing visual and coal identification, lecture material will include information on the distribution, behavior, physiology, and anatomy of birds. Prerequisite: one year of biology or consent of instructor. (3 sem. hours)

**MarSci 362: Marine Geology** — Structure and sedimentology of the ocean basins and shores; methods of exploration, general feature of the ocean basins, and theory of ocean basic evolution. Prerequisite: MarSci 110 and one semester of geology or consent of instructor. (3 sem. hours)

**MarSci 420: Marine Micropaleontology** — Designated for students majoring in either biological or geological sciences, the course will deal with modern, living representatives of micro-organisms important in the fossil record. Particular emphasis will be on the taxonomy, morphology, evolution and ecologic affinities of the foraminifera (Sarcodina) but other groups, including the Radiolaria, Diatoms and Ostracoda, will also be considered. Laboratory and field aspects will include sample collecting, preparation and analysis. Prerequisite: one year of geology or biology or consent of instructor. (3 sem. hours)

**MarSci 458: Exploration Methods in Marine Ecology** — A study of geophysical and geologic instruments and techniques used to penetrate the water layer obscuring the ocean bottom topography and geology and the results of some of that effort. Emphasis is on laboratory and field assignments using basic geophysical and geological instruments. The student is introduced to the use, limitations and results of these instruments. Prerequisite: physical geology and one year of math or consent of instructor (3 sem. hours)

**MarSci 459: Coastal Geomorphology** — A study of coastal environments with an emphasis on understanding the interrelationship among land forms, processes and materials. The student will participate in field studies conducted along high and low wave energy environments. Prerequisite: one year of geology or physical geography (landforms) or consent of instructor. (3 sem. hours)

**MarSci 500: Problems in Marine Science** — Graduate or undergraduate students with advanced registering in Problems may complete the course requirements by either of the following options: Option A—The student may elect to take a 200, 300, or 400-level course in which he/she desires advanced work and complete, in addition to the regular course requirements, an approved project in the area under the direction of the instructor; Option B—Independent Research Project. In order to be admitted to Option B, a student must submit a research proposal to the Academic Committee of the Marine Science Consortium. The proposal must include the scope and duration of the proposed research, equipment and facilities required and a recommendation and approval from the academic advisor at the parent institution. (3 sem. hours)

**MarSci 530: Coastal Sedimentation** — Study of depositional environments of marine-dominated shorelines; their processes, sediments, sedimentary facies, models for recognizing ancient counterparts in rock, record, and growth and development of barrier island-tidal deltas. Prerequisite: introductory course in sedimentation or marine geology or consent of instructor. (3 sem. hours)

**MarSci 540: Environmental Science Education** — A field-oriented approach to environmental education with special emphasis on coastal zones. Students will relate their own disciplines to education for quality environments. Consideration will be given to sources, facilities, methods, techniques and concepts used in environmental education. (3 sem. hours)

**MarSci 598: Topics in Marine Science for Graduates** — An opportunity of intensive study in a specific topic of interest. Course duration from 1 to 3 weeks. Prerequisite: Variable, depending on topic. (1-3 sem. hours)

## Pre-Professional Programs

**Pre-Law.** Nearly all law schools require a college degree from an accredited school as a condition for admission. All law school programs are at least three years in length with four years as the usual time to complete a part-time or evening school program. Most law schools have no requirements for a pre-law curriculum and students should feel free to develop an educational program that is both broad and liberal in the classic sense. The emphasis should be on an educational program, one with objectives and purposes, that meets students' needs and interests. If a program is interesting and challenging, students very likely will do their best work and their undergraduate record will reflect the effort. Legal educators agree that the development of skills and habits conducive to legal reasoning is more important than subject matter. The students' college courses should be geared, therefore, to the development of:

- a broad cultural background,
- habits of thoroughness, intellectual curiosity and scholarship,
- the ability to organize materials and communicate the results, and
- verbal skills.



Courses in literature, language, speech, composition, logic, and semantics are directly concerned with the cultivation of necessary skills. A well-taught course in any department will serve the same objectives if it offers:

- a variety of reading assignments selected from well-written sources — a large volume of well-directed class discussion, and,
- ample opportunity to prepare and criticize written and oral reports.

The following subjects are recommended: English language and literature, political science, American government, economics, American history, mathematics, English history, Latin, logic and scientific method, philosophy, accounting, and public speaking.

Students planning careers in law should contact schools in which they are interested for information about admission to the school and to the bar of Pennsylvania (or other state). A prelaw Advisory Committee counsels students on selection and admission to law schools and helps prepare recommendations for Slippery Rock students. All prelaw students should contact the Committee for counsel early in their undergraduate program. For more information, the student should contact the Political Science Department, Spotts World Culture Building, Room 209.

#### **Pre-Medical, Pre-Dental, Pre-Veterinary, Pre-Optometry and Pre-Podiatry.**

Students interested in these preprofessional programs are requested to contact the chairperson of the Department of Biology for referral to the chairperson of the Preprofessional Advisory Committee. This committee is responsible for assisting these students in the proper selection of undergraduate courses, making application for appropriate aptitude tests, and applying to professional schools. These professional schools do not generally indicate a preference for a particular major; however, they do encourage students to have a liberal arts background with an ability to communicate and a strong concentration in the sciences. Students are advised to take at least one year of biology coursework, two years of chemistry (two semesters of general chemistry and two semesters of organic chemistry), one year of physics, and mathematics through calculus.

**Pre-Engineering.** In a cooperative program with the Pennsylvania State University, the pre-engineering student undertakes a three-year curriculum in general education and natural sciences (physics, mathematics, chemistry, geology) at Slippery Rock and a two-year technical curriculum at Penn State. A student recommended for transfer by the Slippery Rock Physics Department will be able to enter any one of the following areas of study:

Aerospace Engineering	Environmental Engineering
Agricultural Engineering	Industrial Engineering
Ceramic Science	Mechanical Engineering
Chemical Engineering	Metallurgy
Civil Engineering	Mining Engineering
Electrical Engineering	Nuclear Engineering
Engineering Science	Petroleum & Natural Gas Engineering

A similar program has been implemented between Slippery Rock and the University of Pittsburgh.

The students **must** meet minimum grade point averages as established by individual departments at Pennsylvania State University or the University of Pittsburgh. The purpose of the pre-engineering program is two-fold: (1) It enables the students to obtain a liberal education (BA from SRU) as well as a degree in engineering (BS from Penn State or Pitt); (2) The students can make up any deficiencies in their background through individualized attention and gain confidence in their ability. The general education program also permits students to determine whether their interests lie in engineering or in another discipline. For more information on the program, students should contact the Physics Department. The program outline includes:

Biol 101 or 105 (no lab)	3 credits
Computer Science 161	3 credits
Chem 108, 109, 111, 112	8 credits
Math 225, 230, 231, 301, 309	18 credits
(a) Phys 211, 212, 213, 361, 331	18 credits
Engineering 314, 315	6 credits
(b) Engineering graphics Phys 140, 141	3 credits
English 101, 103	6 credits
Communication 200	3 credits
Physical Education	2 credits
Humanities	12 credits
(c) Social Sciences	12 credits
(d) Pre-engineering tools or language	8-11 credits
Language courses 101 and/or 102	
Scientific Technical Writing, Engl 205 (prerequisite: Engl 103)	
Computer Programming Language, CpSc 160, 161 or 162 or 261 or 275	
Determinants and matrices, Math 122	
Numerical Mathematics, Math 315	
Mathematical Statistics, Math 307	
Electronics, Phys 360, 320 or 330 (recommended for E.E. students)	
Physics Synthesis, Phys 400	

Independent Study; restricted to topics in physics and computer science. Notes: (a) 361 is not required for agricultural, chemical, mechanical and civil engineering students. The agricultural, mechanical and civil engineering students will choose an alternate course from the list of engineering electives if Physics 361 is not taken. The alternate will not be counted in the elective block. (b) Engineering graphics may be taken by correspondence from Penn State. (c) An economics course is required at Penn State and may be taken at Slippery Rock. (d) Language courses are optional, but may be taken in lieu of pre-engineering courses.





## Paramedical Programs

The School of Natural Sciences and Mathematics offers preparatory training for the fields of medical technology, cytotechnology, perfusion technology, and physical therapy.

**Medical Technology.** Slippery Rock's medical technology program involves three academic years of study on campus and one calendar year at an approved, affiliated school of medical technology or one acceptable to SRU. The university is currently affiliated with several hospitals which offer medical technology training. (These are listed at the back of this catalog, following the faculty listing.) During the first three years of the program the student must complete 98 semester hours under the guidance of the Medical Technology Committee. After the sophomore year, the student applies for admission to a school of medical technology where acceptance is on a competitive basis. Thirty semester hours are accepted by the university upon completion of this internship year, resulting in a total of 128 hours. Successful completion of the program results in the awarding of a Bachelor of Science degree in Medical Technology, with certification as a medical technologist obtained by passing the registry examination of the American Society of Clinical Pathologists and/or the Clinical Laboratory Scientist examination of the National Certification Agency for Medical Laboratory Personnel. Because of the nature of the medical technology curriculum, transfer students are strongly urged to earn 64 credit hours at Slippery Rock University.

**Cytotechnology.** This is a 3 plus 1 program in which the student would spend three years in course work on the Slippery Rock University campus and one year (12 months) in clinical and didactic study at an AMA accredited hospital school of cytotechnology. During the three years on campus the student would earn a minimum of 98 semester hours credit. Upon the successful completion of the clinical 12 months, the university would accept 30 semester hours of transfer credit. The total 128 semester hours would qualify the student for the degree B.A. in Biology (specialization in Cytotechnology).

**Perfusion Technology.** This is a 3 plus 1 or 2 program in which the student would spend three years on the SRU campus and 1-2 years in an accredited hospital school of perfusion technology. During the three years on campus the student would earn a minimum of 98 semester hours of credit. Upon successful completion of the clinical experience the university would accept 30 semester hours of transfer credit. The total 128 semester hours would qualify the student for the degree B.S. in Biology (specialization in Perfusion Technology).

**Physical Therapy.** A student interested in attending a school of physical therapy may prepare for either a degree or certificate program through advisement by the Biology Department.



## Gerontology Program

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Gerontology is an interdisciplinary study of aging and the aging process. The Gerontology Program is designed to enhance the understanding of aging and enrich interactions among generations. The program is a valuable adjunct for those preparing to work directly with, or indirectly for, older persons. The program is open to students in any major. The student may select to complete the requirements for a Document of Academic Achievement in Gerontology or a Gerontology Minor.

**Document of Academic Achievement:** With the assistance of an advisor from the Gerontology Committee, the student will select four 3-credit courses approved for the Gerontology Program and culminate her/his studies with a 3-credit internship related to her/his area of interest.

**Gerontology Minor:** The student must take a total of five 3-credit courses as well as a 3-12 credit internship related to major area of interest and involving the elderly unless they have taken such an internship in their major. Of the five required courses, one must be Basic Gerontology (INDS 265), at least one course from health/science area and one course from the psychological/sociological area.

A student wishing to enter the Gerontology Program must have completed at least 28 credits and have a quality point average of 2.5 or better. An application form requiring the advisor's signature should be submitted as soon as the student is eligible. The student should also notify the Gerontology Office when they have completed all of the requirements.

The following courses are now approved:

INDS 265	Basic Gerontology
INDS 450/650	Gerontology Internship
INDS 465/665	Seminar in Gerontology
HSE 202	Nutrition and Health
PE 235	Human Movement for Special Populations
PE 276	Physiological Aspects of Aging and Human Performance
SASW 344	Sociology of Aging
Psyc 365	Psychology of Aging
HSE 414	Death and Dying
PkRc 420	Recreation and the Aging Process
— 450	Internship
— 490	Independent Study
CEdP 504	Counseling and the Aging
Psyc 665	Psychology of Aging



### Advisement

Students planning to complete the program in gerontology will declare a major within a department. Major responsibility for advisement will rest within this department. If the department has a representative on the Gerontology Committee, every effort will be made to assign that person as the student's advisor. In other cases, the coordinator of the Gerontology Program will appoint someone on the committee. Students will still be responsible to their departments for fulfilling the requirements for graduation.

\*\*\*For information concerning the Gerontology Program, please contact:

Coordinator, Gerontology Program

Room 206, Strain Behavioral Science Bldg.

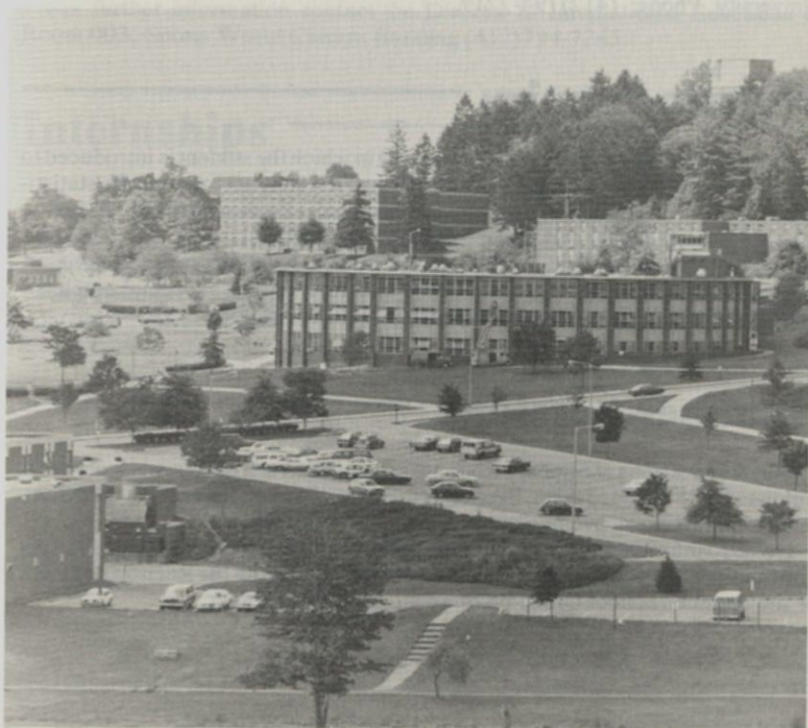
Phone: (412)794-7731

### Gerontology Courses

**INDS 265: Basic Gerontology** — Introduction to the interdisciplinary study of gerontology as a social, behavioral and biological science. A prerequisite to department courses in gerontology and aging. Prerequisites: None (Psyc 110 and SASW 201 recommended). (3 sem. hours)\*

**INDS 450/650: Gerontology Internship** — Individually designed experiential learning intended to provide the student with an opportunity for observation and participation in a wide range of gerontological activities in an approved institution or agency setting. Prerequisites: Nine hours of approved gerontology coursework or permission of the Gerontology Coordinator. (3-12 sem. hours)

**INDS 465/665: Seminar in Gerontology** — An interdisciplinary investigation of selected facets of gerontology. Course content is drawn from the biological, behavioral, and social sciences, and will include a consideration of current issues in such areas as mental health, housing, economics, transportation, preventive health programs, long-term care, and leisure/work activities. Basic Gerontology or equivalent work experience is a prerequisite; additional course work in gerontology is desirable. (3 sem hours)



## Women's Studies

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The Women's Studies Program is a multidisciplinary approach to teaching and learning. Its intent is to correct the focus of the academic establishment that has traditionally ignored, minimized, or excluded the work of women in most branches of knowledge and areas of experience. Its positive approach is a reassessment of learning and culture, and its goal is the assimilation of the best efforts of women into an integrated and equitable society. Currently students may earn a minor in Women's Studies at Slippery Rock University. In order to satisfy the requirements for the minor, students need to maintain a QPA of 2.00 or better, select two courses numbered at the 300 level or above, and earn fifteen credit hours selected from the following courses:

Engl 243:	Literature of the Women's Movement
PE 275:	Women in Sport
Psyc 300:	Psychology of Women
Hist 325:	History of Women
Fren 335:	Women in French Literature
PubA 333:	Women/Men in Organization
SASW 399:	Sex Roles and Society
Hist 420:	Women's Studies Synthesis
Any Dept. 450:	Internship (relative to Women's Studies)
Any Dept. 490:	Independent Study (aspect of Women's Studies)

In addition, more courses may be added to the minor in future semesters if sufficient demand is demonstrated. The Program is not intended to replace one's major, but rather to strengthen one's undergraduate preparation through a concentration on various aspects of Women's Studies.

More information or applications for the completion of the Program may be secured from the Chairperson, Women's Studies Committee, Slippery Rock University. Phone: (412)794-7219.

## Human Inquiry

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Human Inquiry is a two semester sequence in which the student is introduced to the four basic methods of inquiry: the empirical; the abstract rational; the statistical; and the interpretive or intuition/symbolical. Each method is applied to relevant content as related to the physical and social sciences, mathematics, music, and the humanities. In addition, the student is introduced to the origins, purposes, and evolution of the university and to a variety of special emphasis ranging from holistic personal development to future studies.

## Summer Sessions

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Summer Sessions at Slippery Rock are scheduled over a twelve-week period as follows: Pre-Session (3 wks), Session I (five wks), Session II (five wks) and Summer Term (six-week evening program).

Detailed information on the Summer Sessions is made available through a special Summer Sessions catalog, which may be obtained from the Registrar's Office or the Summer School Office on or about April 1 each year.



## International Study Programs

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Slippery Rock offers exciting international study programs. Several are offered exclusively through Slippery Rock University and others are in conjunction with its membership in the Pennsylvania Consortium for International Education. These include:

### **Slippery Rock University Programs**

- Student Teaching in Germany and Italy
- Kansai University, Japan student exchange program
- Semester in Ireland at Thomond College for Physical Education students
- Winter Ski Program
- Argentina student cultural exchange program
- German University exchange, German student exchange program with eight German Universities

### **PCIE Programs**

- Summer Session in Salzburg, Austria — Arts, humanities and social science at the University of Salzburg
- Academic year in Salzburg, Austria — Arts and social sciences at the University of Salzburg
- Academic year in Poland — Natural sciences, humanities and arts at the Marie Curie University, Lublin, Poland
- Academic year in France — French language and literature at the University of Montplier
- Academic year in Spain — Spanish language and literature at the University of Valladolid
- Summer session, Oxford, England — Arts, humanities and social sciences at the Oxford University

For further information contact the Director of International Education in Room 003, Spotts World Culture Building (412)794-7245.

## Internships

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Slippery Rock provides a diverse program of internships to give students the opportunity to get on-the-job professional training while earning college credit. Students can serve semester or academic year internships in federal, state and local government agencies, departments and offices, and with private firms. Interested students should check with their departmental chairpersons or deans for information on internships in their fields.

# Military Science

## Air Force ROTC Aerospace Studies

Through an across town agreement between Slippery Rock University and Grove City College, the Air Force ROTC Program is available to students, male or female. The Air Force Reserve Officers' Training Corps (AFROTC) is designed to develop the abilities and attitudes desired in a professional Air Force officer. Students who qualify to enroll as members of Air Force ROTC and who successfully complete the program may be commissioned Second Lieutenants in the United States Air Force upon graduation. Newly commissioned lieutenants enter the Air Force to serve in a variety of professional career fields including pilot, navigator, missile launch officer, technical and medical specialties, and more than 120 other specialized areas. There are two types of AFROTC programs: Four-year and Two-year.

**Four-Year Program.** This program is designed to accommodate male and female students who qualify for and elect to participate in all four years of the AFROTC course of instruction. The program is divided into two parts:

1. **The General Military Course:** The first two years of AFROTC are called the General Military Course (GMC). Any student may participate in the GMC. Participation is completely voluntary and no obligation to the Air Force results. During the sophomore year, application may be made for the advanced portion of Air Force ROTC, the Professional Officer Course (POC). Students who take the GMC and are selected for the POC are required to attend a four-week summer field training encampment at an Air Force installation between the sophomore and junior years. (NOTE: Veterans who have at least two years of academic course work remaining may qualify for the four-year program. Completion of at least 180 days of active duty eliminates the requirement for participation in the GMC. Veterans who apply for and are accepted into the POC are then required to attend only the four-week summer field training program).
2. **The Professional Officer Course:** Selected students are admitted to the Professional Officer Course (POC) — the last two years of AFROTC. To be eligible for the POC, students must be citizens of the United States, of good moral character, meet Air Force physical standards, obtain a satisfactory score on the Air Force Qualifying test and have a cumulative grade point average of 2.0 or better. In addition an English Composition class and a mathematical reasoning class must be completed prior to commissioning. They must also successfully complete the four- or six-week field training encampment depending on whether the applicant is a four- or two-year program candidate. Members of the POC enter into a contractual agreement in order to qualify for a commission as a Second Lieutenant upon graduation. All members receive \$100 per month (tax free) while they are in the POC.



**Two-Year Program.** This program is designed to accommodate those qualified students who apply for and are selected to participate in only the last two years (POC) of the AFROTC course of instruction. The two-year program is available to eligible SRU students who have at least two years of academic course work remaining. Students who apply for acceptance to the POC, under the two-year program, normally make application in the sophomore years. Two-year program applicants are considered with all other persons applying for the POC. If selected for the POC, students must attend a six-week summer field training program between the sophomore and junior years at the Air Force base. The conditions of participation in the POC (two-year program) are the same as for those who are elected under the four-year program.

**Scholarships.** Air Force ROTC offers four, 3½, 3, 2½, and two-year scholarships to qualified applicants (male and female) who compete nationally and are selected on the basis of excellence (whole person concept). In addition to meeting the POC criterion, scholarship students must also successfully complete at least one semester of foreign language. In many cases completion of an upper level high school foreign language class or a proficiency test will fulfill this requirement. These scholarships pay for all tuition, books and fees, and provide the recipient \$100 per month (tax free). The duration of the scholarship varies according to the year of application and acceptance. The career fields are primarily limited to the scientific/engineering career fields. Contact the Department of Aerospace Studies for specific scholarship information.

**Uniforms and Books.** Air Force ROTC provides uniforms, text books, and other incidental materials to all students at no cost. Upon initial entry into the GMC, the student must pay a \$50 uniform deposit that is refunded when the student returns the uniform undamaged.

**Field Training Compensation.** All cadets attending summer field training receive travel pay to and from the camp. Also, those attending the six-week session receive an allowance of about \$520, and attendees at four-week sessions receive about \$350.

## AEROSPACE STUDIES COURSES

### *General Military Course (GMC)*

**AS 101-102: The Air Force Today.** This course examines the role of the Air Force in the contemporary world by studying the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces. One classroom hour and one laboratory hour per week. (Freshman Year course, one hour credit each semester)

**AS 201-202: The Development of Air Power.** The course includes the study of the development of air power from balloons and dirigibles through the peaceful employment of U.S. Air Power in relief missions and civic action program in the late 1960's and the air war in Southeast Asia. One classroom hour and one laboratory hour per week. (Sophomore Year course, one hour credit each semester)

## Professional Officer Course (POC)

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**AS 301-302: Air Force Management and Leadership.** This is an integrated management course emphasizing the individual as a manager in an Air Force environment. The individual motivational and behavioral process, leadership, communication, and group dynamics are covered to provide a foundation for the development of the junior officer's professional skills as an Air Force officer. Three classroom hours and one laboratory hour per week. (Junior Year course, three hours credit each semester)

**AS 401-402: National Security Forces In Contemporary American Society.** This course is conceptually focused in the Armed Forces as an integral element of society, with an emphasis on the broad range of American civil-military relations and the environmental context in which U.S. defense policy is formulated and implemented. Three classroom hours and one laboratory hour per week. (Senior Year course, three hours credit each semester)

### Additional Information

**Leadership Laboratory.** Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to expand the students' understanding of the life and work of a junior officer and to develop their leadership potential. The leadership laboratory is conducted one hour per week and is taken in conjunction with each Aerospace Studies course. (No additional academic credit)

**Field Training.** AFROTC Field Training is conducted during the summer months at selected Air Force bases throughout the United States. Students in the four-year program participate in four weeks of field training during the summer, usually between their sophomore or junior years. Students applying for entry into the two-year program must successfully complete six weeks of Field Training prior to enrollment in AFROTC. The major areas of study range from career orientation to survival training. (No academic credit)

**Flight Instruction Program (FIP).** This program is offered to senior AFROTC cadets who have qualified for Air Force pilot training. The program incorporates 25 hours of free flying lessons with 15 hours of classroom instruction. The flying lessons are given by FAA approved flying schools. Classroom instruction is conducted by the Department of Aerospace Studies. (No academic credit)

## Army ROTC Military Science

In 1981 Slippery Rock University was authorized a Senior Reserve Officers Training Corps (ROTC) unit. The Army ROTC program offers to both men and women the opportunity to learn and practice leadership and managerial techniques that will prove beneficial to all life's future endeavors; to obtain credits which count toward graduation; and to those who choose to complete the total program, a commission as a second lieutenant in the US Army.

**Enrollment.** The program is broken into two phases: the Basic Course (freshman and sophomore years) and the Advanced Course (junior and senior years). Enrollment in any of the freshman or sophomore level Army ROTC courses (MS 101, Hist 270, MS 106 or MS 206) in no way obligates or commits the student to any military service or any further ROTC courses. These courses are offered on the same basis as other academic courses at SRU with the privilege of withdrawing at any time.

**Requirements for Enrollment.** The general requirements for enrollment in Army ROTC are that the student be accepted by the university as a regularly enrolled student, be a citizen of the United States, physically qualified, not less than 14 years of age, but 27 or less at anticipated graduation date. Veterans and junior ROTC graduates may receive exemptions from the Basic Course as approved by the Professor of Military Science (PMS). For continuation in ROTC during the junior and senior years, students must have a 2.0 grade point average in their academic area, successfully completed requirements for the Basic Course, pass a physical examination, and be accepted by the PMS. Advanced Course students must agree in writing to complete the junior and senior years since they will receive \$100 a month subsistence during these school years.



### *What Army ROTC Offers*

**Adventure:** Students take a Leadership Lab which is geared toward adventure! They learn new and challenging skills like rappelling, skiing, rafting, self-defense, marksmanship, first aid and survival.

**Obligation:** During the 1st and 2nd year, there is no obligation to continue ROTC and ABSOLUTELY no obligation for military service!

**Credits:** Two credit hours for each semester of the 1st and 2nd year.

**Class Time:** Two hours of class lecture and two hours of lab required per week.

**Uniform:** Students will wear a fatigue uniform during Leadership Lab. No uniforms are required in the classroom lectures. All equipment, uniforms and textbooks are issued without cost to enrolled students.

**Scholarships:** Competitive 3, 2 and 1 year awards at SRU. Tuition, books, lab fees and an allowance up to \$1000 a year.

**\$2600 Allowance:** All 3rd and 4th year students, regardless of scholarship status, receive \$2600 for the last two years of ROTC.

**Simultaneous Membership Program:** This program provides membership in ROTC and an Army Reserve or National Guard unit at the same time. It can mean as much as \$16,000 to students for four years if they qualify.

If students so desire and are accepted into the Advanced Course, they will receive commissions as Second Lieutenants upon graduation from the College and serve either three years continuous active duty or a minimum 16 weeks active duty for training, with the remaining obligation served in the Army Reserve or Army National Guard.

### **Army ROTC Courses**

**REGULAR BASIC COURSE** — The first two years of military science provide a background of the historical role of military forces, as well as current national military objectives. In addition, basic leadership is developed and certain skills are taught such as adventure training, survival training, map reading, scuba diving, rappelling, and marksmanship.

**MS 104: Applied Terrain Analysis and Military Topography, and National Security** — Study of national security concepts, policies and the national decision-making process with emphasis on national resources, national will, and economic factors. Included will be a study of nuclear and conventional response option. Fundamentals of military topography, including the use of military maps to determine topographic features, conduct land navigation and perform terrain analysis, will be covered. (2 semester hours)

**Hist 270: Warfare in the 20th Century** — A survey of wars in this century with emphasis on World Wars I and II. Technical innovation, military theory and strategy will be examined along with their relationships to the nations involved (3 semester hours). This course is instructed by the History Department. In order to receive credit for one semester of Army ROTC, students must also enroll in Leadership Lab with the Army ROTC Department. 25% of the grade will be based on Leadership Lab.

**MS 106: Fundamentals of Tactical Operations, Techniques of Leadership and Weapons Characteristics** — Organization, techniques, resources and capabilities involved in conducting small unit tactical operations. Emphasis is on leadership, organization, and management techniques needed to cause a group of people to accomplish specific objectives. Characteristics of military weapons systems are taught. Students serve as a leader in Leadership Labs. (2 semester hours).

**MS 206: Advanced Tactical Operations** — The student learns of advanced tactical operations at platoon, company and battalion levels. Students learn to plan, organize and conduct offensive and defensive tactical operations. Students are familiarized with nuclear, biological, and chemical aspects of warfare. (2 semester hours).

**MS 208: Leadership Lab** — Leadership Laboratory provides practical experience designed for the attainment and application of leadership principles. It is to be taken by sophomore ROTC students in conjunction with Hist 270, Warfare in the Twentieth Century. (1 sem. hour)



**Optional Basic Course** — Designed for freshman and sophomore students who find that their academic load is too heavy for them to take the regular Basic Course but still desire to participate in the ROTC program. This option enables the student to enroll in only one class per week in the ROTC program. Only the Leadership Laboratory class is taken. (Content of this class is listed below.) Completion of the optional Basic Course in the freshman and sophomore years will qualify student to enroll in the Advanced Course should they desire to do so. Academic credit toward graduation is not granted by taking this option as it is for the regular Basic Course. Contact the Department of Military Science for further information.

**Two-Year Program** — A second alternative to the regular Basic Course, the Two Year program, is available to eligible SRU students who have at least two years of academic course work remaining before graduation. Students normally apply for this program in their sophomore year and are required to complete successfully Army ROTC Basic Camp at Ft. Knox, Kentucky, for 6 weeks during the summer period. There is no obligation even though students attend this camp, but those who do are then eligible to enter the Advanced Program described below. This program is especially attractive to transfer students from institutions which did not have an ROTC program or those SRU students who were unable to participate in the regular or optional basic courses.

**Advanced Courses** — The last two years constitute the Advanced Course of instruction for both men and women who desire a commission as a Second Lieutenant in the Army of the United States. (Either the Army Reserve, National Guard or, for selected students, the Regular Army.) This phase is composed of studies in advanced leadership and management, tactics, military law, psychological, physiological and social factors which affect human behavior and modern instructional and training techniques. Practical application is the rule and students have the opportunity to practice and polish their skills. Participation in the Advanced Course will earn the student approximately \$2,500, between \$100 a month subsistence and pay for summer camp (\$2,000 is not taxable).

**MS 305: Fundamentals of Leadership and Modern Learning/Teaching Relationship** — Management as applied in classroom and field to include case studies in psychological, physiological, and sociological factors which affect human behavior; individual and group solution of leadership problems common to small units. Also, see Leadership Laboratory. (3 sem. hours)

**MS 306: Study of Advance Leader Planning and Execution of Modern Combat Operations** — Analysis of leader's role in directing and coordinating efforts of individuals and small units in execution of offensive and defensive tactical missions, to include command and control systems, the military team, and communications techniques. Also, see Leadership Laboratory. (3 sem. hours)

**MS 407: Management of the Military Complex to Include Fundamentals of Military and International Law** — Study of the various managerial elements needed to effectively control a military organization and their techniques used to accomplish these functions. Studies in military law and international law prepare the students for his legal responsibilities. (3 sem. hours)

**MS 408: Seminar in Military Analysis and Management** — Contemporary analysis of use of military in world affairs to include importance of strategic mobility and neutralization of insurgent movements. Selected management problems and situations will be presented as they relate to military justice, administration, and obligation and responsibilities of an officer. Also, see Leadership Laboratory. (3 sem. hours)

**Leadership Laboratory** (one afternoon per week) — A practical experience designed for the attainment and application of leadership principles. Concurrently scheduled in conjunction with all Military Science courses, and Warfare of the Twentieth Century, it provides for practical challenges in personal accomplishment, both physical and mental, and for development of team work and leadership. (0 sem. hours)

**Summer Camp** — Students attend a six-week summer camp upon completion of the first year of the Advanced Course. Time at camp is devoted to practical application of principles and theories taught during the preceding school years. While at camp, each student receives lodging, subsistence, uniforms, medical care, reimbursement for travel and pay in amount of one-half pay of second lieutenant per month.



## Project AHEAD

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(In cooperation with the U.S. Army)

Mindful of its educational commitment to the needs of the society, Slippery Rock University is prepared to assist in tangible ways those persons who are furthering their educational aspirations but who are actively engaged in military service. To this end, the university in conjunction with the Department of Defense Serviceman's Opportunity College (SOC) and the U.S. Army Project AHEAD, will help Army personnel with the completion of their baccalaureate degrees while on active duty. The program enables students to complete a substantial portion of their credit requirements from other institutions or through various competency examinations. For further information, write to: Assistant Dean, Graduate and Special Academic Programs.

## The Library

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**InDs 110: Library Research** — A self-paced course introducing the resources of the university library. The student will select and use print and non-print materials on assigned subjects as preparation for future library research in various disciplines. Should be scheduled after the completion of any remedial English or Communication courses. (1 sem. hour)\*

## Post-Baccalaureate Programs

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A student who has earned a baccalaureate or higher degree from an approved institution may qualify for initial certification or an endorsement certificate by completing the prescribed requirements in one or more of the approved undergraduate programs at Slippery Rock University.

### Admission Procedures

A student interested in enrolling as a post-baccalaureate should apply with the respective Associate Dean — College of Professional Studies or College of Arts and Sciences. Previous academic course work will be evaluated during an interview and the student will be notified of the requirements needed to qualify for certification or a second degree.

Slippery Rock University offers 24 undergraduate programs of certification for the preparation of professional personnel for positions in elementary and secondary schools and 41 degree programs.

To be admitted to Slippery Rock University as a post-baccalaureate in a certification program, a student must have a cumulative quality point average of 2.25 and a quality point average of 2.40 in the major field of study to be granted certification from Slippery Rock University at the completion of their certification.

The options for post-baccalaureate students are: (1) earn an initial certificate, (2) extend a certificate, (3) earn a second degree, (4) make a certificate permanent, (5) personal enrichment.

## COLLEGE OF PROFESSIONAL STUDIES

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- *School of Education*
- *School of HPER*

The College of Professional Studies encompasses the Schools of Education and Health, Physical Education and Parks & Recreation. The major fields of study which include teaching and non-teaching degrees are described under each school. **NON-TEACHING DEGREES ARE LISTED SEPARATELY UNDER EACH DEPARTMENT.**

**Admission to Teacher Education.** To be formally admitted to a teacher certification program, the student must have completed 42 - 48 semester hours, depending on the program, earn a cumulative quality point average of at least 2.25, demonstrated personal qualities required for teaching, and satisfactorily completed the standardized basic skills test (fee required). In order for the Committee for Teacher Certification to obtain information concerning these necessary personal qualities, approval from two-five faculty members and the Office of Student Affairs is required on the official application for admission. Enrollment in many of the upper level courses is restricted to those students completing the formal admission process, except by approval of the Dean of the College of Professional Studies. Subsequent pages give specific requirements for admission to student teaching and for each field of certification. Changes in certification may be made by State action or in some cases, by University action.

**Admission to Student Teaching.** Application for admission to student teaching should be completed a year previous to student teaching. A copy of this application may be obtained from the chairperson of the student's major department.

To be eligible for assignment to student teaching, students must have senior standing, at least a minimum cumulative quality point average of 2.25 and a minimum quality point average of 2.40 in their field of certification(s). Also, students must have approval from their respective departmental chairperson(s) and the Office of the Vice President for Student Affairs. No more than three semester hours of academic courses may be taken concurrent with student teaching.

Before students can be certified in an area of teacher education, they must satisfactorily complete a 16-week student teaching experience of observations and teaching in the classroom. Assignments in student teaching are determined by the University in cooperation with the local school districts. During the student teaching semester, students must provide their own off-campus housing and their transportation to the assigned school. Any prospective student entering teacher education must realize that this experience is required and will be an added expense to the total cost of teacher preparation.



**Requirements for Graduation and Teacher Certification.** All curricula are four years or equivalent in length, and entitle the graduate who meets certification requirements to the Instructional I Certificate\* in the appropriate curriculum. A minimum of 128 semester hours, a minimal cumulative quality point average of 2.25, and a minimal quality point average of 2.40 in the field(s) of certification are required for the graduate who wishes to obtain certification.

#### **School of Education**

- Completion of the four-year curriculum for the preparation of elementary teachers entitles students to the degree of Bachelor of Science in Education and an Instructional I Certificate\* which authorizes the recipients to teach in grades K through six.
- Completion of the four-year curriculum for the preparation of library science personnel entitles students to the degree of Bachelor of Science in Education and an Instructional I Certificate\* which authorizes the recipients to teach or administer library services in grades K through 12.
- Completion of the four-year curriculum for the preparation of secondary teachers entitles students to the degree of Bachelor of Science in Education and an Instructional I Certificate\* which authorizes the recipients to teach in a junior or senior high school those subjects in which he/she is properly certified.
- Completion of the four-year curriculum for preparation of teachers of special education entitles students to the degree of Bachelor of Science in Education and an Instructional I Certificate\* which authorizes the recipients to teach the specialization area in grades K through 12.
- Completion of the four-year curriculum for preparation of teachers of music education entitles students to the degree of Bachelor of Science in Music Education and an Instructional I Certificate\* which authorizes the recipients to teach in grades K through 12.

#### **School of HPER**

- Completion of the four-year curriculum for the preparation of K-12 teachers in Health and Physical Education entitles students of Bachelor of Science in Education in Health and Physical Education and an Instructional I Certificate\*.
- Completion of the four-year curriculum for the preparation of health teachers entitles students of the Bachelor of Science in Education in Health Education and an Instructional I Certificate\* which authorizes the recipients to teach grades K through 12.
- Completion of the four-year curriculum for preparation of teachers of environmental education entitles students of the Bachelor of Science in Education in Environmental Education and an Instructional I Certificate\* which authorizes the recipients to teach in grades K through 12.

In addition, the students may earn a second certification in elementary education, secondary education, library science, health, health & physical education, and environmental education.

Graduates who hold an Instructional I Certificate in one field and desire to have another field added to their certificates may do so upon completion of specific courses. Additional information concerning certification is available in the Offices of the Dean of the College of Professional Studies.

\*Instructional I (Provisional) Certificates are valid for six years of teaching.

The Instructional II (Permanent) Certificate is issued to applicants who have completed three years of teaching on an Instructional I Certificate with a "satisfactory" rating and have completed 24 semester credit hours of post-baccalaureate, graduate, or in-service study. Post-baccalaureate or graduate study must be completed at a regionally accredited institution; in-service credits must be earned in regionally approved experiences. Courses taken to extend an Instructional I Certificate to include additional fields may be used to make the certificate permanent.

Seniors are expected to notify the Registrar's Office during the first week of the semester in which they are to graduate. If they expect to meet the degree requirements during the summer, they should notify the Registrar's Office by the first week of June. The diploma and teaching certificate are not ordered until this requirement is met.

Seniors expecting to student teach must have a physical examination and a chest X-ray or tuberculin skin test prior to student teaching. Arrangements should be made with the university infirmary at least two months prior to student teaching.

**Interstate Reciprocity.** Interstate reciprocity of certification for the entry level certificate for teaching is available in many states. Although some states have not formally signed the agreement, most of them will honor the Pennsylvania Instructional I Certificate because of Slippery Rock University's Middle States and NCATE Accreditation. For further information, contact the Dean of the College of Professional Studies.

**Goals in Teacher Education.** Basic teacher education programs at Slippery Rock University are designed to prepare competent professionals for classroom teaching and for leadership positions in a variety of educational settings and institutions, professionals who can systematically design, implement, continually evaluate and revise instructional programs to meet the lifelong learning needs of the populations they serve. 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.

Upon completion of a basic teacher education program a student should have developed the following:

- \*\*\*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 the 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 communication skills (listening, speaking, reading, writing, perceiving) and human relations skills that promote human worth, human 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 and religious 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 institutional 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.

The College of Professional Studies provides programs for the preparation of elementary and secondary teachers for the schools of the Commonwealth and the nation. A number of these programs are offered in cooperation with departments in the College of Arts and Sciences. All programs in teacher education are the direct responsibility of the Dean of the College of Professional Studies and he/she is appointed by the Pennsylvania Department of Education as the university certification officer.



## SCHOOL OF EDUCATION

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The School of Education encompasses the departments of Administration, Supervision and Field Services; Counseling and Educational Psychology; Curriculum and Instruction; and Special Education. Its major purpose is to prepare teachers and support personnel for positions in elementary and secondary schools and people-oriented occupations. The School provides programs that lead to certification in elementary education, library science, secondary education, special education, supervision and administration.

Major fields of study leading to a Bachelor of Science degree within the School of Education are:

**Elementary Education.** Elementary Education majors may select a second area of certification in Secondary Education, Environmental Education, Library Science, Education for Safe Living, or Special Education.

**Library Science.** Library Science majors may select a second field of certification from Elementary Education, Secondary Education or Special Education.

**Music Education.** Music Education majors will receive a Bachelor of Science Degree in Music Education and will pursue a program designed to prepare students for teaching, supervising, and administering music programs. A student may obtain dual certification in music education and music therapy.

**Secondary Education.** Secondary Education majors may obtain certification in the following areas:

Biological Science	Music
Chemistry	Physics
Communication	Social Studies
Earth & Space Science	Economics Emphasis
English	Geography Emphasis
French	History Emphasis
General Science	Political Science Emphasis
German	Sociology/Anthropology Emphasis
Mathematics	Spanish

**Special Education.** Special Education majors may pursue a program leading to dual certification in mentally retarded and/or physically handicapped and any other major certification area. Students may elect a non-teaching option in Special Education Community Services for the Developmentally Disabled. Career opportunities for graduates of the School of Education are quite varied. In addition to classroom teaching, the candidate is prepared to work in many other people-oriented fields, such as social agencies, state and federal government or private industry. Students are encouraged to earn certification in several fields to enhance employment opportunities.

**Admission.** Application for formal admission to the School of Education is made by enrolling in CuIn 200, Orientation to Education, during the second semester of undergraduate studies. (See Admission under College of Professional Studies for further criteria for admission to certification programs).



# Counseling and Educational Psychology Department

Strain Behavioral Science Building, Room 119

(412)794-7282

Certification programs are available only at the graduate level and include a Master of Education (M.Ed.) program in Elementary Guidance and Counseling and in Secondary Guidance and Counseling. In addition, at the graduate level the department offers Master of Arts (M.A.) programs in Counseling Services, Student Personnel, and Counseling Psychology. This latter Program includes the basic academic preparation required for licensure as a psychologist in the Commonwealth of Pennsylvania.

Undergraduate courses offered by the department relate to learning, human development, career development, and the educational process.

## COUNSELING AND EDUCATIONAL PSYCHOLOGY COURSES

**CEdP 234: Career Personalization** — Career Personalization is designed to assist students to assess their abilities, interests and values as these relate to careers and to apply this knowledge to a career and life self-development process. While learning about and actually experiencing elements of personal career growth, students will also broaden their awareness of the world of work. Knowledge and skill acquired will help them with their current and future career development. (3 sem. hours)\*

**CEdP 242: Educational Psychology** — Application of psychological learning theories to the educational process. (3 sem. hours)\*

**CEdP 290: Human Learning** — A review of psychological theories and research findings regarding the learning process and productive thinking. Emphasis will be on the identification and understanding of learning behavior variables and their relevance in educational settings. (3 sem. hours)\*

**CEdP 295: Undergraduate Workshops** — Special topics of interest to undergraduates and selected community members. (Variable credit)

**CEdP 301: Interpersonal and Group Dynamics** — Interpersonal behavior in small groups, with attention to group structure, individual factors, communication, and techniques. Treatment of leadership, group pressures, the effect of the group on personality, and group aims. (3 sem. hours)\*

**CEdP 310: Introduction to Counseling** — The course is designed for the student to acquire the basic techniques of counseling that are useful in most occupations as well as in parenting. CEdP 301 is recommended, but not required as a prerequisite. (3 sem. hours)

**CEdP 315: Group Facilitation and Counseling** — Basic techniques of facilitation of counseling, human relations, and decision-making groups, designed for students preparing for careers in human services, business, industry, and public administration. Prerequisite: CEdP 301. Recommended CEdP 310. (3 sem. hours)

**CEdP 349: Child Development** — A study of the various stages of development from conception to adolescence. Attention is directed to the physical, emotional, intellectual and social development of the child. (3 sem. hours)\*

**CEdP 350: Adolescent Psychology** — A study of the physical, mental and emotional development during the changes from childhood and the influence on attitudes and behavior of the age group in relation to the various theories. Psychological principles are applied to the problems of family, community and school adjustment, as well as to the unique development of the individual. (3 sem. hours)\*

**CEdP 450: School Psychology** — An in-depth consideration of the manner in which educational, social and emotional growth is affected and modified by the school experience. The "total student" is analytically studied in the school, family, and social environment. (3 sem. hours)

**CEdP 490: Independent Study** — A program of independent work conducted by a student who has demonstrated academic proficiency, with approval by the student's advisor and department chairperson. Prerequisite: departmental approval. (1-3 sem. hours)

## Curriculum and Instruction Department

McKay Education Building, Room 104

(412)794-7254

The Curriculum and Instruction Department offers undergraduate certification programs in Elementary Education, Library Science, and Secondary Education. Students in each of the departmental certification areas are required to complete forty (40) contact hours in both formal and informal settings. This early experience is subject to the following regulations: (1) Elementary majors must have the early experience with elementary school age pupils; (2) Library Science majors may obtain early experience with children in school/media centers K-12, or in public or special libraries; (3) Secondary majors must have the early experience with secondary school age pupils. In addition to specific courses in each of the certification areas, the department offers generic courses which are applicable to all programs.

### GENERIC COURSES

**CuIn 200: Orientation to Education** — Prerequisite for formal admission to teacher certification programs. Prerequisite: completion of one semester of college work. Grade: Pass or No Credit. (2 sem. hours)

**CuIn 230: Media Technology** — Selection, utilization of audio-visual materials. Equipment operation via self-instruction in the Media Lab. (3 sem. hours)

**CuIn 280: Cultural Minorities and Education** — An interpretative study of characteristics of American education, its role within American society, with special emphasis on its impact on cultural minorities. (3 sem. hours)

**CuIn 295: Undergraduate Workshops** — Special topics of interest to undergraduates and selected community members. (Variable credit)

**CuIn 329: Methods and Materials of Instruction** — Methods course for secondary post-baccalaureate students only; designed to familiarize prospective teachers with philosophy, objectives, courses of study, curriculum materials and procedures of teaching evaluation. (3 sem. hours)

**CuIn 380: History and Philosophy of Education** — Critical exploration of philosophical and historical background from which issues confronting American education have developed; a search for valid goals toward which American education should strive. Prerequisite: CuIn 200, CEEdP 242, and completion of 64 semester hours. (3 sem. hours)

**CuIn 490: Independent Study** — A program of independent work, conducted by a student's advisor, department chairperson and dean. (1-3 sem. hours)





## Elementary Education Certification Program

McKay Education Building, Room 104

(412)794-7254

The prospective elementary teacher is required to take coursework that is balanced to offer a broad liberal education, which includes general education, professional education, specialized courses, and recommended electives. The primary objective of the elementary education program is to develop competent, effective elementary teachers.

**Field Experience Program.** The Field Experience Program is a collaborative venture in teacher education sponsored by both the public schools in the area and the university. It provides students with the opportunity to study and practice teaching in a realistic situation as they complete a block of method courses. This phase of pre-service training is offered to both juniors and seniors. Most often, Field Experience provides a student's first professional experience. Thus, Teacher Assistants are not expected to demonstrate the same competence as a student teacher. Student participants involved in the Elementary Field Experience Program will be required to demonstrate specific competencies, as identified by professors teaching various method courses, in public school classrooms. To be eligible for an assignment to Field Experience, the student must have a minimum cumulative quality point average of 2.250 in all university courses attempted and a minimum cumulative quality point average of 2.250 in all professional education courses.

**Complementary Competencies.** In addition to the required courses for teacher preparation, each student must demonstrate competencies in the complementary areas of Art, Music, Health and Safety Education, Physical Education, and Educational Media and Technology. Details with regard to meeting these competencies are outlined on the Guidesheet for Elementary Education majors, but in general they may be met by completion of appropriate courses. To comply with the mandate of Public Law 94-142 (Education of All Handicapped Children Act), all elementary education majors are required to take the following course: Special Education 100: Introduction to Exceptional Children. In addition, the student will become aware of the presence and impact of cultural minorities in the United States and the pluralistic nature of American society through activities and experiences in various required and elective courses.

**Dual Certification Programs.** Students may achieve certification in a second area by carefully selecting courses. In such instances, a student retains status as an elementary education major but also completes all of the requirements in a second area. Second certifications can be achieved in Secondary Education (any of the certified areas, Environmental Education, Library Science, and Education for Safe Living). Students may also elect to follow a program designed to prepare bi-lingual teachers in Spanish. The specific requirements for these other programs are detailed in the appropriate sections of this catalog. Students majoring in Special Education may also obtain dual certification in any of the other certification areas. It will require additional hours beyond the regular 128 semester hour requirement for the baccalaureate degree. Students seeking dual certification should declare their intent as early as possible in their academic career. Special Education majors who elect to pursue a second certification in Elementary Education must complete all the major requirements of the elementary program.

These include the successful completion of 22 semester hours of program course work and the related field experience component, which are requirements for all Elementary Education majors. Also, 1/3 of the 16-week student teaching assignment will be carried out in an elementary classroom. If at all possible, the classroom should contain mainstreamed students. This elementary component of the student teaching experience will be evaluated separately, apart from the remainder of the assignment which will be carried out in a special education setting. Candidates for dual certification in Special Education and Elementary Education will be assigned an advisor in the Curriculum & Instruction Department for advisement in the elementary education area.

**Academic Advisory System.** A comprehensive system for advisement of the Elementary Education student has been established. Simplified, it is as follows:

- (1) The department chairperson appoints an academic advisor to assist students with their academic program.
- (2) It is the students' responsibility to see their advisor for all information related to the academic program. Advice from any other source is unofficial and, if followed, may lead to embarrassment if not academic difficulty.
- (3) Furthermore, it is the responsibility of the student to follow the catalog and initiate and complete the process of registration.

#### ELEMENTARY EDUCATION CURRICULUM

	Semester Hours
General Studies .....	60
Professional Education .....	23
CuIn 200*, 380	
Counseling/Ed. Psych 242*, 349*	
Admin. Superv. & Field Services 492	
Specialization .....	22
CuIn 282, 332, 342, 352, 362, 372, 382, 425	
Recommended Electives .....	23
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#### \*Prerequisites for methods classes

#### ELEMENTARY EDUCATION COURSES

**CuIn 100: Reading-Study Skills Improvement** — Instruction on basic reading skills with special emphasis on reading rate, comprehension and vocabulary. How to study, when to study and how to prepare for tests, along with phonetic application to spelling are stressed in this 3 semester hour course.

**CuIn 295: Undergraduate Workshops** — Special topics of interest to undergraduate and selected community members (Variable credit)

Note: Admission to the School of Education and CEdP 242 and CEdP 349 are prerequisites for all methods courses.

**CuIn 282: Evaluation in Elementary School** — An introductory course to evaluation in the elementary school: theory of tests and testing; objective and subjective tests; teacher-made tests; standardized tests; tests used in the elementary school. (3 sem. hours)

**CuIn 332: Methods and Materials in Teaching Elementary Reading** — Scientific aspects of reading and problems in the teaching of reading in all elementary grades. Presentation in theory and practice, from careful examination of research; opportunity for students to acquaint themselves with a variety of modern reading materials and with approved techniques in their use. (3 sem. hours)

**CuIn 342: Methods and Materials in Teaching Elementary Mathematics** — The various processes and operations needed in mathematics of the elementary school are carefully analyzed so that the students may see just what must be taught and what problems and difficulties are likely to be encountered as this work is presented. Prerequisite: Math 210 or the equivalent. (3 sem. hours)

**CuIn 352: Methods and Materials in Teaching Language Arts** — A survey of available methods, materials, current curricular and trends in the field of language arts forms the basis for an analysis of modern techniques in the teaching of language arts in the elementary school. (3 sem. hours)



**CuIn 362: Methods and Materials in Teaching Elementary Science** — A survey of methods of presenting science in each grade of elementary school is made. Stressed are field work, collection of materials, special techniques, and demonstrations to adapt elementary science to local conditions, curriculum, and grade placement. Prerequisite: two science courses, one with related laboratory. (3 sem. hours)

**CuIn 372: Methods and Materials in Teaching Elementary Social Studies** — A survey of available methods, materials, current curricula and trends in the field of social studies forms the basis for an analysis of modern techniques in the social studies curriculum in the elementary school. (3 sem. hours)

**CuIn 382: Methods and Materials for Diagnostic and Remedial Reading** — Study of recent research in the field of reading to acquaint students with problems and needs common to incompetent readers and with the most successful materials and techniques for dealing with such problems. Demonstrations and practice in testing, planning, and directing remedial reading programs with groups and individuals. Prerequisite: CuIn 332 (3 sem. hours)

**CuIn 385: Creativity** — An interdisciplinary approach to child centered teaching through creative instructional materials, drama, music, and a variety of art media. (1 sem. hour)

**CuIn 394: Classroom Management in the Elementary School** — A course emphasizing preventive, interventive, and diagnostic techniques for effective management and control in a classroom. Consideration is also given to classroom atmosphere, parent-teacher conferences, roles of support personnel, etc. (3 sem. hours)

**CuIn 396: Early Childhood Education I** — Research, history, philosophy, current trends and observations with emphasis on the nature and nurture of the young child from birth through third grade. (3 sem. hours)\*

**CuIn 397: Early Childhood Education II** — Curriculum, materials, audio-visual and other aids and their implementation in various early childhood learning situations with full articulation of such programs with the primary grades. Prerequisite: CuIn 396. (3 sem. hours)

**CuIn 398: Modern Primary Programs** — A survey of philosophy, techniques and methodology used in educating children through continuous progress in an ungraded primary school. (3 sem. hours)

**CuIn 425: Practicum in Elementary Education** — Students will demonstrate the ability to organize and teach a variety of lessons by writing specific instructional objectives and selecting and organizing learning strategies. Teaching individuals, small groups, and a class are part of the expectations. Prerequisite: Concurrent registration with Elementary Education Field Experience courses (1 sem. hour)

**CuIn 490: Independent Study** — A program of independent work conducted by a student who has demonstrated academic proficiency, with pre-approval of the student's advisor and department chairperson. Prerequisite: departmental approval. (1-3 sem. hours)

**CuIn 498: Selected Topics** — Experimental courses covering topics supplementary to teaching in the elementary school may be offered on an irregular basis with this course designation. (Variable credit)

## Library Science Certification Program

McKay Education Building, Room 104

(412) 794-7254

The Library Science curriculum provides students with a liberal education along with specialized learning experiences, that enables them to become competent and effective in the administration of media programs and capable of relating media content to curricular and societal needs. Students become certified in librarianship in grades K through 12.

As part of their program, students become familiar with the use of a variety of audio-visual equipment, as well as methods of producing audio-visual materials. The spacious and attractive facilities of Bailey Library provide opportunity for practical experiences in the use of computer terminals and other technology. The program of study is directly supported by an exceptionally strong collection of library and information science materials—books, periodicals and microformats conveniently located for use by both students and faculty.

Supporting field and laboratory experiences, representative of an unusual variety of types and sizes of libraries and information agencies, are provided. These include the college library; learning resource centers in schools of all levels; community libraries; and special libraries and information centers in such fields as law, medicine, and agencies of the government.

Employment opportunities in media and information science continue to be very favorable with students finding positions in school media centers, public, and special libraries. Library science majors may obtain dual certification in the fields of Elementary Education, Environmental Education, Special Education and following Secondary Education:

### LIBRARY SCIENCE CURRICULUM

B.S. Degree in Education Semester Hours	Semester Hours
General Studies .....	60
Professional Education .....	23
CuIn 200, 380, 282, or 314	
Counseling & Ed. Psych. 242	
Administration Supervision & Field Services 485	
Library Science .....	24
Academic Concentration or Electives .....	21
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### LIBRARY SCIENCE COURSES

**CuIn 201: Introduction to Library Science** — Provides an opportunity to gain perspective and understanding of library services, needs and objectives. Acquaints students with some of the complex activities and educational responsibilities of the librarian and assists in the development of a philosophy conducive to library administration. (3 sem. hours)

**CuIn 202: Reference Services and Materials** — A study of basic reference sources suitable for library use as well as the principle reference and bibliographical tools relating to specific subject areas. Emphasis is on the selection and evaluation of reference materials and the development of skills for their effective use. (3 sem. hours)\*

**CuIn 295: Undergraduate Workshops** — Special topics of interest to undergraduates and selected community members. (Variable credit)

**CuIn 304: Children's Literature** — Designed for adults who are interested in children and the books they read or might read. Through a wide and varied reading experience, students become acquainted with literary genres ranging from the traditional folk tale and nursery rhyme through modern fiction-fanciful, humorous, and/or vividly realistic. The potential of using children's literature to enrich the elementary school curriculum and to stimulate creative activities in children is emphasized. (3 sem. hours)\*

**CuIn 307: Multi-Media Services and Materials** — Presents the concept of the library as a Learning Resource Center and of the librarian as a media specialist. Evaluation and selection of all types of instructional media to enrich and support the curriculum at all grade levels are stressed. Utilization of materials is emphasized through a study of the use of individual media, as well as through the cross-media approach. (3 sem. hours)

**CuIn 308: Folk Literature and Storytelling** — Combines a study of traditional literature with practice in the best methods of presenting it orally to an audience. Oral presentations include a preschool story hour, folk tale, and myth or literary fairy tale. The course also emphasizes the importance of puppetry in education and recreation and culminates in a puppet show presented to area children. (3 sem. hours)\*



**CuIn 309: Media Organization I** — Introduces the fundamentals of descriptive cataloging as they pertain to the organization of written materials. Provides practical exercise in determining the proper classification, subject, and entries for all types of books in the card catalog. (Prerequisite to CuIn 310) (3 sem. hours)

**CuIn 310: Media Organization II** — Continued descriptive cataloging as it pertains to the organization of non-book materials, both software and hardware. Ordering and adapting printed cards, and applying rules for filing cards in the catalog are practiced. (3 sem. hours)

**CuIn 312: Young Adult Literature** — Surveys literature for adolescents and young people and is intended to cultivate book appreciation, improve book knowledge, and curriculum enrichment in intermediate, junior and senior high school libraries. Includes a study of selection aids, book talks and a study of current nonprint materials. (3 sem. hours)

**CuIn 315: Collections Development** — A study of the basic bibliographic tools used in the selection of print and nonprint materials. Problem areas are examined and a study of censorship and its implications made. Practical experience includes formulating a selection policy for either a high school or elementary library.

**CuIn 401: Communication and Libraries** — Provides an overview of the contribution made to man's cultural heritage through writing, books, and libraries. The development of paper, invention of type and printing, techniques of illustrating and binding, and the progression of libraries to the present are considered. (3 sem. hours)

**CuIn 421: Administration of Learning Resource Centers** — Analyzes and interprets administrative areas of organization, financial support, architecture and design, standards, and personnel management. Visitation to libraries may be scheduled to observe the application of administrative principles. (3 sem. hours)

**CuIn 490: Independent Study** — Provides an opportunity for independent work for students who have demonstrated academic proficiency. Pre-approval by the student's advisor and department chairperson is a prerequisite. (1-3 sem. hours)

## Music Education Certification Program

Swope Music Building, Room 225

(412) 794-7276

The Music Education curriculum provides students with a liberal education along with specialized learning experiences that are designed to prepare students for teaching, supervising, and administering music programs. A student may obtain dual certification in music education and music therapy. A Bachelor of Science in Music Education will provide the music major with an Instructional I Certificate which authorizes the student to teach in grades K through 12. \*The Music Education Curriculum is described under the Music Department in this catalog.



## Secondary Education Certification Program

McKay Education Building, Room 104

(412) 794-7254

The prospective secondary school teacher is required to take coursework designed to provide a broad, liberal education which includes general studies, professional education, electives, and courses in a particular area or areas for certification. Successful completion of a prescribed program entitles the student to the teaching certificate approved by the Commonwealth of Pennsylvania and, with some limitations, by many other states.

A secondary education major is assigned to an advisor in the Curriculum and Instruction Department who is an expert in the certification area(s).

A student may choose to attain dual certification, that is, to become eligible to teach in both elementary and secondary schools. This involves the assistance of two advisors, one from each area. The decision to attempt this dual certification should be made as early as possible in order to facilitate scheduling. It is the responsibility of the student to follow the catalog and to initiate and complete the registration process.

**Field Experience Program.** The Field Experience in secondary education consists of the following methods courses:

CuIn 311:	Teaching Mathematics in the Secondary Schools
CuIn 319:	Teaching Social Studies in the Secondary Schools
CuIn 320:	Teaching English in the Secondary Schools
CuIn 323:	Teaching Modern Language in the Secondary Schools
CuIn 349:	Teaching Science in the Secondary Schools

Students who seek certification in the aforementioned areas must take the appropriate course(s) as part of the Field Experience. In addition, they should schedule CuIn 375, Reading in Secondary Schools (2 credits) and CuIn 314, Evaluative Techniques (3 credits), as part of an eight credit package. Five weeks of this semester will be spent in the public schools observing, becoming involved in one-on-one or small group teaching, or, in some cases, teaching portions of classes or whole classes, and generally serving as an assistant to the teacher.

### SECONDARY EDUCATION CURRICULUM

SUMMARY	Semester hours
General Studies .....	60
Professional Education .....	28
CuIn 200, 314, 375, 380	
Counseling & Ed. Psych 242	
Admin. Super. & Field Services 493	
Appropriate methods course(s)	
Certification & Electives .....	40

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### Areas of Certification

Requirements for the Bachelor of Science in Education degree are listed on the following pages according to the certification areas. Upon completion of the General Studies requirements, the professional education requirements, and the requirements for the particular area of certification, the student will receive a Bachelor of Science in Education degree with certification in the chosen area(s).



**Biology.** The biology program is designed to introduce the student to the basic principles of biology at the cellular, organismal, and population level. The program is such that it can provide breadth of training in the biological sciences or a concentration in either botany or zoology. Courses numbered 500 and above are open to advanced undergraduates and graduates.

#### Requirements for Certification in Biology

Biology (31 sem. hours)

Biol 104, 201, 212, 250, (to be taken prior to 300 and 400 level courses)

Field Courses (6 sem. hours to be chosen from Biol 311, 320, 360, 371, 401, 510 or Mar Sci courses)

Biology Electives (10 sem. hours of Biology major courses)

Chemistry (16 sem. hours)

Chem 107, 108, 111, 112, 201, 211, and 202, 212 or 260, 261

Mathematics (3 sem. hours)

Math 125 or 225

Approval for student teaching in biology requires credit in 25 semester hours of biology and 12 semester hours of chemistry.

#### Chemistry. Requirements for Certification in Chemistry

Chemistry (31 sem. hours)

Chem 107, 108, 111, 114, 201, 202, 211, 212, 301, 321, 322, 491 and one elective in chemistry.

Mathematics (8 sem. hours)

Math 225, 226, 230 (one year of calculus)

Physics (11 sem. hours)

Phys 211, 212, 213

**Communication.** The communication certificate shall be awarded to aspirants who demonstrate competency in understanding the communication and language processes, in understanding and appreciating a variety of literatures, in reading critically and writing effectively, and in aiding others in acquiring these skills. The 36 semester hour requirement must be met in at least three of the following areas: speech, theatre, writing, literature, and non-print media. Specific information on the demonstration of competencies and various options may be obtained from the coordinator of the program.

#### Requirements for Certification in Communication

Communication (36 sem. hours)

Demonstration of Required Competencies

**Earth and Space Science.** This program prepares teachers in earth and space science for secondary school positions. Study areas include the solid earth, the oceans, the weather, and earth's environment in space.

#### Requirements for Certification in Earth and Space Science

Earth Science (31 sem. hours)

Geol 101, 102, 111, 112, 121, 131, 201, 241, 271, and 10 semester hours of advisor-approved electives in geology. Geol 201 may be omitted if Geol 351 and 352 are elected.

Astronomy (3 sem. hours)

Phys 272

Physics (6 sem. hours)

Phys 201, 202

Chemistry (8 sem. hours)

Chem 107, 108, 111, 112

Mathematics (3 sem. hours)

Math 125

**Economics.** The program for students certifying in social studies with a major area of emphasis in economics is designed to prepare the individual to teach courses in economics and interdisciplinary social science courses in the secondary schools.

#### Requirements for Certification in Social Studies—Economics

- Economics (24 sem. hours)
  - Econ 100, 201, 219, 306 and a minimum of 9 semester hours of economics electives
- Geography (6 sem. hours)
- History (6 sem. hours)
- Political Science (6 sem. hours)
- Psychology (6 sem. hours)
- Sociology/Anthropology (6 sem. hours)

**English.** The program is designed to introduce the prospective teacher of English in the secondary schools to the several English areas. Consultation with advisors from the Department of English and Secondary Education is required. Successful completion of the prescribed program qualifies the student to teach English in the secondary schools.

#### Requirements for Certification in English

- English (40 sem. hours)
  - Six semester hours from the following: English 201, 203, 204, 205, 207, 215, 301, or 303
  - Six semester hours from the following: English 218, 219, 331, or 332
  - Twelve semester hours of any English courses EXCEPT the following: English 100, 101, 103, 211, 212, 213
  - Sixteen hours from the following, all required: English 305, 312, 401, 402, CuIn 312, CuIn 375

**General Science.** Completion of the following requirements certifies the student to teach general science in the junior high schools of the Commonwealth.

#### Requirements for Certification in General Science

- Total of 33 semester hours in the following courses:
  - Biology 104 and 201 or 212
  - Chemistry 107, 108, 111, 112
  - Geology 101, 102, 111, 112
  - Physics 201 or 211, 202 or 212 or 213
  - Mathematics 125 or 225
- Electives. (17 semester hours) Of the 17 hours of elective courses, 12 hours must be elected in one department at the 200 level or above. A course in astronomy is recommended.



**Geography.** Completion of the prescribed curriculum entitles the student to certification in social studies with an emphasis in geography. The certificate authorizes the holder to teach geography and interdisciplinary social science courses in the secondary schools.

#### Requirements for Certification in Social Studies—Geography

Geography (24 sem. hours)

G&ES 150, 230, 331, 444 and four regional courses approved by advisor

Economics (6 sem. hours)

History (6 sem. hours)

Political Science (6 sem. hours)

Psychology (6 sem. hours)

Sociology/Anthropology (6 sem. hours)

**History.** Completion of the prescribed curriculum entitles the student to certification in social studies with an emphasis in history. The certificate authorizes the holder to teach history and interdisciplinary social science in the secondary schools.

#### Requirements for Certification in Social Studies—History

History (30 sem. hours)

Two courses from the following: Hist 121, 122, 123

Two courses from the following: Hist 201, 202, 203

Eighteen hours of history electives from each group of courses in American

History, European History and Non-Western History

Economics (6 sem. hours)

Geography (6 sem. hours)

Political Science (6 sem. hours)

Psychology (6 sem. hours)

Sociology/Anthropology (6 sem. hours)

**Mathematics.** For centuries the beauty of mathematics has attracted outstanding scholars who have found it a fascinating subject to be studied for its own sake. At the same time, the discovery of applications has increased rapidly, and the profession has prospered accordingly. A mathematics curriculum prepares students for many challenging careers in government, commerce, industry, and education. Major universities will welcome applications for advanced graduate study in various fields, such as accounting, actuarial science, industrial management, economics, earth science, operations research, physical sciences, statistics, and computer science, as well as in mathematics.

#### Requirements for Certification in Mathematics

Mathematics (29-35 sem. hours)

Math 125, 225, 230, 231, 235, 305, 309, 313

Three semester hours from Math 303 or 304

Six semester hours of mathematics electives from 300-400 level

Physics (8 sem. hours)

Phys 211, 212

**Modern Languages and Cultures.** The Department of Modern Languages and Cultures offers courses designed to develop linguistic skills and to help students to understand the country whose language they are studying and to communicate these skills and this knowledge to students in the secondary school. Students who have studied a foreign language in high school for two years or more are advised to continue the study of that language. The course in which students enroll will be determined by the department on the basis of a placement examination administered by the department.

#### Requirements for Certification in a Foreign Language

For certification in French: (30 sem. hours)

Fren 101-102-103, 250 or 255, 300, 305 or 306, 320, ML 350, 402 or 403 or 404 or 411, 454

For certification in German: (30 sem. hours)

Germ 101-102-103, 250 or 255, 300, 305 or 306, 320, ML 350, 403 or 411, 454

For certification in Spanish: (30 sem. hours)

Span 101-102-103, 250 or 255, 300

Two of the following three civilization courses: 305, 306, or 307 ML 350, 320, 454

One of the following: 415, 418, 420, 422, 430

**Physics.** The curriculum in physics is designed for students desiring professional preparation for a career in the teaching of physics in secondary schools or college. Physics courses are also recommended as electives, as related courses, or as second area of concentration for students preparing to teach general science or physical science or preparing to become elementary teachers. Consultation with a departmental advisor is encouraged. Note prerequisites in planning course sequence.

#### Requirements for Certification in Physics

Physics (29 sem. hours)

Phys 211, 212, 213, 261, 331, 400

Phys electives (minimum of 5 semester hours of upper level courses. Four hours of Advanced Laboratory must be included)

Mathematics

Math 125, 225, 230, 231

Chemistry

Chem 107, 111

Chemistry or Biology

Chem 108, 112, 03 Biol 101, 111



**Political Science.** The program for certification in social studies with an emphasis in political science prepares students to teach political science (government) and interdisciplinary social science courses in secondary schools.

Requirements for Certification in Social Studies—Political Science

Political Science (30 sem. hours)

PolS 100, 101, 103, 210

Two courses in each of the following areas:

American Politics

International/Comparative Politics

Political Theory

Economics (6 sem. hours)

Geography (6 sem. hours)

History (6 sem. hours)

Psychology (6 sem. hours)

Sociology/Anthropology/Social Work (6 sem. hours)

**Social Studies.** Students seeking certification in social studies may choose a program with a major emphasis in economics, geography, history, political science or sociology/anthropology. Successful completion of the program qualifies the student to teach courses within the major emphasis and in interdisciplinary social science in the secondary schools. For requirements, refer to the individual emphasis area.

**Sociology/Anthropology.** The program for students certifying in social studies with a major emphasis in sociology/anthropology is designed to prepare the individual to teach courses in sociology and interdisciplinary social science courses in the secondary schools.

Requirements for Certification in Social Studies—Sociology

Sociology/Anthropology (30 sem. hours)

SASW 103, 201, 202, 317, 318, 412, and 12 semester hours of electives in sociology/anthropology

One year level of competence in foreign language or approved substitute

Economics (6 sem. hours)

Geography (6 sem. hours)

History (6 sem. hours)

Political Science (6 sem. hours)

Psychology (6 sem. hours)

## SECONDARY EDUCATION COURSES

**CuIn 295: Undergraduate Workshops** — Special topics of interest to undergraduates and selected community members. (Variable credit)

**CuIn 311: Teaching of Mathematics in Secondary Schools** — Survey of contemporary trends with participation exercises. Prerequisite: two 300-level mathematics courses. Offered every spring semester. (3 sem. hours)

**CuIn 314: Evaluative Techniques in Secondary Schools** — Objectives for testing and evaluation; construction and analysis of classroom tests for evaluative and diagnostic purposes; construction and application of non-test tools for evaluation; statistical analysis of testing and measurement data; use of standardized tests in the classroom. (3 sem. hours)

**CuIn 319: Teaching of Social Studies in Secondary Schools** — Course is intended to familiarize the prospective teachers with curriculum and materials, methods of instruction, planning and a pre-student-teaching experience. (3 sem. hours)

**CuIn 320: Teaching of Communication Arts in Secondary Schools** — The purpose of the course is to acquaint prospective teachers with objectives, competencies, methods and materials, curricular and co-curricular, in language arts for secondary school students. (3 sem. hours)

**CuIn 323: Teaching of Modern Foreign Languages** — Course aims at acquainting prospective teachers with various approaches to teaching language so that they may develop their own strategies and procedures and become familiar with pertinent literature. (3 sem. hours)

**CuIn 324: Methods for Teaching English as a Second Language and Bilingual Education** — A course designed to acquaint the prospective teacher at any level with the methodology used to teach English to native speakers of other languages and to acquaint students with the specialized procedures used when teaching in bilingual classrooms (any two languages) on any level. Prerequisite: one year of college language study or placement in 201. (3 sem. hrs.)

**CuIn 349: Teaching of Science in Secondary Schools** — The development of teaching competencies and skills required of secondary school biology and physical science teachers, includes learning theories, curriculum development, laboratory operation, and teaching aids. (3 sem. hours)

**CuIn 375: Teaching Reading in Secondary Schools** — Students improve their own reading and vocabulary skills. Includes methods and materials for assisting secondary school students improve their reading-study skills in content areas. Required of English majors. (2 sem. hours)





## Special Education Department

Special Education Building, Room 122

(412)794-7344

The Special Education Department provides the curriculum and methods of teaching to prepare teachers for educational programs designed to meet the needs of those children who differ significantly from the "average" child. The college is authorized by the Pennsylvania Department of Education to provide the courses and practical experiences designed to meet the requirements for the Comprehensive College Certificate in Special Education for the Mentally and/or Physically Handicapped. This teaching certificate makes the graduate eligible to be certified to teach children classified as mentally retarded (educable, trainable, and severely/profoundly); physically handicapped, brain injured, emotionally disturbed and learning disabled in grades K-12. This special education program may provide sufficient preparation in elementary education to make the graduate eligible to be certified to teach regular elementary education classes in grades K-6. A second field of certification is possible for the Special Education major.

**Community Services for the Developmentally Disabled.** This Special Education Program is a non-teaching non-certification program of professional preparation designed to lead to a Bachelor of Science in Education. This program prepares students to work with exceptional persons in non-public school situations. Students who complete this program may be eligible for many civil service classifications such as: Case Managers, Program Supervisor, Group Home Specialist, Sheltered Workshop Leaders, Directors of Community Living Arrangements, private facilities worker, and Mental Health/Mental Retardation Workers. Students in this program are required to have a variety of experiences in the community; ranging from direct service and interaction with the developmentally disabled to such complex activities as program planning, program direction, and other administrative/consultative roles. All students complete 100 hours of contact with the developmentally disabled, 18 semester hours of Special Education courses, Special Education Practicum, and a 12 semester hour internship at two different program sites. The internship provides direct experience in two different non-teaching career situations. A program guide is available upon request.

**Minor in Exceptionalities.** The Department of Special Education offers a Minor in Exceptionalities which is of interest to all students enrolled in people-oriented majors. Students studying in Psychology, Social Work, Music Therapy, Recreation and Education will find the Minor in Exceptionalities a highly desirable addition to their major career preparation. The Minor consists of 15 semester hours in Special Education courses which can be selected according to the student's interest and background.

**SRU Laboratory School for Exceptional Children.** This public school program is operated in the Special Education Building by the Special Education Department to provide educational opportunities for children handicapped by mental retardation, crippling and other health-impairing conditions, learning disabilities, or by emotional maladjustment. It also serves as a practicum site in which special education majors begin the application of teaching theory to children. Tutoring of individuals and small groups under the supervision of faculty members who serve as master demonstration teachers provides students with the opportunity to develop teaching skills and learn the use of materials and classroom management techniques. Students also have the opportunity to work with other educational specialists. An individualized, prescriptive teaching program is planned for each child, as well as recommended instructional strategies in child management and parent, tutor, and pupil counseling.

## SPECIAL EDUCATION COURSES

**SpEd 100: Introduction to Exceptional Children** — This course is designed to introduce the student to the field of special education and to all exceptionalities. Content includes definitions, determinants, developmental characteristics, life complications and educational support services. Special education majors are required to complete 40 validated clock hours of contact with exceptional persons. These hours may be earned prior to enrollment to SRU. (3 sem. hours)\*

**SpEd 101: Mainstreaming the Handicapped in School, Community and Industry** — To familiarize students with the nature and needs of the handicapped in today's society to reduce discrimination. This class will provide background knowledge and techniques for helping handicapped fit into schools and society. The information is applicable to persons in business, industry, agencies, schools and society. Compliance with sections 503 and 504 of the Rehabilitation Act, Public Law 94-142 and state mandates require that all citizens become more knowledgeable about handicapped citizens to help them fit into the community, school and business society. This course deals with the introduction to handicapped citizens and attempts to provide techniques for reducing discrimination towards this minority group in a variety of settings. (3 sem. hours)

**SpEd 105: The Disabled in American Society** — This course will provide background for understanding how disabling conditions may handicap a person in terms of jobs, marriage, and family life, housing and transportation and citizenship. The course stresses how each of us is involved in determining the success or failure of the disabled in our society. An historical overview of society's treatment of the disabled will be contrasted with recent legislation and the emerging roles of the disabled in American society. The impact of disabilities on the disabled person, the parents, siblings, employers, neighbors, and peers will be presented. (3 sem. hours)

**SpEd 202: Educational Aspects of Physically Handicapped/Brain Injured** — A description of the learner characteristics, programs and techniques used in educating physically handicapped/brain injured persons. This course is designed to teach the entry level skills for teaching the PH/BI child. The student will be able to organize classroom instruction for the PH/BI child. Twenty validated clock hours of contact with physically handicapped persons is required prior to registering for SpEd 400. These hours must be earned while enrolled at SRU. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 203: Educational Aspects of ED/LD** — This course describes the characteristics of learning and/or behaviorally disordered (LBD) children, the programs designed to serve their needs and the role and function of the teachers who work with them. Twenty validated clock hours of contact with learning and/or behaviorally disordered persons is required prior to registering for SpEd 400. These hours must be earned while enrolled at SRU. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 204: Educational Aspects of the Mentally Retarded** — This course is designed to describe the psychological and educational characteristics that distinguish retarded pupils, as revealed in current research. The course covers the nature of mental retardation, characteristics of learning, educational programs and current issues. It features an emphasis on the interactive roles of school and society in identifying and delivering services to the mentally retarded. Twenty validated clock hours of contact with mentally retarded persons is required prior to registering for SpEd 400. These hours must be earned while enrolled at SRU. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 211: Classroom Management Strategies** — This course is designed to familiarize students with the various behavioral problems they may encounter in special education classrooms. Suggestions are given for ameliorating these problems as well as for successfully organizing the classroom and classroom routine. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 212: Life Management for the Handicapped** — Preparation of the teacher to plan for meeting the major developmental needs of the handicapped from infancy to adulthood; emphasis on early childhood education, career education to include: preparation for occupation, homemaking, social/leisure skills, parent involvement and use of community resources to accomplish these objectives. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 300: Educational Assessment of Exceptional Children** — This course enables students to develop the skills necessary for making an educational assessment of handicapped children in order to plan an educational program to improve the child's learning. Prescription writing follows assessment and is concerned with identifying the varying needs of the child and the appropriate experiences and materials necessary to promote further development in learning. Prerequisite: SpEd 100. (3 sem. hours)



**SpEd 301: Educational Strategies: Mildly Mentally Retarded** — Techniques of curriculum development for meeting the educational needs of mildly retarded children; methods and materials effective for their instruction. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 302: Educational Strategies: Moderately and Severely Mentally Retarded** — The learner will identify the critical components of an educational program for the moderately (trainable) and severely (profoundly) mentally retarded: curricular areas, effective techniques, appropriate materials, the team approach, ancillary services and parental development. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 303: Medical and Therapeutic Aspects of COHI** — This course is designed to familiarize the student with the types of disabling conditions frequently found in PH children. It also familiarizes the student with first aid procedures, ancillary personnel, prosthetic/orthotic devices and architectural barriers. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 304: Educational Strategies: Physically Handicapped/Brain Injured** — Designed to prepare teachers to make the most appropriate learner, method and materials match for the moderately and severely physically handicapped/ brain injured. Intensive instruction and participation in the planning and operation of instructional delivery systems for the PH/BI. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 305: Educational Strategies: Mild Learning and Behavior Disorders** — This course is designed to prepare a future teacher to make the most appropriate learner, method, material, motivation match to facilitate remediation of the learning and/or behavioral disordered (LBD) individual for entry into regular class programs. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 306: Educational Strategies: Severe Learning and Behavior Disorders** — Techniques and educational strategies for teaching the severely disturbed and juvenile delinquents for preparation for teaching in public and private residential institutions, as well as in special classes, resource rooms or homebound instruction. Prerequisite: SpEd 100. (3 sem. hours)

**SpEd 400: Special Education Practicum** — Application of teaching techniques and materials to handicapped children in small group instruction under faculty supervision; to provide the student with an opportunity for experience in the special education classroom prior to and in preparation for the student teaching assignment. Prerequisite: SpEd 100, minimum of 2.25 academic average in major area, and consent of instructor and completion of 100 validated clock hours with exceptional persons. (3 sem. hours)

## SPECIAL EDUCATION MAJOR IN MENTALLY AND/OR PHYSICALLY HANDICAPPED

	Semester Hours
General Studies .....	60
Professional Education .....	23
Counseling and Educational Psych. 242, 349	
Special Education .....	30
SpEd Foundation Courses: 100, 202, 203, 204, 211, 212, 300, 400	
Area of Concentration (MR): 301, 302	
Area of Concentration (PH/BI): 303, 304	
Area of Concentration (ED/LD): 305, 306	
CuIn 333, 343 .....	6
Second Certification Concentration .....	9
CuIn 423 (Field Pract. Area A)	
CuIn 363, 373, 383 (Elem. Curr. Area B)	
CuIn 433 (Field Pract. Area B)	
CuIn 283 (Elem. Clrm. Evaluation)	

## Administration/Supervision and Field Services Department

McKay Education Building, Room 114

(412)794-7258

The department, in cooperation with school districts, intermediate units, and other education-related agencies, is responsible for the assignment and supervision of student teachers in elementary and secondary level programs. The student teacher, in consecutive full-time assignments for a semester, engages in observing, assisting and teaching in appropriate educational facilities under the guidance of a college supervisor and a cooperating teacher. The twelve-credit student teaching program is included in the required professional education courses in all teacher education curricula in the School of Education and the School of Health Physical Education and Recreation.

Students are provided full-time clinical experiences in their area(s) of teaching specialization in an off-campus school or education-related agency which is under contract with the university. Prerequisite: approval of major department(s) and Office of Student Standards; minimum of 2.25 cumulative academic average overall and 2.4 cumulative academic average in area(s) of specialization. Students are advised to arrange their programs so that they need not take additional courses during their student teaching semester. Grade: Pass or No Credit. (12 semester hours)

- ASFS 485: Student Teaching: Library Science
- ASFS 486: Student Teaching: Health Science
- ASFS 487: Student Teaching: Driver Education
- ASFS 488: Student Teaching: Environmental Education
- ASFS 489: Student Teaching: Special Education
- ASFS 492: Student Teaching: Elementary Education
- ASFS 493: Student Teaching: Secondary Education
- ASFS 494: Student Teaching: Health and Physical Education





## SCHOOL OF HEALTH, PHYSICAL EDUCATION AND RECREATION

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The School of Health, Physical Education and Recreation at Slippery Rock University offers one of the largest, most comprehensive and long-established programs of this nature in the United States.

There are four departments in the School: Health Science, Nursing, Parks and Recreation, Environmental Education and Physical Education. In addition, the athletic program, including intramurals, club sports and intercollegiate sports, is administered within the school.

Undergraduate majors leading to specific degrees are:

B.S. in Recreation	B.S. in Nursing (Upper Two Years)
B.S. in Education in Health Education	B.S. in Education in Health and Physical Education
B.S. (Major-Health Sciences)	B.S. (Major-Physical Education)
B.S. in Administration of Occupational Health and Safety Management	

**General Studies.** In addition to courses in the School of Health, Physical Education and Recreation, all students are required to take 60 hours in General Education. Students are expected to elect General Education courses from the three areas of liberal arts—humanities and fine arts, natural sciences and mathematics, and social and behavioral sciences—concurrently with courses in their major. (See General Studies section.)

**Admission Requirements.** Admission requirements for each department under the School of HPER are listed under the specific department. Admission requirements for the Department of Nursing include being currently licensed as a registered nurse and meeting the department's established criteria for Junior standing.

## Health Science Department

Spotts World Culture Building, Room 003

(412)794-7337

The Health Science Department provides opportunities for students to enter careers in the public schools and in community health. School careers preparation includes two programs: health education certification for all grades in all states and a program for athletic trainers. Community health provides opportunities in one of the four following specialties: community health administration, community health information, community health planning, and community health research. Students in the Athletic Training Program may elect to become certified to teach school health or elect the non-teaching program. The Athletic Training Program is accredited by the National Athletic Training Association and students may seek N.A.T.A. certification.

The B.S. degree program in the Administration of Occupational Health and Safety Management employs a generalist approach intended to prepare a safety professional at the beginning levels of employment who is trained in a variety of safety skills. The program provides the student with career opportunities in industry, government, and insurance professions.

**Driver Education Certification.** Twelve semester hours in safety and driver education are required for this certification. Teacher certification in another certification area is required. The program includes driver education and requires the following courses: HSE 206, HSE 208, HSE 306 and HSE 308. All courses may apply to the 68 semester hours in professional preparation.

**Physical Therapy Advisement.** Students entering this program should be aware of the extreme difficulty of matriculating in physical therapy schools. Competition for a limited number of positions is very keen, requiring very high QPA's and exemplary letters of recommendation. If a student is accepted into a therapy school, it usually requires 12-18 months of additional education to become certified to practice. The Health Science Department offers students interested in physical therapy the opportunity to obtain the necessary course prerequisites for entrance into physical therapy schools. Students majoring in health education (or biology), through proper advisement, may prepare themselves for entrance into either degree or certificate programs in physical therapy.

### HEALTH SCIENCE CURRICULUM

#### **Bachelor of Science in Health Education (128 semester hours)**

##### **General Studies (60 semester hours)**

##### **Natural Science (12 hours required)**

Biology 106 and 107 - 6 hours

Three hours in two other departments\*

\* Physics 201 recommended for athletic training students.

##### **Social Science (15 hours required)**

Sociology - 3-6 hours

Psychology - 3-6 hours

Three hours in two other departments

##### **Humanities (12 hours required)**

Communications 215 - 3 hours

Three hours in two other departments



**Basic Skills** (6-14 hours required)

See general studies section of catalog.

1. **School Health Program** (68 hours)**Professional Education** (30 hours required)

Health Science 100, 303, 304, and 403 — 12 hours

Educational Psychology 242 and 349 — 6 hours

Student Teaching — 12 hours

**Certification Area** (38 hours required)

Health Science 101, 201, 202, 203, 350, 401 — 18 hours

Physical Education 274 — 3 hours

Biology 210 — 3 hours

Electives (16-17 hours required)

2. **Athletic Training Program** (68 hours required)**Required course** (45 hours required)

Health Science 100, 101, 102, 201, 202, 307, 350 — 21 hours

Physical Education 161, 264, 267, 274, 365 or 366, 375 — 18 hours

Electives (23-27 hours required)

A. Non-teaching — all courses must have advisers approval.

B. **Teaching Certification** (27 hours)

Health Science 303, 304, 401 and 403 - 12 hours

Educational Psychology 242 - 3 hours

Student Teaching - 12 hours

**Bachelor of Science with a major in Health Science** (128 semester hours)**General Studies** (60 semester hours)

By Advisement, courses in the following:

Natural Science (12-13 semester hours)

Social Science (15 semester hours)

Fine Arts and Humanities (12 semester hours)

Basic Skills (6-14 semester hours)

**Community Health** (30 hours required)**Professional Education** (24 hours required)

Health Science 100 - 3 hours

Educational Psychology 301, 349, 350 - 9 hours

Geography 245 - 3 hours

Political Science 150 - 3 hours

Statistics (specific course by advisement) - 3 hours

Learning Theory (specific course by advisement) - 3 hours

**Professional Competency** (27-30 hours required)

Health Science 101, 201, 203, 310, 444 and 455 - 18-21 hours

Sociology 309, 405 and 409 - 9 hours

Related Electives (14-17 hours required) by advisement.



### **Bachelor of Science in Administration of Occupational Health and Safety Management (128 hours required)**

The program is designed to incorporate knowledge and understanding in the areas of industrial hygiene, conventional management principles, and safety related concepts and issues as approached through the philosophy of safety management by objectives. The program employs a generalist approach in that industrial hygiene, safety concepts, and managerial skills and concepts are combined into one program intended to prepare a generalist safety professional. Such an individual would be prepared for beginning levels of employment. The generalist approach can provide the graduate with a wide variety of diversified avenues and opportunities for career placement. The program requires 128 semester hours of course work which includes a field experience. The curriculum provides the student with background and training necessary for the recognition, evaluation, and control of workplace hazards along with the skills necessary for the planning, organization, implementation, and management of occupational health and safety programs.

- A. **General Studies** (60 semester hours)
- B. **Required Courses** (51 hours required)
  - Health Science 100, 206, 310, 315, 250, 444, 455 (24-27 hours)
  - Math 114 - 3 hours
  - Physics 204 - 3 hours
  - Psychology 210 - 3 hours
  - Chemistry 240, 270, 340 - 9 hours
- C. **Related Electives** by advisement (17 hours)

### **HEALTH SCIENCE COURSES**

**HSE 100: Introduction to Health Careers** — Provides students with an understanding of various career opportunities in health and safety occupations and the opportunity to determine whether their needs, interests, abilities and values are suited to careers in this area. (3 sem. hours)

**HSE 101: Personal Health** — College living and life-long health concerns are the focus of this course. There is an emphasis on the wellness with its emotional, physical and social components. (3 sem. hours)\*

**HSE 107: Introduction to Athletic Training** — Addresses the historical development of athletic training and the scope of present programs including personnel, space and equipment, necessary supplies, conditioning, pharmacology, and beginning evaluative techniques for athletic injuries. (3 sem. hours)

**HSE 117: Taping Techniques for Athletic Injuries** — Provides rationale for the use of taping and wrapping in athletes as well as practical experience in applying commonly used tapings and wrappings. (1 sem. hour)

**HSE 195: Health Science Workshops** — Address timely and significant health and safety issues, programs, and concerns. (1-6 sem. hours)

**HSE 202: Nutrition and Health** — Basic scientific principles of nutrition, consumer information concerning food and food processing, cultural influences on food choices, special diets and weight control, and principles of food preparation are the focus of this course. (3 sem. hours)\*

**HSE 206: Introduction to Safety-Injury Causation and Prevention** — Examines loss-producing situations (personal injury, property loss) as an unresolved problem. Focuses on the interrelationship between humans and their environment with a strong emphasis on behavior, attitudes and knowledge as well as the psychology of other variables in injury causation and prevention. (3 sem. hours)\*



**HSE 207: Physical Evaluation and Therapeutic Modalities** — Presents knowledge and skills for orthopedic evaluation of the spine and extremities. Includes principles, indications, contra-indications, physical and physiological bases for use of heat, cold, light, water, electricity, sound, massage and exercise as therapeutic agents. (3 sem. hours)

**HSE 208: Introduction to the Driving Task** — Provides preparation towards competent operation of a motor vehicle in most circumstances encountered within the traffic environment. (3 sem. hours)

**HSE 210: Community Health-Introduction to Health Care Resources** — Provides a broad foundation of information related to the structure and functioning of the community health system including the identification and examination of programs, providers, and current problems associated with the delivery of health services in the United States. (3 sem. hours)

**HSE 211: Women and Health Care** — Examines the role of women as consumers and as both formal and informal providers of health services. (3 sem. hours)

**HSE 215: Emergency Preparedness and Fire Prevention** — Examines major elements involved in disaster and emergency preparedness planning and implementation. Analysis free relationship between fire services and worker and property protection. (3 sem. hours)

**HSE 302/602: Contemporary Health Problems** — Surveys health problems facing modern society and their impact on individuals and communities. (3 sem. hours)

**HSE 303: Health and Safety Instruction in the Elementary Schools** — Presents materials, teaching techniques, and curriculum development in the area of health and safety instruction on the elementary level. (3 sem. hours)

**HSE 304: Health Instruction in the Secondary Schools** — Presents materials, teaching techniques and curriculum development in the area of health and safety instruction on the secondary level. (3 sem. hours)

**HSE 306: Organization and Administration of Safety Programs** — Applies safety planning principles including development, implementation and maintenance of safety programs in public and private enterprises. Outlines duties of individuals responsible for safety programs. (3 sem. hours)

**HSE 307/607: Care and Prevention of Athletic Injuries** — Studies and applies principles and techniques used in prevention, care and rehabilitation of athletic injuries. Clinical experience will be required. (3 sem. hours)

**HSE 308: Application of the Four Modes of Driver Education** — Provides knowledge and skills in planning, teaching and evaluating the four modes of driver education. Actual classroom and "behind-the-wheel" teaching experience is provided. (3 sem. hours)

**HSE 309: Introduction to the Study of Disease** — Presents pathology, etiology, symptomology and current treatment modes for selected communicable, chronic, and genetic diseases. Prerequisites: Bio 101 and 102 or Bio 106 & 107, or permission of the instructor. (3 sem. hours)

**HSE 310: Community Environmental Health Problems** — Examines problems associated with planning, administration, and enforcement of community environmental health programs. Prerequisite: Bio 210, Chem 103, or permission of the instructor. (3 sem. hours)

**HSE 311: World Health** — Examines significant health problems affecting populations in various areas of the world. Focuses on the integration of disease patterns with geographic area and cultural practices. Prerequisite: junior standing. (3 sem. hours)

**HSE 315: Safety Compliance and Legislation** — Reviews state and federal safety legislation and their effects on safety management. Emphasizes the Occupational Safety and Health Act and its national impact. Prerequisites: HSE 215 and permission of the instructor. (3 sem. hours)

**HSE 350: First Aid and Safety** — Emphasizes prevention, protection from further harm and correct response to common emergencies resulting from trauma and/or illness confronting the citizen. Provides opportunity to earn certification in American Red Cross First Aid and American Health Association CPR. (3 sem. hours)\*

**HSE 395: Health Science Workshops** — Address timely and significant health and safety issues, programs, and concerns. (1-6 sem. hours)

**HSE 401: Human Sexuality** — Surveys a broad range of information about human sexuality from biological, psychological, sociological, religious, and medical perspectives. (3 sem. hours)\*

**HSE 403: Public School Organization** — Examines national, state, county and district organization for public education. Identifies the legal rights and responsibilities of professional teachers and health educators. (3 sem. hours)

**HSE 407: Advanced Studies in Current Strategies in Athletic Training** — Surveys various topics relevant to Athletic Training depending on availability of health management experts. Prerequisites: Admission into the Athletic Training Program or permission of the instructor. (3 sem. hours)

**HSE 409: Public Health Practice I** — Examines the history of public health, trends in public policy and public health law, and organization and funding of traditional health programs. Prerequisites: PolS 101 or PolS 200 or permission of the instructor. (3 sem. hours)

**HSE 410: Epidemiology** — Introduces the study of public health methods of inquiry into the distribution and determinations of disease in human populations. Prerequisites: Bio 210, a statistics course, or permission of the instructor. (3 sem. hours)

**HSE 411/621: Public Health Practice II** — Applies systems theory in the evaluation of organized health services and programs. Prerequisites: HSE 409 or permission of the instructor. (3 sem. hours)

**HSE 414: Death and Dying** — Develops effective understanding of all aspects of death and dying including grief, funerals, children's view of death, psychological effects of death, doctors and death, euthanasia. (3 sem. hours)\*

**HSE 450: Health Science Internship** — Provides opportunity to apply theory and develop competencies through a work-related experience in an appropriate cooperating enterprise. Faculty-student seminars are required. Prerequisites: HSE 409 or permission of the instructor, Major advisor's recommendation, minimum QPA of 2.4 in the Major. (3-6 sem. hours)

**HSE 490: Independent Study** — Students study under the direct supervision of a professor on a specific and current topic. (1-6 sem. hours)

## Nursing Department

McKay Education Building, Room 006

(412) 794-7348

### Bachelor of Science in Nursing Program for Registered Nurses

This program is designed to meet the needs of the registered nurse student, who is a graduate of a hospital diploma nursing program or an associate degree in nursing program, for baccalaureate education in nursing. The program is fully accredited by the National League for Nursing. To be eligible to begin the junior level clinical nursing courses, the student must have completed all lower division requirements including the nursing challenge examinations. The curriculum for the program includes offerings in general education, the humanities, natural and social sciences, and in nursing and involves theoretical and clinical content. The flexibility of the program enables the registered nurse to attend school on a part-time or full-time basis.

The purpose of the program is to prepare a beginning practitioner of nursing who can provide health care to persons, families, and groups in a variety of settings through the nursing process. The program provides an educational base upon which to build graduate study.



**School Nurse Certification.** Through careful selection of electives, nursing majors can qualify for certification as a school nurse by taking an additional 9 credits beyond the 129 required for the BSN.

**The Curriculum, School Nurse Certification**

BSN Curriculum .....	129 hours
HSE 403, Public School Organization .....	3 hours
NURS 424, Nursing Process with School Populations .....	6 hours
<b>The Curriculum, B.S. degree in Nursing (129 semester hours)</b>	
A. General Studies .....	60 hours
B. Supportive Studies .....	6 hours
C. Nursing .....	63 hours
Total .....	129 hours

## NURSING COURSES

**Nurs 210: Women and Wellness** — The course increases knowledge and understanding of wellness from a women's perspective and enables the women to assume greater responsibility for and control over her wellness. (3 sem. hours)

**Nurs 310: The Caring Process** — Through an exploration of one's self as a care-giver and a person, the nurse's own ways of caring are explored. The theoretical framework for the nursing curriculum is introduced. Prerequisite: permission of instructor; placement-junior level. (3 sem. hours)

**Nurs 320: Nursing Process I** — This course addresses the nursing responsibility of identifying human levels of wellness through an assessment of needs, developmental level, stressors, modes of adaptation, communication patterns, family as a system, and the need for nursing intervention. The nursing process is used with clients and family from conception through young adulthood. Pre- or Co-requisite: Nurs 310; placement-junior level. (3 sem. hours theory, 3 sem. hours clinical practice)

**Nurs 321: The Nursing Process II** — This course builds on Nursing Process I and focuses on the family as a system living in a community. The emphasis is on assisting family members in the middle years to meet their health care needs. Skill in implementing the nursing process with families is further developed. The community is viewed as a suprasystem with the human being and environment interrelating. Prerequisite: Nurs 320 and permission of instructor; placement-junior level. (3 sem. hours theory, 3 sem. clinical practice)

**Nurs 322: Teaching-Learning Process in Nursing** — The Teaching-Learning Process in Nursing focuses upon the nurse as a teacher in assisting clients to acquire the health related knowledge, skills, and values needed to maximize their levels of wellness. The course emphasizes the deliberate use of the teaching-learning process in the: assessment of the need for health teaching-learning; determination of readiness; planning for health teaching; implementation of content and teaching-learning activities and the evaluation of effectiveness of teaching-learning. Prerequisite: permission of instructor; placement-junior level. (3 sem. hours)

**Nurs 410: Adaptation and Maladaptation** — The student examines his/her own ways of caring for self and others through an exploration of responses to stress, crisis and disaster. Man is viewed holistically as a biopsychosociocultural being with modes of adapting to a rapidly changing environment. Analysis and evaluation of the development, maintenance and restorative needs are used to expand the dimensions of caring in situations of stress, crisis and disaster. Pre- and Co-requisite: Nursing Process II. 3 sem. hours)

**Nurs 420: Nursing Process III** — Nursing Process III centers on the adaptation of the elderly person in health through severe alteration and death. In this course, the student utilizes the nursing process to assist the elderly person and others to strengthen and/or modify adaptive responses relevant to enhancing, maintaining and restoring an optimal level of health and to death. Prerequisite: Nursing Process II. Corequisite: Adaptation and Maladaptation; placement-junior level. (3 sem. hours theory, 3 sem. hours clinical practice)

**Nurs 422: Nursing Research** — Nursing Research more deeply examines the role of research in the development and refinement of the nursing process and its relationship and contribution to the development of nursing science. The student will become a more critical consumer of research in nursing and will be provided the opportunity to conduct a study of a circumscribed nursing problem. Prerequisite: SASW 317, Nurs 420; placement-senior level. (2 sem. hours theory, 1 sem. hour practicum)

**Nurs 423: Nursing Leadership** — Nursing Leadership focuses on the relationship of nursing as a subsystem to the health care system and the role that nurses must assume, both individually and collectively, to effect changes in that system. Practicum provides the opportunity for synthesis on interpersonal knowledge and skills, teaching-learning principles, and change, role and leadership theory to enable the nurse to influence members of a group to move toward goal attainment. Prerequisite: Nurs 420, COMM 315; placement-senior level. (2 sem. hours theory, 1 sem. hour practicum)

**Nurs 424: Nursing Process with School Populations** — This course builds upon the nursing major and examines the role of the nurse with clients in the school setting. The course focuses on the student in relation to the school/family/community environment and explores the nurse's responsibility for enhancing the student's capability for learning in relation to restoration, promotion, and maintenance of health and development. Prerequisite or Corequisite: Nurs 422 and Nurs 423, SpEd 100 or SpEd 105. (3 sem. hours theory, 3 sem. hours clinical practice) Corequisites: 3 credits multicultural elective, 3 credits special education elective. (6 sem. hours)

**Nurs 450: Internship** — Internship in nursing provides nursing majors (or post-baccalaureate BSN's) the opportunity to apply nursing-related, but non-clinical, skills and abilities in various agencies providing health-related services. (3 sem. hours)

**Nurs 490: Independent Study** — A program of supervised independent study in nursing. (1-3 sem. hours)

## Parks and Recreation/Environmental Education Department

Eisenberg, Room 101

(412) 794-7503

The Parks and Recreation/Environmental Education Department offers diverse academic programs in five areas of related study. The Bachelor of Science in Parks and Recreation offers four options: Community Leisure Services, Therapeutic Recreation Services, Recreation Resources Management and Interpretive Services. The Bachelor of Science in Environmental Education offers K-12 teaching certification.

The Bachelor of Science in Parks and Recreation is accredited by the National Recreation and Park Association/American Association for Leisure and Recreation through the National Council on Accreditation. The Bachelor of Science in Environmental Education was approved for teacher certification by the Pennsylvania Department of Education.

The Department cooperates closely with a variety of governmental (federal, state and local) and private agencies and organizations in an effort to provide quality academic and practicum experiences. Special study opportunities in Commercial/Industrial Recreation; and Park, Recreation and Open Space Planning are available to interested students. Lifetime Fitness, Recreation Sports, and Recreation Sports Management are available under a cooperative program with the Department of Physical Education. A Cooperative Education Program which permits students to alternate semesters of work and study is available in cooperation with the U.S. Army Corps of Engineers and National Park Service. The Seasonal Ranger Training Program qualifies students for seasonal law enforcement commissions with the National Park Service and other park agencies. The Wilderness Education Standard Program for Outdoor Leadership provides certification focused on the development of judgment in the use of the outdoors under a low impact philosophy.



The Department cooperates in the operation of the Jennings Environmental Education Center, the McKeever Environmental Learning Center, the Old Stone House, and a variety of other nearby resource areas. Cooperation with park, recreation and youth agencies in nearby communities as well as a variety of special population centers such as hospitals, nursing homes and confinement facilities enables students to secure experience in community and therapeutic settings. The Department also assists in the operation of the Mentor (Ohio) School District Camp for fifth graders at Camp Whitewood, Ohio. These, and a variety of other such activities, provide ample opportunities for students to acquire a sound base in the practical application of theory knowledge and skills provided in the classroom.

Graduates of the Department's programs are currently employed in a variety of positions within the park, recreation and environmental education fields. Many are serving as community recreation directors or specialists, youth agency directors, therapeutic recreation specialists, park ranger and managers, park naturalists, outdoor recreation planners, environmental educators, and a host of similar positions. The Department, in cooperation with the University Placement Center, is actively involved in assisting students with career placement.

#### **Parks and Recreation Curriculum**

General Studies (60-61 sem. hours)

Professional Studies (67-68 sem. hours)

Core Studies: (24 sem. hours), PkRc 105, 110 or 220, 251, or 304, 318, 415, and 450

Option Studies: (21-30 sem. hours selected in consultation with Advisor)

CLS: PkRc 215, 230, 234, 316, 436, and 6 semester hours of option electives.

TRS: PkRc 229, 320, PE 235, 264, and 9 semester hours of option electives.

RRM: PkRc 211, 215, 245, 270, 313, 372, 373, 375, 376, and 475

IS: PkRc 160, 211, 215, 245, 270, 344, 445, and 446

Professional Electives: (14-23 sem. hours)

#### **Environmental Education**

General Studies (60-61 sem. hours)

Professional Education (20 sem. hours)

CuIn 200, 230, 362, 380, 282 or 343, CEEdP 242, 349

Environmental Education (30 sem. hours)

PkRc 160, 309, 361, 461; G&ES 135, 235; ASFS 492 or 493

Electives (17-18 sem. hours)

All Parks and Recreation or Environmental Education majors must be admitted to Advanced Standing after completion of 60 credit hours under procedures adopted by the department. A copy of a screening policy and procedures is available in the department office.

### **PARKS AND RECREATION COURSES**

**PkRc 105: Leisure-Centered Living** — The constructive use of leisure and educating for leisure are essential tools for the successful growth and development of people, and in turn, society. Leisure-centered living is designed to help students investigate, evaluate, and plan leisure/play as a basic human need and necessity for total well-being (wellness). (3 sem. hours)\*

**PkRc 110: Foundations of Parks and Recreation** — The historical and philosophical background of the leisure movement, recreation organizations and professional development. (3 sem. hours)\*

**PkRc 160: Environmental Awareness** — A field course designed to acquaint students with natural and man-made environments and their use in environmental education. Field trips required. (3 sem. hours)\*

**PkRe 211: WEA Outdoor Leadership** — This course is the WEA Standard Outdoor Leadership course which is conducted in the wilderness for 5 weeks. Prerequisite: By permission of the instructor. (3 sem. hours)

**PkRe 213: Environmental Resource Analysis** — A study of the principles and techniques of environmental resource analysis, landscape and scenery classification and procedures for environmental quality and impact analyses. (3 sem. hours)

**PkRe 215: Park and Recreation Public Relations** — The theory, principles and practices of public relations of value to parks and recreation personnel including oral, written and graphic presentations useful in intra-agency public relations and interpretive efforts. (3 sem. hours)

**PkRe 220: Therapeutic Recreation Services** — This course is designed to introduce the student to the general field of therapeutic recreation and provides a knowledgeable background of the involved special populations. (3 sem. hours)

**PkRe 229: Clinical Aspects of Therapeutic Recreation** — This course includes: charting profiles, case studies, individual and group assessment of recreation needs, analysis of activities for client needs, adaptive equipment and activities for daily living for special opportunities. (3 sem. hours)

**PkRe 230: Recreation Leadership** — The theory, principles and practices of recreation leadership including program planning, organization, activity values and evaluation. (3 sem. hours)

**PkRe 234: Leisure Services Programming** — This course focuses on recreation program planning, implementation, and evaluation. (3 sem. hours)

**PkRe 245: Interpretive Methods and Programming** — A study of the principles and methods to interpret natural and cultural history in parks and other settings. (3 sem. hours)

**PkRe 251: Field Experience** — Opportunities for basic practical experience in a variety of park and recreation/environmental education settings. Consent of instructor. (1 sem. hour) May be repeated up to 3 times.

**PkRe 270: Principles of Outdoor Recreation** — The use of outdoor resources for recreation, the roles of the public and private sectors in outdoor recreation, and outdoor recreation planning. (3 sem. hours)

**PkRe 271: Law Enforcement Firearms** — This course provides basic orientation to and qualification with the .38 caliber revolver and familiarization with the 12 gauge shotgun including safety and "shoot-no shoot" situations. (1 sem. hour)

**PkRe 309: Practicum in Recreation Leadership/Environmental Education** — Observation and participation in recreation leadership or environmental education. Prerequisite: consent of instructor. (1-3 sem. hours)

**PkRe 310: Commercial Recreation** — A study of the various forms of commercial recreation, business and facilities providing recreational opportunities. (3 sem. hours)

**PkRe 313: Recreation Resource Development** — A study of the fundamentals of site planning for recreation areas and facilities. Field trips required. Prerequisite: a basic planning and design course or consent of instructor. (3 sem. hours)

**PkRe 316: Selected Park and Recreation Facilities** — A study of the design, operation and maintenance of special park and recreation facilities. (3 sem. hours)

**PkRe 318: Park and Recreation Administration** — The organization and administration of parks and recreation services including organizational management, personnel practices and labor relations, financial and business procedures and legal aspects. (3 sem. hours)

**PkRe 320: Recreation Programming for Special Populations** — Techniques of recreational program planning and leadership adapted to the needs of individuals in various special populations. Prerequisite: PkRe 220 or consent of the instructor. (3 sem. hours)

**PkRe 325: Outdoor Adventure Therapeutic Recreation** — Adaptions of outdoor adventure activities to the needs, interests, abilities and limitations of individuals in special populations. Prerequisite: PkRe 220 or consent of instructor. (3 sem. hours)

**PkRe 344: Interpretive Planning** — A study of interpretive prospectus preparation and physical site planning for interpretive services. Field work required. Prerequisite: PkRe 345. (3 sem. hours)



**PkRe 354: Cooperative Education III** — A supervised work experience for students in the Cooperative Education Program. May be taken twice. (6 sem. hours)

**PkRe 361: Environmental Teaching** — This course is a study of educational methodology using a total environmental perspective. Field trips required. Prerequisite: G&ES 135 or consent of instructor. (3 sem. hours)

**PkRe 362: Camping and Outdoor Education** — A study of camp development and administration, outdoor education programming and techniques of teaching outdoor skills. Field trips required. (3 sem. hours)

**PkRe 372: Park Ranger Services** — A study of park ranger services including information, safety, rescue and law enforcement services. (3 sem. hours)

**PkRe 373: Park Maintenance** — A study of maintenance services and administration for park and recreation areas. (3 sem. hours)

**PkRe 375: Forest Management** — Basic concepts and management practices for forest resources. Field trips. (3 sem. hours)

**PkRe 376: Wildlife Management** — Basic concepts and management practices for wildlife resources. Field trips. (3 sem. hours)

**PkRe 412: Open Space Planning** — Fundamentals of open space planning including feasibility studies, resource analysis, site analysis and planning and design fundamentals. Field trips. (3 sem. hours)

**PkRe 413: Recreation Resources Analysis** — A comprehensive, in-depth recreation resource analysis study. Comprehensive report required. Prerequisite: consent of instructor. (3 sem. hours)

**PkRe 415: Issues in Parks and Recreation** — An integrated course for detailed study of current issues in parks and recreation with stress on unique and imaginative solutions to the challenges facing the recreation/parks profession. (3 sem. hours)

**PkRe 420/620: Recreation and the Aging Process** — A study of the characteristics and needs of the aged as applied to the provision of recreational services in community and institutional settings. Prerequisite: PkRe 220 or consent of instructor. (3 sem. hours)

**PkRe 429: Problem Solving in Therapeutic Recreation** — Problems related to the total scope of Therapeutic Recreation are studied, along with possible solutions. Prerequisite: PkRe 220 or consent of instructor. (3 sem. hours)

**PkRe 436: Intramural Administration** — A study of the organization, administration and supervision of intramural programs. (3 sem. hours)

**PkRe 445: Interpretive Facilities Management** — A study of museum administration including techniques of the collection, preservation and exhibition of museum items. Field trips required. Prerequisite: PkRe 355 or consent of instructor. (3 sem. hours)

**PkRe 446: Interpretive Analysis** — A comprehensive, in-depth, interpretive analysis study. Comprehensive report required. Open only to recreation majors. Prerequisite: PkRe 344. (3 sem. hours)

**PkRe 450: Internship** — A supervised off-campus work experience in an appropriate aspect of parks and recreation work. Open only to certified recreation majors. Offered on Pass-Fail basis. (6-12 sem. hours)

**PkRe 454: Cooperative Education IV** — A supervised work experience for students in the Cooperative Education Program. May be taken twice. (6-9 sem. hours)

**PkRe 461: Environmental Education: Administration and Planning** — Educational administration, curriculum development and facility design for environmental educational programs. Field trips required. (3 sem. hours)

**PkRe 470: Resource Policy and Administration** — A study of the administrative and executive aspects of resource management. (3 sem. hours)

**PkRe 471: NPS Law Enforcement** — This course provides an overview of NPS law enforcement policies and procedures, relevant laws, Title 36 CFR, and Courtroom Procedures. (3 sem. hours)

**PkRe 472: Park Law Enforcement** — This course provides basic law enforcement skills essential for the park law enforcement ranger. (3 sem. hours)

**PkRe 475: Recreation Resources Management** — The principles and practices of recreational land and water management. Field trips required. Prerequisite: PkRe 301 or consent of instructor. (3 sem. hours)

**PkRe 478: Resource Management Planning** — A study of resource management planning applied to park and recreation areas. Prerequisites: PkRe 340 and 475 or consent of instructor. (3 sem. hours)

**PkRe 490: Independent Study** — A special study opportunity for students to investigate in-depth, approved topics in recreation or environmental studies. Topic and credit established by student and supervising instructor. (1-3 sem. hours)

## Physical Education Department

Morrow Field House, Room 115

(412) 794-7327

The Department of Physical Education offers an innovative undergraduate physical education major program that prepares students to enter the teaching and coaching profession as well as many non-teaching careers. Non-teaching options include Corrective Therapy, Gerontology, Lifetime Fitness, Sport Communication and Sport Management.

The Corrective Therapy track is designed to develop professional physical education specialists to assist physicians with the rehabilitation of individuals who may have various physical and/or mental conditions which might have impaired their motor ability. The corrective therapist applies the principles, concepts, and techniques of physical education in the rehabilitation process. The professionally trained corrective therapist may also pursue careers in adapted physical education, perceptual motor development, or other related programs. Curricular emphasis is in the Social and Behavioral Sciences and includes a 12-hour internship experience under the supervision of trained hospital personnel. Employment opportunities exist in hospitals, nursing homes, and various agencies.

The Gerontology track is designed to prepare students to apply the principles, concepts, and techniques of physical education to the various movement problems senior citizens encounter as a result of the aging process. Employment opportunities are available in senior citizen centers, retirement complexes and nursing homes. Curricular preparation relies heavily on the Social and Behavioral Sciences and includes a 3-12 hour internship.

The Lifetime Fitness track is designed to prepare the student to administer physical fitness programs for various populations with a major emphasis on adult fitness. The preparation program includes the measurement of fitness parameters, the evaluation of the present level of physical fitness, and the prescription of programs to improve physical fitness within adult populations. The program utilizes the Natural and Behavior Sciences as a foundation for course work. The lifetime fitness program requires a 12-hour internship. Employment opportunities are available in the YMCA/YWCA, industries and other large commercial businesses.



The Sport Communication track is designed to prepare the student for a career which could include radio and television broadcasting, and sport reporting. The student also has an opportunity to pursue a career in sports information. A six-hour internship in the Communication Department is required. Employment opportunities are numerous in the program and are only limited by the student's ability to market himself/herself.

The Sport Management track is designed to provide the student with the necessary business, management, marketing and public relations skills to successfully manage sport related agencies. Employment opportunities exist in YMCA/YWCA, health clubs, sports clubs and other sport related agencies. Curricular preparation includes a 6-12 hour internship.

Students selecting to pursue a career in physical education with teacher certification may acquire additional employment opportunities by becoming certified in physical education related areas or may elect an emphasis option.

All students choosing the teacher certification option must complete the student teaching requirements. If a student elects an additional certification or emphasis option, hours beyond the minimum 128 hours may be required.

**Emphasis Options:** Concentrated course work in a specialized area which includes 12-credit hours of student teaching and culminates with the student being awarded a Bachelor of Science in Education degree in Health and Physical Education. Emphasis options exist in the following areas:

Aquatics	Gerontology
Athletic Coaching	Individualized Education for the
Athletic Training Certification	Handicapped, Gifted and Aged
Corrective Therapy	Lifetime Fitness
Dance	Sport Communication
Driver Education Certification	Sport Management

The total program is designed to provide a comprehensive background of knowledge while allowing students the flexibility of electing courses in a variety of physical education areas. As an important aspect of the wellness concept, all students are required to complete one semester hour of Personal Physical Fitness. Slippery Rock University recognizes the importance of wholesome physical activity and requires one additional semester hour in physical education for all non-majors. These requirements are designed to provide students with the attitudes, appreciations and skills necessary for meaningful participation in physical activity during and after the college years.

**Admission Requirements.** The Physical Education Department has adopted a screening procedure which allows the student time to correct deficiencies which may prohibit the granting of "advanced standing." The procedures used are as follows. After completing 48 credits, the student through the advisor applies for formal admission to the Physical Education Department. In order to be granted acceptance, the student must:

1. Have completed all basic skills courses.
2. Have received a rating of 2.0 or above on all five student profile ratings and have a composite score of 2.0 or above (achievement, character traits, social adjustment, professional characteristics, and communication skills).
3. Have completed a self-evaluation through a course, career lab, testing, etc.
4. Have attained the cumulative average and major average required of the specific track of his/her choice.
5. Have the recommendation for acceptance from his/her advisor.

The average requirements for the tracks are:

1. Teacher education, Lifetime Fitness, Gerontology, and Sport Communication: 2.25 or above cumulative, 2.0 or above major QPA.
2. Corrective Therapy: 2.7 QPA or above cumulative, 3.0 or above major.
3. Sport Management: 2.0 or above for both cumulative and major.

The student will be admitted to advanced standing after completing 60 hours and after earning a 2.40 major average if in the Teacher Education, Lifetime Fitness, Gerontology, and Sport Communication tracks. The major average for the Corrective Therapy track is the 3.0 or above as previously stated; the major average for the Sport Management track is the 2.0 or above as previously stated. The student may not apply for advanced standing until accepted into the department.

**Requirements for Majors in Health and Physical Education.** — A Physical Education professional core of 28 hours is required of ALL students who wish to obtain a degree in health and physical education. The professional core serves as a foundation for the variety of professional career options that are currently available for health and physical education majors.

#### Physical Education Professional Core

			Hours
PE	160	Dimensions of Physical Education .....	3
PE	264	Applied Anatomy .....	3
PE	267	Kinesiology .....	3
PE	375	Physiological Theory of Exercise .....	3
PE	365	Developmental Physical Education .....	3
HSE	101	Personal Health .....	3
PE	274	Measurement and Evaluation .....	3
PE	100	Lifetime Clinic .....	1
PE	101	Team Sport Clinic I .....	1
PE	102	Team Sport Clinic II .....	1

#### FUNDAMENTAL COURSES

PE	105	Dance .....	1
PE	106	Gymnastics .....	1
PE	107	Aquatics .....	1
PE	108	Movement .....	1





## Physical Education Teacher Certification Requirements

		Hours
General Studies (Elements of Physics required)		60
Professional Core		28
Teaching and Coaching Courses (Select five from 19 offered)		5
HPER Electives		5
Professional Education		30
CEDP 242	Educational Psychology	
or		
CEDP 349	Child Development	
or		
CEDP 350	Adolescent Psychology	
or		
HSE 303	Health and Safety Curriculum in Elementary Schools	
or		
HSE 304	Health Instruction in Secondary Schools	
HSE 302	Contemporary Health Problems	
PE 150	Practical Application of Physical Education	
PE 371	Teaching P.E. in the Elementary School	
PE 372	Teaching P.E. in the Secondary School	
PE 468	Organization and Administration of P.E.	
ASFS 494	Student Teaching	

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## Required Coursework in Physical Education Non-Teaching Options

**Corrective Therapy**

BIOL 106 and 107	Anatomy and Physiology
PHYS 201	Elements of Physics
PSYC 110	Principles of Behavior
PSCY 311	Physiological Psychology
SASW 201	Principles of Sociology
PSYC 376	Abnormal Behavior
HSE 302	Contemporary Health
HSE 207	Modalities and PH Exam

## Practical Application in Lab School, Nursing Home and VA Hospital

PE 377	Social Psychology
PE 366	Adapted Physical Education
PE 367	Therapeutic Exercise
HSE 309	Introduction to Diseases
PE 469	Organization & Administration of Corrective Therapy
PE 484	Theory of Fitness Programming
PE 373	Teaching P.E. in Secondary Schools

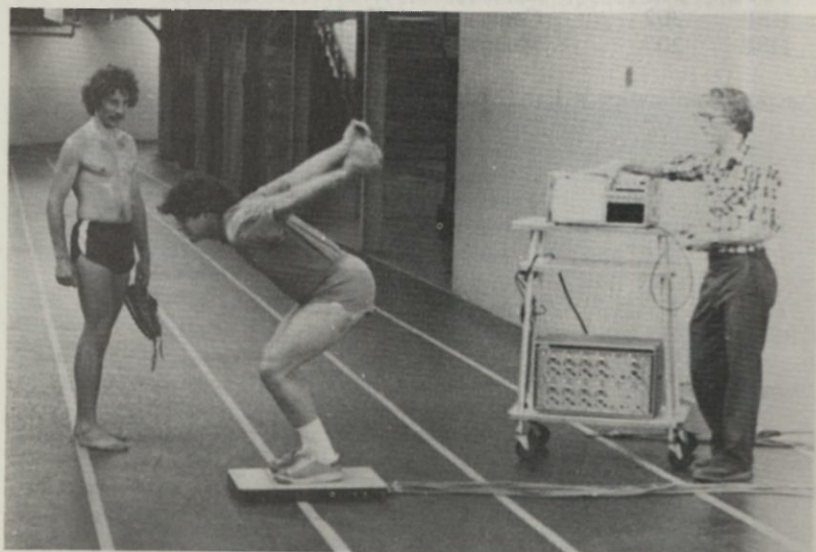
## ARC and CPR Certifications

**Gerontology**

SASW	344	Sociology of Aging
PSYC	344	Life Span Development Psychology
PSYC	365	Psychology of Aging
HSE	202	Nutrition and Health
HSE	414	Death & Dying
INDS	265	Basic Gerontology
PKRC	220	Therapeutic Recreation
PE	276	Physiological Aspects of Aging and Human Performance
PE	367	Therapeutic Recreation
PKRC	420	Recreation and the Aging Process
PE	469	Organization and Administration of Corrective Therapy
HSE	350	First Aid and Safety
PE	484	Theory of Fitness Programming

**Lifetime Fitness**

BIOL	101	General Biology
BIOL	205	Human Physiology
CHEM	105	Contemporary Chemistry
PHYS	201	Elements of Physics
SASW	201	Principles of Sociology
PSYC	110	Principles of Behavior
MATH	114	Statistics
or		or
CPSC	160	Introduction to Programming and Information Systems
HSE	202	Nutrition and Health
HSE	350	First Aid and Safety
PE	170	Psych-Social Basis of Sport
PE	474	Physical Fitness Assessment and Instrumentation
PE	484	Theory of Fitness Programming
PE	276	Physiological Aspects of Aging



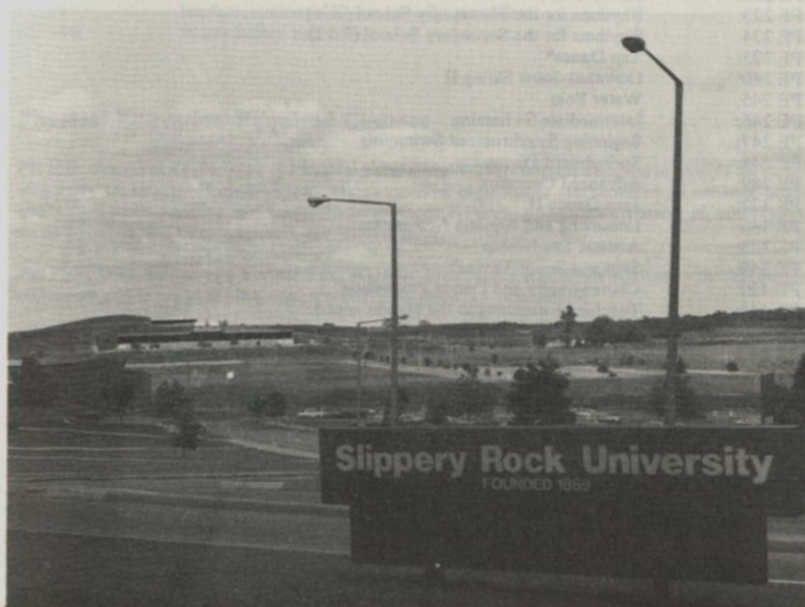


**Sport Management**

MATH	114	Elementary Statistics
or		or
CPSC	151	Computer Concepts
or		or
CPSC	160	Introduction to Computer Programming
PHYS	201	Elements of Physics
BUSA	209	Fundamental Accounting Principles I
BUSA	250	Principles of Management
COMM	215	Small Group Communications
or		or
COMM	231	Introduction to Public Relations
BUSA	230	Principles of Marketing
BUSA	333	Marketing and the Consumer
or		or
BUSA	340	Legal Business I
or		or
BUSA	354	Personnel Management
PKRC	220	Therapeutic Recreation Services
PKRC	230	Recreation and Leadership
PKRC	234	Leisure Services Programs
PKRC	360	Park and Recreation Administration
HSE	350	First Aid and Safety
CEDP	349	Child Development
or		or
CEDP	350	Adolescent Psychology

**Sport Communication**

(Interdisciplinary Requirements: Physical Education, English and Communication Departments)



**PHYSICAL EDUCATION ACTIVITY COURSES**

The following courses deal with the skill, knowledge and appreciation of the activities indicated by the title. These courses are open to all students. (1 sem. hour each)

PE 111:	Lacrosse
PE 114:	Orienteering*
PE 115:	Hatha Yoga*
PE 116:	Archery and Fencing*
PE 118:	Basketball
PE 121:	Beginning Folk, Square and Social Dance*
PE 122:	Elements of Ballet*
PE 125:	Cycling*
PE 126:	Field Hockey
PE 127:	Touch and Flag Football
PE 128:	Horsemanship*
PE 129:	Golf and Bowling*
PE 132:	Beginning Gymnastics
PE 134:	Judo*
PE 135:	Karate*
PE 136:	Officiating of Sports
PE 140:	Downhill Snow Skiing I*
PE 141:	Personal Physical Fitness*
PE 142:	Soccer
PE 145:	Softball
PE 146:	Beginning Swimming*
PE 149:	Tennis*
PE 151:	Track and Field
PE 154:	Volleyball
PE 156:	Wrestling
PE 161:	Adapted Physical Education Activity
PE 180:	Basic Camping*
PE 181:	Adventures in Backpacking*
PE 185:	Trapshooting
PE 186:	Cross Country Skiing*
PE 187:	Flatwater Canoe Tripping*
PE 188:	Sailing*
PE 189:	Basic Canoeing*
PE 220:	Beginning Modern Dance*
PE 221:	Intermediate Folk, Square and Social Dance
PE 222:	Jazz Dance I*
PE 223:	Rhythms for the Elementary School (K-6)
PE 224:	Rhythms for the Secondary School (7-12)
PE 225:	Tap Dance*
PE 240:	Downhill Snow Skiing II
PE 245:	Water Polo
PE 246:	Intermediate Swimming
PE 247:	Beginning Synchronized Swimming
PE 248:	Springboard Diving
PE 289:	Advanced Canoeing
PE 322:	Jazz Dance II
PE 346:	Lifesaving and Aquatic Activities
PE 348:	Aquatic Leadership
PE 349:	Skin and Scuba Diving*
PE 420:	Choreography and Dance Production
PE 445:	Teaching Swimming to the Handicapped
PE 446:	Water Safety Instruction
PE 447:	Organization & Administration of Handicapped Swimming



The following courses are designed principally for majors in physical education to acquaint them with a large number of activities and to emphasize basic safety and teaching principles. (1 sem. hour each)

PE 100:	Lifetime Sports Clinic*
PE 101:	Team Sports Clinic I
PE 102:	Team Sports Clinic II
PE 105:	Dance Fundamentals*
PE 106:	Gymnastic Fundamentals
PE 107:	Aquatic Fundamentals*
PE 108:	Movement Education

The following courses are required courses offered by the Physical Education Department for physical education majors:

PE 160:	Dimensions of Physical Education
PE 264:	Applied Anatomy
PE 267:	Kinesiology
PE 274:	Measurement and Evaluation
PE 365:	Developmental Physical Education
PE 375:	Physiological Theory of Exercise*

The following courses are designed principally for majors in physical education and offer experiences leading to competency in teaching and coaching the various activities. (1 sem. hour each)

PE 201:	Teaching and Coaching Dance
PE 202:	Teaching and Coaching Competitive Aquatics
PE 203:	Teaching and Coaching Wrestling
PE 204:	Teaching and Coaching Field Hockey
PE 205:	Teaching and Coaching Racquet Sports
PE 206:	Teaching and Coaching Golf and Archery
PE 207:	Teaching and Coaching Soccer
PE 208:	Teaching and Coaching Gymnastics
PE 209:	Teaching and Coaching Softball
PE 210:	Teaching and Coaching Basketball
PE 211:	Teaching and Coaching Football
PE 212:	Teaching and Coaching Self-Defense
PE 213:	Teaching and Coaching Fencing and Bowling
PE 214:	Teaching and Coaching Lacrosse
PE 215:	Teaching and Coaching Volleyball
PE 216:	Teaching and Coaching Track and Field
PE 217:	Teaching and Coaching Baseball
PE 219:	Implementation of Gymnastic Progressions
PE 446:	Water Safety Instruction

### Physical Education Required Courses

**PE 150: Practical Application of Physical Education** — This course is designed to provide the student with early on structured observations, micro-teaching experiences and seminars to enhance his/her awareness, understanding and comprehension about children, adolescents, personnel, and teaching styles in public and private schools and related agencies. (1 sem. hour)

**PE 160: Dimensions of Physical Education** — This course orients the student in the philosophy, objectives and scope of professional physical education. (3 sem. hours)

**PE 169: Sport History** — Study centers around the historic and philosophic analysis of the nature and evolutionary role of physical education in society. (3 sem. hours)

**PE 170: Psycho-Social Bases of Sports** — A study of the relationships between sport and various psychological and sociological factors, for example, social processes, personality, self-concept. (3 sem. hours)\*

**PE 235: Human Movement for Special Populations** — The study of human movement patterns with emphasis on the development of efficient movement for special populations. Efficient movement patterns will be based on anatomical, mechanical, and physiological principles. No prerequisites required. (3 sem. hours)

**PE 264: Applied Anatomy** — A study of the structure of the human body with particular emphasis on the skeletal, muscular, nervous systems. (3 sem. hours)

**PE 267: Kinesiology** — The study of analysis of human motion as based on anatomic, physiologic and mechanical principles. Laboratory included. Prerequisites: PE 264, Physics 201. (3 sem. hours)

**PE 274: Measurement and Evaluation** — Designed to give the student a concept of the evaluative techniques used in physical education. (3 sem. hours)

**PE 275: Women in Sport** — This course emphasizes the problems, processes and patterns of sport involvement of women in utilizing an historical, sociological, psychological and biological approach. The focus is primarily on women in the United States, although the sport participation of women in other cultures is also examined. (3 sem. hours)

**PE 276: Physiological Aspects of Aging and Human Performance** — The study of the physiological aspects of the aging process with emphasis on the effects of physical activity on health in the later years of life and on the degenerative process of aging. The course will stress the physiological responses to aging which are influenced by exercise and the physiological rationale for lifelong physical activity. No prerequisites required. (3 sem. hours)

**PE 365: Developmental Physical Education** — This course is designed to help students learn to use programs of development for individualized instruction in which each child's progress can be measured and monitored through improvement in physical, social, perceptual and skills activities. The course emphasizes the inclusions of all handicapped children in the educational process and the placement of them in the least restrictive of all educational environments. (3 sem. hours)

**PE 366: Adapted Physical Education** — The study and application of the principles, methods, and organization and administration of diversified programs of developmental, remedial, corrective and therapeutic physical activities designed to meet the needs, interests and exercise tolerance of the atypical person. Particular emphasis is placed on the pathology and etiology of handicapping disabilities. (3 sem. hours)

**PE 367: Therapeutic Exercise** — The purpose of this course is to enable the student to perform full manual muscle testing procedures and develop appropriate exercise routines to accommodate a variety of physical disabilities. The course will also enable the learner to understand the therapeutic processes and various widely accepted rehabilitation techniques. Prerequisite: PE 264 or permission of instructor. (3 sem. hours)

**PE 369: Philosophy and Psychology of Coaching** — This course emphasizes the relationships involved in the association of the coach with the administration, student body, players, press and community. (3 sem. hours)

**PE 371: Teaching Physical Education in the Elementary School** — The course is an indepth field experience designed to prepare students to teach elementary school physical education and deals with teaching techniques and methods, program and lesson planning, and a comprehensive study of growth and development characteristics of elementary children. (3 sem. hours)

**PE 372: Teaching Physical Education in the Secondary School** — The course is designed to prepare students to teach in secondary schools. The students are prepared to utilize the various styles of teaching and are given teaching opportunity to implement the various methods in an in-service situation. (3 sem. hours)

**PE 375: Physiological Theory of Exercise** — The study of the physiological bases of exercise with emphasis on the adaptation of the systems of the body to stress. The effects of exercise are studied by means of participation in weekly laboratory experiences. (3 sem. hours)

**PE 420: Choreography and Dance Production** — This course is designed for students who are interested in studying different approaches in choreographing and producing dances for stage presentations. (1 sem. hour)

**PE 445: Teaching Swimming to Special Populations** — This course is a practical application through a laboratory experience combined with lectures and discussion related to the aquatic experiences taught to the multiple handicapped child. Prerequisite: current water safety instructor's certificate, American Red Cross. Special education majors should have above average swimming skills and permission of instructor. (1 sem. hour)



**PE 446: Water Safety Instructor** — An aquatic leadership training course leading to certification as an American Red Cross Safety instructor. The course concentrates on (1) demonstration, development and analysis of aquatic skills from a teaching viewpoint, (2) methods of class organization, instruction and examination, and (3) practice in teaching methods. Prerequisites: current Red Cross Advanced Life Saving Certificate and knowledge and performance of nine strokes. (1 sem. hour)

**PE 447: Organization and Administration of Swimming Programs For Special Populations** — This course provides practical experience in the supervision and organization of aquatic programs for the multiple handicapped. Prerequisite: PE 445 or special permission of instructor. (1 sem. hour)

**PE 450: Internship** — Internship in physical education has been developed to provide students with the opportunity to practice and/or apply physical education career-oriented skills in various agencies of the community. The internship is designed to be an in-depth experience terminating a series of prerequisite courses which could vary with each experience. The student must follow the steps in the application process before enrolling. (3-12 sem. hours)

**PE 465: Program Implementation in Physical Education for the Handicapped** — This course develops competencies in the implementation of developmental activities for mentally, emotionally, physically and neurologically handicapped children of age level five years to 20 years. Prerequisite: PE 365 or consent of instructor. (1 sem. hour)

**PE 467: Program Implementation in Pre-School Physical Education** — This course develops competencies in the implementation of perceptual, motor activities for children of pre-school age. These may be normal children with learning disabilities who function under MA of five years. Prerequisite: PE 365 or consent of instructor. (1 sem. hour)

**PE 468: Organization and Administration of Physical Education** — This course emphasizes the organization and administration of instructional and extra-class programs in physical education. Prerequisite: completion of physical education methods courses; seniors only. (3 sem. hours)

**PE 469: Organization and Administration of Corrective Therapy** — This course is designed to provide the student with information concerning the organization and administration of corrective therapy programs. This course is required by the American Corrective Therapy Association prior to a candidate taking the certification examination. (3 sem. hours)

**PE 474: Physical Fitness Assessment and Instrumentation** — This course is designed to provide the theoretical and practical basis to properly select and utilize the instrumentation and techniques for physical fitness assessment. Prerequisites: PE 274, PE 375. (3 sem. hours)

**PE 484: Theory of Fitness Programming** — This course stresses the application of the physiological concepts of exercise in personalizing cardiovascular activities. Observations in assessing physical fitness, prescribing individual programs and conducting supervised exercise sessions will be emphasized. Prerequisites: PE 375. (3 sem. hours)

**PE 490: Independent Study** — With the approval of the student's advisor and department chairperson, a student may pursue an individual project in physical education especially suited to meet the student's need. (1-3 sem. hours)

**PE 498: Selected Topics** — (3 sem. hours)



## **SCHOOL OF HUMANITIES AND FINE ARTS**

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The School of Humanities and Fine Arts is dedicated to the organization, expression, and interpretation of experience through language and the fine arts and to the development of an understanding and appreciation of the human responses to the world in their cultural and artistic forms. The Art, Music and Theatre departments develop an appreciation and understanding of artistic expression in their appropriate media while the students are guided to develop personal expression through their own artistic endeavors. English develops writing skills together with an historical understanding and appreciation of the best that is written in the language. Communication develops understanding and skill in the use of the spoken word from interpersonal to mass communication including the use of modern technology, like television and radio. Modern Languages and Cultures is concerned with the development of reading, writing, and speaking skills in a foreign language, as well as the understanding of a foreign culture through a study of its literature. Philosophy concerns itself with the whole range of human experience and through rigorous reasoning and self-conscious methodology attempts to find an integrating vision and meaning for the world of man.

Dedicated to learning in the liberal arts tradition, the School of Humanities and Fine Arts provides an excellent basis for rewarding and productive careers. Graduates find employment in business, industry, the arts, government, ministry, and social service. Students who seek more education will find a program in this school to be excellent training for careers in law, medicine, theology, and teaching.

### **Art Department**

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Art Building I, Power House Extension, West Hall

(412) 794-7271

Students who elect a major in art will develop the capacity to make tangible their aesthetic response to experience. By increasing their awareness of themselves, their environment and their culture, and by learning to think and act creatively, the humanities students prepare themselves for a life enriched through art. The broadly based Bachelor of Arts program with a concentration in art provides students with a diversified background which prepares an excellent foundation for further study.



## Requirements for the B.A. Degree with a major in Art

Required Art (12 sem. hours)

Art 103, 104, 215, 216

Studio requirements:

12 hours selected from 233, 234, 235, 236, 237

9 hours selected from 301, 302, 303

6 hours Senior Studio 401

The **Bachelor of Fine Arts** degree is a program for students interested in art as a profession. It is an intensive program of study aimed at developing a foundation of attitudes, traits and abilities that will begin a lifetime as an artist. Emphasis is placed on students' personal experiences as the source of motivation. The broadly based General Studies program provides students with a diversified background which when augmented by their professional training should lead to successful careers in art and applied art vocations.

## Requirements for the B.F.A. Degree with a major in Art (69 sem. hours)

Foundation courses

6 hours Art 103

6 hours Art 104

Art 215, 216

6 hours selected from 316, 330, 340, 350, 410

15 hours selected from 233, 234, 235, 236, 237

6 hours selected from 301, 302, 303, 304

6 hours Senior Studio 401

Art Seminar 403

6 hours Senior Project 450

3 hours Art Electives

Candidates for the Bachelor of Fine Arts degree are required to complete the General Studies program along with their professional course work in the Department of Art.

## ART COURSES

**Art 102: Introduction to Art** — This course introduces the student to art as a viable expression of contemporary life. The experience of art through media forms a basis for discussion and study. (3 sem. hours)\*

**Art 103: Basic Studio** — The student in this course is introduced to primary functions of two-dimensional art. The student through creative studio practice discovers relationships relevant to his/her role as an artist (6 sem. hours — may be repeated for a maximum credit of 9 hours)\*

**Art 104: Basic Studio** — A course introducing the student to primary functions of three-dimensional art. The student through creative studio practice discovers relationships relevant to his/her role as an artist. (6 sem. hours — may be repeated for a maximum credit of 9 hours)\*

**Art 200: Art: Activities and Fundamentals** — This course provides for the study of child development through creative activities. It includes theory, experimentation with two and three dimensional processes which are appropriate to the elementary classroom methods of motivation, evaluation, and classroom management. (3 sem. hours)\*

**Art 215: Prehistoric Through Medieval Art** — A survey course intended to familiarize the student with the stylistic development and chronology of the visual arts of Western man. (3 sem. hours)\*

**Art 216: Renaissance Through Modern Art** — A survey course intended to familiarize the student with the stylistic development and chronology of visual arts of Western man. Covers the periods and styles prevalent in the Western worlds from the 15th Century to the present. (3 sem. hours)\*

**Art 233: Art Synthesis I** — A course providing student options in working with painting, photography, or drawing. Emphasis is given to the synthesis of student experience through art. Technical instruction in each of the three areas is given. Prerequisite: Art 103. (3 sem. hours — may be repeated for a maximum credit of 9 hours)\*

**Art 234: Art Synthesis II** — A course providing student options in working with ceramics, sculpture or metalsmithing. Emphasis is given to the synthesis of student experience through art. Technical instruction in each of the three areas is given. Prerequisite: Art 104 (3 sem. hours — may be repeated for a maximum credit of 9 hours)\*

**Art 235: Art Synthesis III** — A course providing student options in working with planographic printing, relief and serigraphic printing or intaglio printing. Emphasis is given to the synthesis of student experience through art. Technical instruction in each of the three areas is given. Prerequisite: Art 103 (3 sem. hours — may be repeated for a maximum credit of 9 hours)\*

**Art 236: Art Synthesis IV** — A course broadly conceived to include many possibilities in forming and decorating fibrous material for aesthetic and functional purposes. Emphasis is given to the synthesis of student experience through the use of traditional methods such as weaving, knotting, batik, dyeing and printing, as well as modern techniques involving various materials. Prerequisite: Art 104 (3 sem. hours — may be repeated for a maximum credit of 9 hours)\*

**Art 237: Art Synthesis V** — A continuation of Basic Studio level courses providing an expanding range of approaches to the solution of studio problems by exploring principles of design and composition. Prerequisites: Art 103 or 104 (3 sem. hours — may be repeated for a maximum credit of 9 hours)

**Art 300: Art Seminar** — A seminar for advanced art studio majors, designed to sharpen the student's critical and evaluation skills. Prerequisite: 12 hours of Advanced Studio. (3 sem. hours)

**Art 301: Advanced Studio I** — A continuation of Art Synthesis I and Art Synthesis II providing an expanded range of approaches to the solution of advanced studio problems. Prerequisite: 15 hours from Art 233, 234, 235 or 236 (3 sem. hours — may be repeated for a maximum credit of 9 hours)

**Art 302: Advanced Studio II** — A continuation of Art Synthesis II and Art Synthesis III providing an expanded range of approaches to the solution of advanced studio problems. Prerequisite: 15 hours from Art 233, 234, 235 or 236 (3, 6 or 9 sem. hours — may be repeated for a maximum credit of 9 hours)

**Art 303: Advanced Studio III** — A continuation of Art Synthesis I, III and/or IV providing the possibility of an expanded range of approaches to the solution of advanced studio problems. Prerequisite: 15 hours from Art 233, 234, 235, 236 (3 sem. hours — may be repeated for a maximum credit of 9 hours)

**Art 304: Advanced Studio IV** — A continuation of Art Synthesis level courses providing an expanding range of approaches to the solution of advanced studio problems by exploring principles of design and composition. Prerequisite: 15 hours from Art 233, 234, 235 or 236 (3 sem. hours — may be repeated for a maximum credit of 9 hours)

**Art 316: American Art History, 1865 to Present** — The history of the visual arts in America from the Civil War to the present. Prerequisite: Art 216 or consent of instructor. (3 sem. hours)\*

**Art 330: Renaissance Art** — The history of the visual arts of Renaissance Europe from the Mid-14th Century through the early years of the 16th Century. Prerequisite: Art 216 or consent of instructor. (3 sem. hours)\*

**Art 340: Mannerism and Baroque Art** — The history of the visual arts of Europe between 1520 and 1700 A.D. covers the social, cultural context as well as stylistic trends of the period. Prerequisite: Art 216 or consent of instructor. (3 sem. hours)

**Art 350: Nineteenth and Twentieth Century Art** — The history of the visual arts of 19th and 20th centuries. Special emphasis given to the foundations and development of Modern Art. Prerequisite: Art 216 or consent of instructor. (3 sem. hours)\*

#### **Art 390: Selected Topics in Art**

**Art 401: Senior Studio** — Independent studio work utilizing studio facilities appropriate to the accomplishment of the student's artistic objectives. Solutions to aesthetic problems are arrived at through consultation with both studio and conference instructors. Prerequisite: 12 hours of Advanced Studio. (3 sem. hours — may be repeated, with the advisor's consent, for credit to a maximum of 9 hours)



**Art 403: Art Seminar** — A seminar for advanced art studio majors, designed to sharpen the student's critical and evaluative skills. Prerequisite: 12 hours of Advanced Studio. (3 sem. hours)

**Art 410: Art History Seminar** — A seminar for students qualified to do independent study and research in art history. Topics are selected through consultation with the instructor. Prerequisite: Art 330, 340 or 350. (3 sem. hours)

**Art 450: Senior Project** — Independent study culminating in a public exhibition demonstrating the student's artistic stance. (6 sem. hours — Pass-No credit)

**Art 490: Independent Study** — The course offers the opportunities of advanced creative activity in a single area of concentration (painting, graphics, ceramics, art history, etc.) to be chosen by the students, with the consent of the department. Prerequisites include junior or senior standing, course offerings in chosen area of concentration and acceptance of project proposal by the department. (1-3 sem. hours)

## Communication Department

Eisenberg, Room 213

(412) 794-7268

The Department of Communication is concerned with developing both practical and theoretical understanding of the process of communication. The Program includes emphases in speech communication, mass communication, journalism, communication arts and communication education.

Students prepare for a variety of careers. For example, recent graduates are now employed as teachers, actors, broadcasters, journalists, salespersons, public relations officers, management trainees and as managers of community service agencies. Others are now pursuing professional training in law, preparation of any career requiring creative ability and skill in interpersonal relationships.

### Requirements for the B.A. in Communication.

Majors in communication are required to complete a 34 semester hour program, including Comm 210, Comm 251, Comm 410 and Comm 499. The balance of the program is individually defined for each student in consultation with his/her advisor.

### Requirements for a Minor in Communication.

The requirement for a minor in Communication is 18 semester hours, including Comm 412 and Comm 499. At least one additional course (3 semester hours) must be at the 300 or 400 level. The balance of the program is to be individually designed for each student in consultation with the advisor.

Comm 200 may not be included as part of a major or minor program. Requirements for a Minor in Journalism. (Offered cooperatively with the English Department)

The requirement for a minor in Journalism is 18 semester hours, including Comm 251 and Engl 201. Additionally, 6 semester hours must be selected from Engl 301, Engl 505, Comm 252, Comm 254, Comm 352, and Comm 354: 1-3 semester hours must be selected from Engl 506, Comm 218, Comm 275, and Engl 207.

Each program will focus on either print or broadcast journalism, as determined by the student in consultation with an advisor.

## COMMUNICATION COURSES

**Comm 101: Speech Fundamentals** — The principles and skills of oral communication are studied and practiced to develop effectiveness in the finding, ordering, and presentation of ideas. (3 sem. hours)

**Comm 103: Improvement of Voice and Diction** — An elementary study of the physiology of voice production and the sound patterns of American English for self improvement and as practicum for future broadcasting and theatre work. Course includes development of discriminating listening skill, as well as in-class oral practice and a self improvement project of the student's own design in some area of pitch, loudness, tempo, voice quality, diction or pronunciation skills. (3 sem. hours)\*

**Comm 140/Engl 140: Practicum in Journalism** — Applications of journalistic principles in student publications. Performances are criticized in weekly seminars. To be taken after or with Engl 241/Comm 241. (1 credit per semester, for a maximum of 3 semesters.)

**Comm 150: Broadcast Practicum** — Development of broadcast production skills through participation in college broadcasting activities or by serving as an assistant in a production course previously taken by the student. May be taken for one hour of credit per semester. May be repeated for maximum total credit of three semester hours. (1-3 sem. hours)

**Comm 200: Public Speaking** — Theory and practice of developing and presenting oral messages in a variety of communication contexts. Students will be expected to develop an understanding of the communication process and to demonstrate proficiency in speechmaking. Prerequisite: Engl 101 or equivalent and sophomore standing. (3 sem. hours)

**Comm 210: Basic Concepts in Communication** — An overview of basic theories concerning the communication process. Recommended as a basis for major study in the area. (3 sem. hours)\*

**Comm 215: Small Group Communication** — Communication problems and processes in small groups. Topics include role and nature of the small group, communication structure, problem-solving techniques, and leadership. Prerequisite: Comm 200 or exemption. (3 sem. hours)\*

**Comm 217: Intercultural Communication** — This course is designed to create a greater understanding of communication patterns and breakdowns which occur as members of one culture group interact with those of another culture group. This course will also foster an increased awareness of particular skills and knowledge which can foster more effective intercultural communication. Prerequisites: Comm 200 or instructor's permission. (3 sem. hours)\*

**Comm 221: Oral Interpretation of Fiction** — The understanding appreciation and presentation of literature through skill in oral reading. Prerequisite: Comm 200 or exemption. (3 sem. hours)\*

**Comm 231: Introduction to Public Relations** — Principles, history and practice of public relations in business, education institutions, social welfare organizations, government and the military services; the processes of influencing public opinion; analysis of public relations programs; the responsibilities of the public relations practitioner to his/her principals, to the media, to the public; ethics of public relations practice; professional public relations organizations; accrediting of public relations practitioners; career opportunities. Prerequisite: Comm 200. (3 sem. hours)\*

**Comm 241/Engl 241: Introduction to Journalism** — Students practice the mechanics of publication and the writing and editing of news, articles, and reviews. (3 sem. hours)\*

**Comm 245/Engl 245: Basic Reporting** — Instruction in writing the news story, discussions of reportorial ethics and techniques, and in-field coverage of news events, feature stories and speeches. Prerequisite: Comm 241/Engl 241. (3 sem. hours)

**Comm 251: Mass Communication** — Development of radio and television communication, communication models of mass audiences, and the social, cultural, and political impact of mass media. (3 sem. hours)\*

**Comm 252: Radio Production** — An introduction to radio production as a communication medium. Areas of concentration include 1) radio equipment in studio and control room, 2) producing and directing and 3) writing and performance for radio. (3 sem. hours)

**Comm 253 Film Production** — An introduction to motion picture photography as a communication medium. The study and practical application of form aesthetics, technology, composition, and cinematic style. A film project must be completed. (3 sem. hours)



**Comm 254: Television Production** — An introduction to television production as a communication medium. Areas of concentration include 1) television equipment in studio and control room, 2) producing and directing, and 3) writing and performance for television. (3 sem. hours)

**Comm 260: Learning Language** — A study of typical or normal language acquisition with attention to delayed language, as well as English as a second language. Methods and materials for learning our language "code" come from fields of psycho-linguistics and socio-linguistics. A companion course, Comm 261, provides extra skill in mastery of the specific sound system of American English. (2 sem. hours)\*

**Comm 261: Phonetics of American English** — Learning the sounds of American English through programmed instruction, a self correcting workbook and live dictation sources. Mastery of the International Phonetic Alphabet leads to a competency exam in either (a) transcription or (b) oral production by those for whom English is a second language. May serve as a prerequisite to Stage Dialects. (1 sem. hour)\*

**Comm 280: Speech for the Classroom Teacher** — A study of instructional goals and strategies in the spoken communication arts, both for employment in speech and theatre classes and for use in the context of other classes, K-12. (3 sem. hours)

**Comm 311: Advanced Public Speaking** — A performance course in speech, approached through a variety of theoretical situations. The use of both traditional and contemporary strategies to adjust to the demands of an audience and the occasion. Prerequisite: Comm 200. (3 sem. hours)\*

**Comm 315: Organizational Communication** — A study of the communication behavior of persons in organizations. Considers the nature of organizations, communication structures in organizations, and the development of communication training in organizations. Prerequisites: Comm 200. Comm 215 is helpful but not essential. (3 sem. hours)\*

**Comm 331: Public Relations Publicity & Campaigns** — Course will give student the basic information on conducting public relations campaigns and preparing publicity materials. It will lead him/her through the research and planning of an actual campaign. Prerequisite: Comm 231. (3 sem. hours)

**Comm 332: Public Relations Case Studies** — An advanced course in the study of public relations, this course examines selected cases in public relations practice. Through this examination of case studies, students will be exposed to issues and practices in the public relations profession. Prerequisite: Comm 231. (3 sem. hours)

**Comm 341/Engl 341: Advanced Journalistic Writing** — Article and editorial writings, industrial writing and editing, and writing for electronic media. Prerequisite: Comm 241/Engl 241 or permission of instructor. (3 sem. hours)

**Comm 342: Sports Journalism** — An introductory course in print journalism, introduction to public relations, journalistic experience, or permission of instructor. Discussion of ethics and responsible sport journalism, sports information and public relation interview techniques, broadcast sports journalism. If possible, guest lecturers in sports information, public relations, and broadcast journalism will speak at convenient times. Prerequisite: Comm 241/Engl 241. (3 sem. hours)

**Comm 343: Feature Journalism** — Course will focus on writing feature articles for newspapers and magazines. Prerequisite: Comm 241. (3 sem. hours)

**Comm 351: Broadcast Management and Sales** — A study of broadcast management theories, broadcast administrative structures, programming practices, business practices, business law, as well as sales and advertising practices. (3 sem. hours)

**Comm 352: Advanced Radio Production** — This is a professional-level production course. Each student, in addition to working on several technical exercises, will write, direct, and produce two broadcast-quality feature programs: a documentary and a drama. Prerequisites: Comm 252 or permission of instructor. (3 sem. hours)

**Comm 354: Advanced Television Production** — An advanced course in the techniques of television production. Emphasis is given to camera concepts, program formats, producing and directing, broadcast management, script writing, acting before the camera, and other elements of production. Special projects are required. Prerequisite: Comm 254. (3 sem. hours)

**Comm 356: Script Preparation for the Electronic Media** — Writing scripts and continuity for the media. Special emphasis will be given to script preparation and accepted writing styles used in media. (3 sem. hours)

**Comm 371: Communication Disorders** — The most common communication problems encountered in the school or home: language delay, articulative disorders, voice problems, stuttering and hearing loss. Psycho-linguistics, differential diagnosis, learning strategies and relations with other professionals, as well as persons so handicapped, aid in understanding and remediation. (3 sem. hours)\*

**Comm 410: Communication Law** — Discussion of topics related to the field of mass communication (freedom of the press, libel, invasion of privacy, copyright, obscenity, regulations, ethics, and responsibility of the communicator and the agency.) Prerequisite: Senior standing and a major or minor in communication. (3 sem. hours)

**Comm 411: History of Public Address** — Critical analysis of representative speakers of a selected historical period of social movement in order to establish the extent of their influence and identify its sources. (3 sem. hours)

**Comm 412: Speech, Language & Human Experience** — Study of verbal and nonverbal communicative behavior in terms of the form-function relationship, the relationship of communication to culture and situation, and communication as a mode cognition. (3 sem. hours)

**Comm 413: Communication Theory** — A study of contemporary thinking about the communicating process as seen by the traditional disciplines of rhetoric and the newer areas of linguistics, sociology, psychology, and general semantics. (3 sem. hours)

**Comm 414: Communication Research Methods** — An introduction to the principles, procedures, and tools of research used in the analysis of communication situation, including consideration of research design and statistical analysis and the identification, control, and measurement of communication variables. (3 sem. hours)

**Comm 441: Issues in Journalism** — Study of contemporary controversies and problems in journalism. (3 sem. hours)

**Comm 450: Internship** — Supervised placement or research in selected private or public agencies. Permission of the departmental curriculum committee required. (3 to 12 sem. hours)

**Comm 455: History of Broadcasting** — Survey of the history and development of radio and television broadcasting in the United States. (3 sem. hours)

**Comm 456: Film History** — This course deals with the development of the motion picture as an industry and as an art form, from its beginnings through the present time, with an emphasis on the people involved in that development (inventors, directors, stars), on genres and styles of film-making, and on specific historically important films. (3 sem. hours)

**Comm 457: The Documentary Film** — Evaluation of the motion picture documentary. Analysis of the form technique, and the impact of the factual film with selected screenings. (3 sem. hours)

**Comm 458: Film Theory and Criticism** — Analysis of principal theories and critical movements in film communication. Application of writings of critics, theorists, and directors to representative motion pictures which will be screened in class. Prerequisite: Comm 251, or permission of instructor. (3 sem. hours)

**Comm 490: Independent Study in Communication** — (1-3 sem. hours)

**Comm 498: Selected Topics** — (3 sem. hours)

**Comm 499: Senior Seminar in Communication** — An informal course designed to acquaint undergraduate students of the disciplines in communication arts with the scope of the entire field, its purposes and methods, and career opportunities. Required of all department majors, both in Humanities and Fine Arts and Secondary Education. (1 sem. hour)



# English Department

Eisenberg, Room 313

(412) 794-7266

Within the liberal arts tradition, English courses integrate the studies of literature, language, and writing. They introduce students to various authors, American and British, ancient and contemporary, classic and popular. In addition to the freshman writing program, courses in film, journalism, creative and technical writing, and grammar develop skills particularly useful in law, public relations, government, business, publishing and teaching.

**Requirements for the Major in English Liberal Arts.** Majors in English are advised to become acquainted with the main movements and significant facts of English and American history. A minimum of 30 semester hours in English is required (exclusive of the freshman composition courses). In the selection of major courses, students may wish to emphasize American, British, or comparative literature, or they may wish to take courses in the Writing Sequence, which is completed with the Internship. Seniors with high academic standing are encouraged to take independent work in literature or writing.

## Required (15 sem. hours)

Six sem. hours:

Engl 401, 402

Three sem. hours of language study, chosen from:

Engl 218, 219, 331, 332

Three sem. hours of writing chosen from:

Engl 201, 203, 204, 205, 207, 209, 215, 241, 245, 301, 303, 341, 407, 408, 429, 491

Three sem. hours Shakespeare

Engl 289, 312

## Electives (15 sem. hours)

**Requirements for the Bachelor of Science Degree in English.** 36 hours minimum in addition to General Studies hours. Also, the completion of a sequence of courses outside the English Department is required as noted below. (Internships are *in addition* to the 36 hours in English and the sequence of courses outside the department. Internships may be granted only to majors in the program with a QPA of at least 2.5 overall and 3.0 in the major.)

Required (21 sem. hours from the following, including six hours from one of the sequences):

I. Eng. 205, 407, 491

II. Eng. 207, 209, 429, 491

III. Eng. 204, 408, 491

IV. Eng. 203, 303, 408, 491

V. Eng. 215, 501, 491

VI. Eng./Comm. 140, 241, 245, 341, Eng. 505, 491, 498

VII. Eng. 498

Six hours in literature courses numbered 300 or above such as the following: Eng. 311, 312, 313, 317, 318, 319, 320, 321, 322, 323, 324, 325, 402, 403

Nine hours or competency in one of the following sequences of language courses:

1. Modern Language 101, 102, 103, or competency at the 103 level.
2. Competency in a recognized computer language as evidenced by the successful completion of a 200-level course in Computer Science, but not CPSC 283 Computers in Education.
3. Eng. 218, 219, 331, 332

Completion of one of the following sequences: (Although a major or minor in a subject in addition to the English major is recommended, one of the following is required as a minimum.)

Political Science, Minor in International/Comparative Politics.

Political Science, Minor in American Politics

Psychology 110, 376, and one of 302, 300, 365, 321, 377

Biology

Business Administration

Courses chosen by student and advisor and okayed by English Department Chairperson.

Minors in English can be earned with an emphasis in literature or writing. Eighteen credits are required. Students should check with the English Department Chairperson for specific requirements for each minor.

The English Department's Composition Clinic provides free tutorial services for all undergraduates with writing problems. Help includes:

- Diagnostic evaluation of writing problems,
- A series of individualized writing exercises,
- Help in revising individual papers, reports,
- Programmed exercises via computer terminals.

## ENGLISH COURSES

**Engl 100: Basic English Skills** — For students who need to develop language skills required for written composition. Prerequisite for 101 if student needs remedial help. (3 sem. hours)

**Engl 101: College Writing** — Developing skills in sentence construction and in organizing shorter forms of college writing. Prerequisite for Engl 103. (3 sem. hours)

**Engl 103: College Writing II** — Preparing a research paper in a specific area chosen by the student and instructor. Continuing the work in composition begun in Engl 101. (3 sem. hours) 101 and 103 required for all freshmen.

**Engl 140/Comm 140: Practicum in Journalism** — Applications of journalistic principles in student publications. Performances are criticized in weekly seminars. To be taken after or with Engl 241/Comm 241. (1 credit per semester, for a maximum of 3 semesters)

### Engl 190: Selected Topics in English

**Engl 203: Introduction to Creative Writing** — A beginning course with practice in and discussion of all aspects of creative writing. (3 sem. hours)\*

**Engl 204: Composition and Rhetoric** — Work in rhetoric and expository, non-creative writing. (3 sem. hours)\*

**Engl 205: Technical and Scientific Writing** — Work in research and organizing professional papers and reports. (3 sem. hours)\*

**Engl 207: Advertising Writing and Production** — Work in the writing and production of advertising copy. (3 sem. hours)

**Engl 209: Business Writing** — Principles and practices of good writing as found in business letters and report writing. (3 sem. hours)



**Engl 211: Introduction to Drama and Poetry** — A critical approach to continental, English and American drama and poetry. Not open to junior and senior English majors. (3 sem. hours)\*

**Engl 212: Introduction to Fiction** — Studies in the short story, the novella, and the novel. Authors are generally modern and reflect the instructor's choice. Not open to junior and senior English majors. (3 sem. hours)\*

**Engl 213: Popular Fiction** — Topics will change from semester to semester; include Science Fiction, Literature of Sport, Detective Fiction, Best Sellers, War Fiction, Terror, Mystery, Comics. Not open to junior and senior English majors. (3 sem. hours-may be taken twice under different topics)\*

**Engl 214: Film Analysis** — A survey of contemporary and classic films. (3 sem. hours)\*

**Engl 215: The Cinematic Review: Historical and Critical Writing** — A survey of significant motion pictures with emphasis upon the techniques of film making and film reviewing. (3 sem. hours)\*

**Engl 218, 219: Elementary College Latin** — An introductory study of basic Latin. One semester may be taken for credit without the other. This course is cross-listed with the Modern Languages and Cultures Department. (3 sem. hours)\*

**Engl 223: Modern English and American Literature** — Four to six major American and English authors from 1880-1946. Representative choices are Virginia Woolf, Hemingway, Whitman, Yeats. (3 sem. hours)\*

**Engl 232: Contemporary American and English Literature** — Four to six major American and English authors from 1945 to now. Representative choices are Bellow, Updike, Auden, Murdoch. (3 sem. hours)\*

**Engl 233: Mythology and Literature** — A study of classical mythology in literary settings, both ancient and modern. (3 sem. hours)\*

**Engl 241/Comm 241: Introduction to Journalism** — Students practice the mechanics of publication and the writing and editing of news, articles, and reviews. (3 sem. hours)\*

**Engl 242: Afro-American Literature** — A study of Black American literature as it pertains to the American experience. (3 sem. hours)\*

**Engl 243: Literature of the Women's Movement** — Women authors from various periods read with a woman's perspective on the world. (3 sem. hours)\*

**Engl 244: American Indian Myth and Legend** — A study of Native American Literature as it pertains to the American experience. (3 sem. hours)\*

**Engl 245/Comm 245: Basic Reporting** — Instruction in writing the news story, discussions of reportorial ethics and techniques, and in-field coverage of news events, feature stories and speeches. Prerequisite: Engl 241/Comm 241. (3 sem. hours)

**Engl 248: Eastern Literature** — Study of such standard works as the Bhagavad-Gita, the writings of Confucius, and the Bible, in addition to other works from India, China, and the countries of the near East. (3 sem. hours)\*

**Engl 288: Classic Theatre Tour** — The study of classic drama, climaxed by a trip to the Stratford Shakespeare Festival in Ontario, Canada: the Shaw Festival Theater; or other appropriate theaters in Toronto. Offered in the summer. Travel fee required. (3 sem. hours)

**Engl 289: Stratford Shakespeare Tour** — Study of the works and time of Shakespeare, climaxed by a trip to the Stratford Shakespeare Festival in Stratford, Ontario, Canada. Offered in the summer only. Travel fee required. (3 sem. hours)

**Engl 290: Selected Topics in English**

**Engl 303: Creative Writing II** — Directed writing of poetry, fiction, or drama and workshop discussion for students who demonstrate ability. Prerequisite: Engl 203 or permission of instructor. (3 sem. hours)\*

**Engl 305: Practicum: Teaching Writing** — Experience in correcting and grading student writing, and tutoring student writers. Required for certification to teach English or Communication in the secondary schools. (1 sem. hour)

**Engl 311: Chaucer** — Selections from the *Canterbury Tales*, *Troilus and Cressida*, and other works of Geoffrey Chaucer. (3 sem. hours)

**Engl 312: Shakespeare** — Selected comedies, tragedies and histories with their literary and historical background. (3 sem. hours)\*

**Engl 313: Focus on a Major Writer** — Study of one great author, such as Swift, Dickens, Hemingway, or Frost. (3 sem. hours)

**Engl 317: English Literature I** — Four to six major works or authors from the beginning Anglo-Saxon times through the 18th Century. Representative choices are Beowulf, Chaucer, Milton, Pope. (3 sem. hours)\*

**Engl 318: English Literature II** — Four to six major authors of the 19th Century. Representative choices are Wordsworth, Keats, Tennyson, Browning, Arnold. (3 sem. hours)\*

**Engl 319: American Literature I** — Four to six major authors from the beginning of Puritan times through the mid-19th Century. Representative choices are Hawthorne, Melville, Emerson, Thoreau. (3 sem. hours)\*

**Engl 320: American Literature II** — A comprehensive survey of American literature for the purpose of noting literary movements and trends, relationships among authors, and historical change in literature. For juniors and seniors; required for English majors. (3 sem. hours)\*

**Engl 321: The Novel** — Study of the novel as a literary type or genre, with examples from various literatures and historical periods. (3 sem. hours)

**Engl 322: The Poem** — Study of poetry as a literary type or genre, with examples from various literatures and historical periods. (3 sem. hours)\*

**Engl 323: The Drama** — Study of drama as a literary type or genre, with examples from various literatures or historical periods. (3 sem. hours)\*

**Engl 324: The Short Story** — Study of the short story as a literary type or genre, with examples from various literatures and historical periods. (3 sem. hours)\*

**Engl 325: Literature and the Other Arts** — Lectures and discussions with pictorial and musical illustrations to explore the meaning and relevance of the arts and their relationship to each other. (3 sem. hours)\*

**Engl 331: Historical Development of the English Language** — An examination of each historical period to discover the structure of the language, its spelling, vocabulary, syntax, and the influences of social conditions upon it. (3 sem. hours)\*

**Engl 332: Traditional Grammar** — Brief history of English language; thorough study of traditional grammar with emphasis on syntax. Differences between prescriptive and descriptive grammar, and problems of current usage. (3 sem. hours)\*

**Engl 341/Comm 341: Advanced Journalistic Writing** — Article and editorial writings, industrial writing and editing, and writing for electronic media. Prerequisite: Engl 241/Comm 241 or permission of instructor. (3 sem. hours)

**Engl 402/602: World Literature** — Critical analysis of 19th and 20th Century authors from seven countries. Norway, Russia, France, Spain, Germany, Eire and Greece. (3 sem. hours)

**Engl 403: Literary Criticism** — Selected criticisms from Plato to Frye, with application of critical approaches and principles to works of several genres. (3 sem. hours)

**Engl 407/607: Advanced Technical and Scientific Writing** — Advanced work in research and organizing professional papers and reports. Prerequisite for Engl 407 is Engl 207. (3 sem. hours)

**Engl 408/608: Writing for Publication** — Methods of writing and preparing manuscripts for professional publications. (3 sem. hours)

**Engl 429/629: Writing Grant Proposals** — Intended for locating sources for grants and for writing proposals for institutional and individual funding, this course will include practice in drafting requests; one of the writing options for the B.S. in English, it will serve also those persons already in business or professional life. Prerequisite: Engl 103 or equivalent. (3 sem. hours)



**Engl 450: Internship** — Academic credit given for work done for an outside agency, including newspapers, radio stations, industrial firms, government or social service, Pittsburgh Pirates Public Relations. Prerequisite: at least two sequential courses in the Writing Sequence and approval by advisor. (3-6 sem. hours)

**Engl 490: Independent Study: Literature** — A program of supervised independent study. Prerequisite: Dean's approval. (1-3 hours per semester)

**Engl 491: Independent Writing** — Creative or expository writing projects. Prerequisite: Dean's approval. (1-3 hours per semester)

**Engl 498: Selected Topics in English**

## Modern Languages and Cultures Department

Spotts World Culture Building, Room 112

(412) 794-7312

Courses in modern languages not only develop linguistic skills, but also help the student understand the country whose language he/she is studying. Knowledge of a foreign language fosters tolerance and flexibility of mind which can help us to broaden our horizons. It encourages the development of intellectual curiosity, the ability to express oneself, and the capacity to enrich one's enjoyment of literature.

It is strongly advised that students take the sequence 101-102-103 in the freshman year whenever possible. No one should postpone this basic requirement beyond the sophomore year.

The major in modern languages may look forward to a career in business, government, journalism, education, interpreting, or translating. Students are encouraged to discuss their career goals with the department chairperson and/or advisor.

### Bachelor of Arts degree in Modern Languages

Specialization: French

Required Courses:

French (24 sem. hours beyond 255)

Fren 300, 305, or 306, 320, ML 350, 454

9 hours of electives

Specialization: German

Required Courses:

German (24 sem. hours beyond 255)

Germ 300, 305, or 306, 320, 454

12 hours of electives

Specialization: Spanish

Required Courses:

Spanish (24 sem. hours beyond 255)

Span 300, 305, or 306, or 307, 320

one 400-level literature course, 454

9 hours of electives

**Bachelor of Arts degree in Modern Languages  
with the International Business Certificate**

Specialization: French

Required Courses:

French (24 sem. hours beyond 255)

Fren 300, 303, 305, or 306, 454

12 hours of electives

Economics and Business

Econ 209, 201, 202, 308, 330, 350

two of the following: 407, 408, 437

Specialization: German

Required Courses:

German (24 sem. hours beyond 255)

Germ 300, 303, 305, or 306, 454

12 hours of electives

Economics and Business

Econ 209, 201, 202, 308, 330, 350

two of the following: 407, 408, 437

Specialization: Spanish

Required Courses:

Spanish (24 sem. hours beyond 255)

Span 300, 303, 305, or 306, or 307, 454

12 hours of electives

Economics and Business

Econ 209, 201, 202, 308, 330, 350

two of the following: 407, 408, 437

**B.S. in Elementary Education**

Specialization: Bilingual Education

Required Courses:

Spanish

Span 205, or 255, 300, 306, 307, 320, 401, 454

electives to reach 21 hours (if necessary)

Education

CuIn 324 (Methods for Teaching English as a Second

Language and Bilingual Education)

Specialization: Secondary Education — Spanish

Required Courses:

Spanish

Span 205, or 255, 300, 305 or 306, 307, 320, ML 350, 454

electives to reach 30 hours (if necessary)

Education

CuIn 324 (Methods for Teaching English as a Second

Language and Bilingual Education)



**B.A. in Business Administration****Specialization: International Business****Required Courses:**

Business Core (30 hours)

Language Courses (12 hours)

300, 303, 305 or 306 or 307, 454

Business Courses (6 hours)

308, 407, 408, 437

A student may also earn a minor in a foreign language.

**Required courses:**

Basic language 101, 102, 103

9 hrs.

Individualized Studies 250

or Communication in . . . . 255

3 hrs.

2 courses at the 300 level

6 hrs.

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18 hrs.**MODERN LANGUAGES COURSES**

**ModL 101-102-103: English as a Second Language** — A broad and practical working knowledge of the English language for non-native speakers. Courses will prepare the non-native speaker for college course work in English. Language laboratory attendance required. Students will be placed at the appropriate level based on standardized examination. (Each course carries 3 sem. hours)

**ModL 151-152-153: Self-Instructional Languages** — Self-Instruction in basic language is open to serious students with previous language background. The course is designed to develop the speaking, listening/comprehension of the student on a basic level. Three hours of 101 is the prerequisite for 102. Three hours of 102 is the prerequisite for 103. Course may be repeated in each language to a maximum of three credits. Not applicable for modern language requirement of General Studies. Students may choose among Chinese, Japanese, Serbo-Croatian, and a variety of less-commonly-taught languages.

**ModL 220: Introduction to Western Languages** — An introduction to the major languages of the western world and a presentation of the historical relationships among the languages, along with a practical initiation to the various languages. (3 sem. hours)\*

**ModL 350: Linguistics and Phonetics** — An introduction to general linguistics and the practical application of linguistics to the study of French, German, or Spanish. Analysis and practice of the sound system of the foreign language. Prerequisite: 250 or 255 in either French, German, or Spanish. Complete in one of the three languages. (3 sem. hours)\*

**FRENCH COURSES**

**Fren 101-102-103: Basic French I, II, III** — A broad and practical working foundation in the language. French 101 or the equivalent is the prerequisite for French 102. French 102 or the equivalent is the prerequisite for French 103. (3 sem. hours each)\*

**Fren 210: French Literature in Translation** — A study of representative French literary works, emphasizing the individuals and ideas which have influenced French and foreign literatures. The course will be given in English; no knowledge of French required. For non-French majors. (3 sem. hours)\*

**Fren 250: Individualized French Studies** — An emphasis on the active use of the language in the field of the student's chosen interest. Readings in French will be selected by the student, department, and academic advisor from a wide variety of areas. Prerequisite: Fren 103 or equivalent. (3 sem. hours)\*

**Fren 255: Communicating in French** — A functional course in speaking and writing French, stressing everyday vocabulary and structure. Prerequisite: Fren 103 or the equivalent. (3 sem. hours)\*

**Fren 300: French Grammar Review** — An intermediate grammar review course emphasizing the basic structure of French. Prerequisite: Fren 250 or 255 or the equivalent. (3 sem. hours)\*

**Fren 303: Business French** — An introduction to basic French language usage in commerce and commercial correspondence. Prerequisite: Fren 250 or 255 or the equivalent. (3 sem. hours)

**Fren 305: French Civilization** — An advanced course in the study of the development of French civilization from the earliest times to the end of the 19th century. Prerequisite: Fren 250 or 255 or the equivalent. (3 sem. hours)\*

**Fren 306: Modern France** — A study of contemporary French life and attitudes today. Prerequisite: Fren 250 or 255 or the equivalent for French majors. Also open to non-majors for general education with no prerequisite. (3 sem. hours)\*

**Fren 320: Main Currents in French Literature** — An introduction to the study of French literature through prose, drama, and poetry. Prerequisite: Fren 250 or 255 or the equivalent. (3 sem. hours)\*

**Fren 335: Women in French Literature** — A study of French women authors and of French women as literary characters in French literature. Prerequisite: Fren 250 or 255 or the equivalent. (3 sem. hours)\*

**Fren 390: Selected Topics in French** — Also open to non-majors. (1-3 sem. hours)\*

**Fren 402: Eighteenth-Century Novel** — A study of the Age of Enlightenment as reflected in the novel. Prerequisite: six hours of French at the 300 level. (3 sem. hours)

**Fren 403: Nineteenth-Century French Literature** — Readings from the romantic, realistic, and naturalistic movements. Prerequisite: six hours of French at the 300 level. (3 sem. hours)

**Fren 404: Modern French Literature** — A study of various aspects of modern French literature. Prerequisite: six hours of French at the 300 level. (3 sem. hours)

**Fren 411: Literature of the Classical Period** — A study of French Classicism, emphasizing the plays of Corneille, Moliere, and Racine. Prerequisite: six hours of French at the 300 level. (3 sem. hours)

**Fren 454: Advanced French Grammar** — An advanced course in the study of French grammar and usage. Prerequisite: six hours of French at the 300 level. (3 sem. hours)

**Fren 490: Independent Study** — The outstanding student has an opportunity to study a selected area of particular interest to him/her. (1-3 sem. hours)

## GERMAN COURSES

**Germ 101-102-103: Basic German I, II, III** — A broad and practical working foundation in the language. German 101 or the equivalent is the prerequisite for German 102. German 102 or the equivalent is the prerequisite for German 103. (3 sem. hours)\*

**Germ 210: German Literature in Translation** — A study of representative German literary works, emphasizing the individuals and ideas which have influenced German foreign literatures. The course will be given in English; no knowledge of German required. For non-German majors. (3 sem. hours)\*

**Germ 250: Individualized German Studies** — An emphasis on the active use of the language in the field of the student's chosen interest. Readings in German will be selected by the student, department, and academic advisor from a wide variety of areas. Prerequisite: Germ 103 or equivalent. (3 sem. hours)\*

**Germ 255: Communication in German** — A functional course in speaking and writing German stressing everyday vocabulary and structure. Prerequisite: Germ 103 or the equivalent. (3 sem. hours)\*

**Germ 300: German Grammar Review** — An intermediate grammar review course emphasizing the basic structure of German. Prerequisite: 250 or 255 or the equivalent. (3 sem. hours)\*

**Germ 303: Business German** — A study of the German language as related to business and commerce. A consideration of the form and language of the business letter in German. Prerequisite: Germ 250 or 255 or the equivalent. (3 sem. hours)

**Germ 305: German Civilization** — A study of the development of German civilization from its earliest beginnings to its modern times. Prerequisite: Germ 250 or 255 or the equivalent for German majors. Also open to non-majors for general education with no prerequisite. (3 sem. hours)\*

**Germ 306: Modern German Civilization** — A study of the civilization of German-speaking areas in the twentieth century. Prerequisite: 250 or 255 or the equivalent. (3 sem. hours)\*

**Germ 320: Main Currents in German Literature** — An introduction to the study of German literature through prose, drama, and poetry. Prerequisite: 250 or 255 or the equivalent. (3 sem. hours)\*



**Germ 390: Selected Topics in German** — (1-3 sem. hours)\*

**Germ 403: Nineteenth-Century German Literature** — Readings in the drama; study of its development. Prerequisite: six hours of German at the 300 level. (3 sem. hours)

**Germ 411: Contemporary German Literature** — A study of the outstanding authors writing in German in the present century. Prerequisite: six hours of German at the 300 level. (3 sem. hours)

**Germ 454: Advanced German Grammar** — An advanced course in the study of German grammar and usage. Prerequisite: six hours of German at the 300 level. (3 sem. hours)

**Germ 490: Independent Study** — The outstanding student has an opportunity to study a selected area of particular interest to him/her. (1-3 sem. hours)

## ITALIAN COURSES

**Ital 101-102-103: Basic Italian I, II, III** — A broad and practical working foundation in the language. Italian 101 or the equivalent is the prerequisite for Italian 102. Italian 102 or the equivalent is the prerequisite for Italian 103. (3 sem. hours each)\*

**Ital 210: Italian Literature in Translation** — A study of the main currents of Italian literature from the Renaissance to modern times, with emphasis on the contemporary. The course will be given entirely in English; no knowledge of Italian required. For non-Italian majors. (3 sem. hours)\*

**Ital 250: Individualized Italian Studies** — An emphasis on the active use of the language in the field of the student's chosen interest. Readings in Italian will be selected by the student, department, and academic advisor from a wide variety of areas. Prerequisite: Ital 103 or equivalent. (3 sem. hours)\*

**Ital 255: Communicating in Italian** — A functional course in speaking and writing Italian stressing everyday vocabulary and structure. Prerequisite: Ital 103 or the equivalent. (3 sem. hours)\*

**Ital 390: Selected Topics in Italian** — (1-3 sem. hours)\* Also open to non-majors.

**Ital 490: Independent Study** — The outstanding student has an opportunity to study a selected area of particular interest to him/her. (1-3 sem. hours)

## RUSSIAN COURSES

**Russ 101: Basic Russian I** — A broad and practical working foundation in the language. Russ 101 or the equivalent is the prerequisite for Russian 200. (3 sem. hours)\*

**Russ 200: Individualized Practical Russian** — A course designed to develop student skills in the Russian language. May be taken for one to three credits each semester. Russian 101 and six credits of Russian 200 or the equivalent satisfies the Liberal Arts language requirement. May be repeated up to 21 hours. Prerequisite: Russ 101 or the equivalent.\* (1-21 sem. hours)

**Russ 210: Russian Literature in Translation** — A study of representative Russian literary works from its origins to 1917. In English; no knowledge of Russian required. (3 sem. hours)\*

**Russ 211: Modern Russian Literature in Translation** — A study of representative Russian literary works from 1917 to the present. In English, no knowledge of Russian required. (3 sem. hours)\*

**Russ 306: The Soviet Scene** — A broad study of the social, political, historical, economic, and cultural situations of the Soviet Union from its origin in 1917 to the present. Course is taught in English. (3 sem. hours)\*

**Russ 390: Selected Topics in Russian** — (1-3 sem. hours)\* Also open to non-majors.

**Russ 490: Independent Study** — The outstanding student has an opportunity to study a selected area of particular interest to him/her. (1-3 sem. hours)

## SPANISH COURSES

**Span 101-102-103: Basic Spanish I, II, III** — A broad and practical working foundation in the language. Spanish 101 or the equivalent is the prerequisite for Spanish 102. Spanish 102 or the equivalent is the prerequisite for Spanish 103. (3 sem. hours each)\*

**Span 210: Spanish Literature in Translation** — A study of selected Spanish literary works, emphasizing the individuals and ideas which have influenced Spanish and foreign literatures. The course will be given in English; no knowledge of Spanish required. For non-Spanish majors. (3 sem. hours)\*

**Span 250: Individualized Spanish Studies** — An emphasis on the active use of the language in the field of the student's chosen interest. Readings in Spanish will be selected by the student, department, and academic advisor from a wide variety of areas. Prerequisite: Span 103 or equivalent. (3 sem. hours)\*

**Span 255: Communicating in Spanish** — A functional course in speaking and writing Spanish stressing everyday vocabulary and structure. Prerequisite: Span 103 or the equivalent. (3 sem. hours)\*

**Span 300: Spanish Grammar Review** — An intermediate grammar review course emphasizing the basic structures of Spanish. Prerequisite: Span 250 or 255 or the equivalent. (3 sem. hours)\*

**Span 303: Business Spanish** — Designed to acquaint the student with the necessary vocabulary, linguistic knowledge, and language skills related to Hispanic foreign trade, commerce, and office procedures. Prerequisite: Span 250 or 255 or the equivalent. (3 sem. hours)

**Span 305: Spanish Civilization** — A study of history of Spain and of important components of its culture, such as art, architecture, and daily life. Prerequisite: Span 250 or 255 or the equivalent. (3 sem. hours)\*

**Span 306: The Civilization of South America** — Development of Latin-American civilization and aspects of the culture of Latin-American countries. Prerequisite: Span 250 or 255 or the equivalent. (3 sem. hours)\*

**Span 307: U.S. Spanish-Speaking Minority Cultures** — A study of the cultural background of the members of the Spanish-speaking minorities in the United States, especially the Chicanos, Puerto Ricans and Cubans. Prerequisite: Span 250 or 255 or the equivalent. (3 sem. hours)\*

**Span 308: The Civilization of Mexico and Central America** — A study of the development of the civilization of Mexico and Central America and important aspects of their culture, such as art, architecture, and daily life. Prerequisite: Span 250 or 255, or the equivalent. (3 sem. hours)\*

**Span 320: Main Currents in Hispanic Literature** — An introduction to the study of Hispanic literature through prose, drama, and poetry. Prerequisite: 250 or 255 or the equivalent. (3 sem. hours)\*

**Span 335: Women in Hispanic Literature** — A study of Hispanic women authors and of Hispanic women as literary characters in Hispanic literature. Prerequisite: For Spanish credit, Span 250 or 255, or the equivalent. For non-Spanish credit, no prerequisite. (3 sem. hours)\*

**Span 390: Selected Topics in Spanish** — (1-3 sem. hours)\* Also open to non-majors.

**Span 401: Individualized Aural-Oral Skills** — This course will provide the opportunity for advanced students to improve their aural comprehension and their conversational abilities in Spanish. Prerequisite: Span 250 or 255 and six hours at the 300 level.

**Span 415: Cervantes** — Reading and discussion of Don Quixote and various exemplary novels. Prerequisite: six hours of Spanish at the 300 level. (3 sem. hours)

**Span 418: Theatre of the Golden Age** — A study of representative 17th century Spanish plays and their authors. Authors include Lope de Vega, Calderon de la Barca, and Tirso de Molina. Prerequisite: six hours of Spanish at the 300 level. (3 sem. hours)

**Span 420: Modern Spanish Novel** — A study of the Spanish novel from Galdos to the present. Prerequisite: six hours of Spanish at the 300 level. (3 sem. hours)

**Span 422: Spanish Generation of 98** — Study and analysis of the most important works of representative authors of this period. Authors include Unamuno, Azorin, Baroja, Maeztu, Machado. Prerequisite: six hours of Spanish at the 300 level. (3 sem. hours)



**Span 430: Contemporary Latin-American Novel** — A study of the representative novels of Latin America. Prerequisite: six hours of Spanish at the 300 level. (3 sem. hours)

**Span 454: Advanced Spanish Grammar** — An advanced course in the study of Spanish grammar and usage. Prerequisite: six hours of Spanish at the 300 level. (3 sem. hours)

**Span 490: Independent Study** — The outstanding student has an opportunity to study a selected area of particular interest to him/her. (1-3 sem. hours)

#### 090 ENGLISH AS A SECOND LANGUAGE

**ESL 101-102-103: English as a Second Language** — A broad and practical working knowledge of the English language for non-native speakers. Courses will prepare the non-native speaker for college course work in English. Language laboratory attendance required. Students will be placed at the appropriate level based on standardized examination. (Each course carries 3 sem. hours)

## Music Department

Swope Music Building, Room 225

(412) 794-7276

The Music Department offers courses for the general student, as well as the student who wishes to pursue a career in music. Courses include study in Applied Music, Music Literature, Music Theory and Composition, Ear Training, Music Education, Music Therapy and a variety of instrumental and vocal performing ensembles. Students electing courses in music will develop specific performance skills and interests, as well as a greater perception of their musical heritage and environment. The music major may look forward to a career in music merchandising, private teaching, performance or composition, broadcasting, publishing, music education, or music therapy. Students wishing a minor in music may audition for the twenty-five semester hour program.

### Requirements for the Music Major

All incoming music majors must audition on a major instrument or voice, take a theory placement examination, and be interviewed by a committee.

Four degrees are offered by the Music Department: Bachelor of Arts, Bachelor of Music, Bachelor of Science in Music Education, and a Bachelor of Science in Music Therapy. In the Bachelor of Arts degree the student may choose to emphasize performance, composition, music and business, or music and librarianship. In the Bachelor of Music degree the student may emphasize performance or theory.

Each music major is required to participate in performing music ensembles and is required to fulfill the following 34-35 semester hours: Comprehensive Musicianship and Music Literature/History: Music 151, 152, 251, 252, 171, 271, 371. All music majors are required to make a "C" grade in all Comprehensive Musicianship and applied major courses.

Applied Music: Piano, Organ, Voice, Woodwinds, Brass, Strings. Seven semester hours in a major area and six semester hours in minor areas for the Bachelor of Arts degree candidate and eight semester hours in a major area and six semester hours in minor areas for the Bachelor of Music degree candidate are required. (A minimum of four semester hours is required in an applied keyboard area.)

Bachelor of Arts major will select, in consultation with a Music Department advisor, eight additional hours in music courses. The Bachelor of Arts major in performance will present a senior recital and is encouraged to develop an independent study project. All music majors are required to perform in their major applied area once each semester in a performance class. During the first semester of study, the student may be exempted from performance class by the instructor's recommendation. A jury is required each semester in the student's major applied area.

The Bachelor of Music major will audition for a major in performance or theory. An additional fifty-five hours of course work will be determined according to the major area. Bachelor of Music majors are expected to participate in small ensembles, as accompanists, and in special ensembles appropriate to their major instrument. The performance major will participate in recitals regularly and present a solo recital the senior year.

The Bachelor of Science in Music Education program prepares students to teach, supervise and administer school music programs, vocal and instrumental, in grades K-12. Music Education majors will select a major instrument. Field experience and student teaching are required of all students.

**Bachelor of Science in Music Therapy:** A six-month period of clinical training in an approved music therapy program under the direction of a Registered Music Therapist is required in addition to the 128 semester hours of on-campus training for the music therapy major. This clinical training follows the four years of academic work. After completion of the degree requirements from a certified school, the graduate may apply to the National Association of Music Therapy to become a Registered Music Therapist. A student may obtain dual certification in Music Therapy and Music Education.

### **Bachelor of Arts Degree in Music**

Music (50 sem. hours)

Musi 151, 152, 251, 252, 171, 271, 371 (21 sem. hours)

Applied Major (7 sem. hours)

Applied Minor (6 sem. hours)

Ensembles (8 sem. hours)

Electives with advisement (8 sem. hours)

Electives (18 sem. hours) (All candidates for the BA must demonstrate competency in a foreign language at the 103 level either by course work or placement tests)

**TOTAL DEGREE HOURS 128**





**Bachelor of Music Degree**

Music (56 sem. hours)

Musi 151, 152, 251, 252, 171, 271, 371, 332, 333, 347, 348, 349, 351, 452 (34 sem. hours)

Applied Major (8 sem. hours)

Applied Minor (6 sem. hours)

Ensembles (8 sem. hours)

Performance Major (24 sem. hours)

Keyboard Pedagogy 431 or Vocal Pedagogy 433 (3 sem. hours)

Songs and Singers 276 or Chamber Music Performance 221 (3 sem. hours)

Senior Recital (applied) (1 sem. hour)

Independent Study 490 (1 sem. hour)

Elective (recital or independent study) (2 sem. hours)

Music Electives: 102, 104, 105, 231, 232, 347, 348, 350, 490 (14 sem. hours)

Theory Major (24 sem. hours)

Electronic Composition 350 (1 sem. hour)

Keyboard Improvisation 231 (1 sem. hour)

Instrumental Improvisation (1 sem. hour)

Counterpoint, Electronic Composition and Independent Study (6 sem. hours)

Music electives 102, 104, 105, 221, 276, 431, 433, 490 (15 sem. hours)

Free electives (3 sem. hours)

**Bachelor of Science in Music Education**

Music (65 sem. hours)

Professional Education (20 sem. hours) including:

Elementary Student Teaching (6 sem. hours)

Secondary Student Teaching (6 sem. hours)

**Bachelor of Science in Music Therapy**

Music (with advisement) (57 sem. hours)

Music Therapy (17 sem. hours)

Internship (3 sem. hours)

The following courses are required by the National Association for Music Therapy:

Intro to Except. Child-SpEd 100

Abnormal Behavior-Psych 376

Anatomy &amp; Physiology-Biol 106

And nine additional hours in psychology

**MUSIC COURSES****Musi 101: Introduction to Music** — A survey course designed to develop the student's perception and understanding of changing musical styles and practices in western culture. (3 sem. hours)\***Musi 102: Introduction to World Music** — A course designed to survey non-western musical traditions and practices. Emphasis is given to the music of India, China, Japan, Africa, the Middle East and the American Indian. (3 sem. hours)\***Musi 104: Introduction to American Music** — A survey course designed to develop the student's knowledge and understanding of music composed and performed in the United States between 1620 and the present. (3 sem. hours)\*

**Musi 105: Jazz** — The stylistic development of jazz and its relevance to society. (3 sem. hours)\*

**Musi 107: Fundamentals of Music** — Understanding and using music notation and terminology. (3 sem. hours)\*

One credit for every semester of satisfactory participation is granted for any of the following music performance groups. These ensembles are also available without credit.

**Musi 115: University Choir** — Some 60 to 70 men and women, chosen by audition, to study and perform the great choral literature from the Renaissance to the present. Concerts are presented on campus and on tours. Four hours a week rehearsal time. (1 sem. hour)\*

**Musi 116: Symphonic Choir** — A large ensemble chosen by audition to study and perform the great choral literature. Three hours a week rehearsal time. (1 sem. hour)\*

**Musi 117: Chamber Singers** — A small ensemble of well-blended voices appropriate for the performance of madrigals and other chamber vocal music. Four hours a week rehearsal time. (1 sem. hour)\*

**Musi 118: Marching Band** — The Rocket Marching Band performs during the half-time at football games, both home and away, and for other special events. Much of its music is specially arranged. Open to all students. Ten hours a week rehearsal during the football season. (1 sem. hour)\*

**Musi 119: Concert Band** — The Concert Band members are carefully selected to provide a balanced instrumentation of the best players. Music written for concert band is the main repertoire. Concerts on campus and on tour. Eight hours a week rehearsal time. (1 sem. hour)\*

**Musi 120: Jazz/Rock Ensemble** — Students learn to perform in both jazz and rock idioms. Improvisation, original student compositions and arrangements are encouraged. Four hours of rehearsal a week; ensemble performs on and off campus. Open to all students. (1 sem. hour)\*

**Musi 121: Orchestra** — The Orchestra is a string ensemble, with winds and percussion added when needed, which performs music from the orchestral repertoire. Admission by audition. Three hours a week rehearsal time. (1 sem. hour)\*

**Musi 122: Chamber String Ensemble** — The Chamber String Ensemble is a small ensemble intended for the study and performance of chamber music written for strings. (1 sem. hour)\*

**Musi 123: Brass Ensemble** — The Brass Ensemble is a small select ensemble of brass players which studies and performs music for brass from all historic periods. (1 sem. hour)\*

**Musi 124: Woodwind Ensemble** — The Woodwind Ensemble is a small select ensemble of woodwind players which studies and performs music for woodwinds from all historic periods. (1 sem. hour)\*

**Musi 127: Orientation to Music Therapy** — Orientation to the field of music therapy through lectures, readings, films, and field trips to clinical centers. (1 sem. hour)

**Musi 131: Class Piano I** — For beginners with no previous keyboard experience. Fundamentals of note reading beginning piano repertoire, melody harmonization and improvisation. Of particular value to the student wishing to gain a working knowledge of the piano either as a classroom tool, or for personal use. One class meeting and one laboratory session each week. (1 sem. hour)\*

**Musi 132: Class Piano II** — Continued development of skills begun in Musi 131. One class meeting and one laboratory session each week. Prerequisite: Musi 131 or equivalent. (1 sem. hour)\*

**Musi 133: Class Voice I** — Designed for the purpose of studying the techniques and problems of voice production. Valuable to the student interested in improving vocal skill. One class meeting and one laboratory session each week. (1 sem. hours)\*

**Musi 134: Class Voice II** — Continuation of Class Voice I. One class meeting and one laboratory session each week. Prerequisite: Musi 133 or equivalent. May be repeated for credit, maximum of three credit hours (1 sem. hours)\*

**Musi 135: Class Strings I** — Beginning study of violin, viola, cello or string bass. No previous experience required. Instruments are provided by the college. One class meeting and one laboratory session each week. (1 sem. hour)\*



**Musi 136: Class Strings II** — A continuation of the basic techniques developed in Class Strings I. One class meeting and one laboratory session each week. Prerequisite: Musi 135 or equivalent. May be repeated for credit, maximum of three credit hours. (1 sem. hour)\*

**Musi 137: Class Guitar I** — The fundamentals of guitar playing. The student must provide his/her own instrument. (1 sem. hour)\*

**Musi 138: Class Guitar II** — Continued development of skills begun in Class Guitar I. May be repeated for credit of maximum of three credit hours. Prerequisite: Musi 137 or equivalent. (1 sem. hour)\*

**Musi 141-148: Applied Music** — With the approval of the applied music teacher, lessons are available in piano, organ, voice, guitar, and any of the standard strings, brass, woodwind or percussion instruments. Materials studied will depend on the student's background and ability. Normally, one lesson and five hours of practice each week grants one credit. Two credits are possible with approval from the department chairperson and instructor.\*

**Musi 151: Comprehensive Musicianship I** — The student will study the grammar and literature of music through personal involvement in the musical disciplines of composition, analysis, listening, and performance. Three class meetings and two laboratory sessions each week. (3 sem. hours)\*

**Musi 152: Comprehensive Musicianship II** — This course is a continuation of Comprehensive Musicianship I. The student will study musical literature written between 600-1750 through composition, analysis, aural discrimination, diatonic harmony, modal counterpoint, and performance. Music majors should take this course simultaneously with History of Music I. Three class meetings each week with two laboratory sessions required. Prerequisite: Musi 151 or equivalent. (3 sem. hours)\*

**Musi 171: History of Music I** — A survey of musical styles from the ages of classical Greece and Rome through the Baroque period. Important composers and their literature will be discussed in relation to artistic, social, political, and economic conditions of their period. (Music majors should plan to take this course simultaneously with Comprehensive Musicianship II.) Prerequisite: Musi 101 or permission of department chairperson. (3 sem. hours)\*

**Musi 201: Studies in Children's Music** — Listening, moving, playing instruments, singing and creating using repertoire suitable for children considering various developmental levels. (3 sem. hours)\*

**Musi 205: Music in Recreation** — A practical study of the ways and means of planning effective music programs for leisure and recreation, and developing the competencies needed by a music leader in recreation. (3 sem. hours)\*

**Musi 221: Chamber Music Performance** — A chamber ensemble (of various instrumental combinations) which studies and performs music from many style periods. May be repeated for credit maximum of eight credits. Prerequisite: by permission of department chairperson only. (1 sem. hour)\*

**Musi 227: Behavioral Techniques in Music Theory** — Consideration of historical bases and experimental evidences of the influence of music on behavior; principles of music therapy; behavioral observation techniques. Lab: Application of techniques. Prerequisite: Musi 127 or permission of instructor. (3 sem. hours)

**Musi 229: Clinical Integration** — A supervised clinical experience allowing the music therapy student practical experience in a variety of community health care agencies and educational settings. A total of six hours are required. Prerequisite: Sophomore standing. (1 sem. hour) (P/NC)

**Musi 230: Clinical Integration** — A supervised clinical experience allowing the music therapy student practical experience in a variety of community health care agencies and educational settings. A total of six hours are required. Prerequisite: Sophomore standing. (1 sem. hour) (P/NC)

**Musi 231: Keyboard Improvisation** — Melody harmonization and improvisation at the keyboard in 20th century popular and jazz styles. One class meeting and one laboratory session each week. Prerequisite: Musi 132 or equivalent. (1 sem. hours)\*

**Musi 232: Instrumental Improvisation** — This course teaches the basic concepts of improvisation, chord notation, chord styles, and jazz and rock, including free improvisation. Open to all instrumentalists. One class meeting and one laboratory session per week. May be repeated for credit three times for a maximum of three credit hours. (1 sem. hours)\*

**Musi 245: Class Brass** — A study of the fundamental concepts needed to play brass instruments (French horn, trumpet, trombone, baritone horn, tuba) both as soloists and in ensemble. (1 sem. hour)\*

**Musi 246: Class Woodwinds** — A study of the fundamental concepts needed to play instruments of the woodwind family and the factors peculiar to each instrument. (1 sem. hour)\*

**Musi 247: Class Percussion** — To study the technical possibilities and the most concise notation of the sounds of the percussion instruments with concentration on the melodic percussion instruments. (1 sem. hour)\*

**Musi 251: Comprehensive Musicianship III** — The course is a continuation of the Comprehensive Musicianship I and II semesters in which the student will study the musical literature of the years 1750-1900 through the means of chromatic harmony, analysis, scorereading, aural discrimination, composition and performance. Music majors should take the course simultaneously with History of Music II. Three class meetings each week and two laboratory sessions required. Prerequisite: Musi 152 or equivalent. (3 sem. hours)

**Musi 252: Comprehensive Musicianship IV** — This course is a continuation of the Comprehensive Musicianship I, II and III sequence. Musical literature of the 20th century will be approached through analysis, listening, scorereading, composition and performance. Music majors should plan to take this simultaneously with History of Music III. Three class meetings per week and two laboratory sessions required. Prerequisite: Musi 251 or equivalent. (3 sem. hours)

**Musi 271: History of Music II** — This course examines the musical events from the period of the Rococo through the 19th century. Lectures, readings, performances and listening sessions develop the student's musical understanding of the period. (Music majors should plan to take this course simultaneously with Comprehensive Musicianship III). Prerequisite: Musi 101 or permission of the departmental chairperson. (3 sem. hours)\*

**Musi 275: Keyboard Music** — This course will examine the music literature for western keyboard instruments using live and recorded performances. (3 sem. hours)\*

**Musi 276: Songs & Singers** — This course will examine music literature for voice. Areas of consideration include solo songs, opera, oratoria, and vocal chamber music. (3 sem. hours)\*

**Musi 278: Literature of the American Musical Theater** — A study of the changing styles in the musical theater from 1860 to current Broadway musicals, rock operas, and operetta. Study conducted through the use of recordings, scores and participation. (3 sem. hours)\*

**Musi 327: Psychology of Music** — Combined study of acoustics, the ear and hearing, musical systems, and physiological processes involved in music behavior. Consideration of research methods applied in psychology of music problems through examination of selected research studies and practical application. Prerequisite: Psych 100 and 110 and Musi 227. (4 sem. hours)

**Musi 329: Clinical Integration** — A supervised clinical experience allowing the music therapy student practical experience in a variety of community health care agencies and educational settings. A total of six hours are required. Prerequisite: Sophomore standing. (1 sem. hour) (P/NC)

**Musi 330: Clinical Integration** — A supervised clinical experience allowing the music therapy student practical experience in a variety of community health care agencies and educational settings. A total of six hours are required. Prerequisite: Sophomore standing. (1 sem. hour) (P/NC)

**Musi 328: Music Therapy Practicum** — Seminar and practical experience in clinical supervision. Prerequisite: Musi 127, 227, 327, and 427. (3 sem. hours)

**Musi 332: Vocal Conducting** — This course is designed to give the student a practical knowledge of choral conducting techniques and a theoretical understanding of the Vocal Ensemble and its function from auditions through performance. To be taken only by juniors and seniors. Prerequisite: Musi 107 or equivalent. (1 sem. hour)

**Musi 333: Instrumental Conducting** — The practical aspects of learning to conduct the instrumental rehearsal and performance. Also a consideration of acoustical properties and basic techniques of the instruments. Problems of ensemble and balance, intonation, precision, and interpretation are studied. To be taken only by juniors and seniors. Prerequisite: Musi 107 or equivalent. (1 sem. hour)

**Musi 334: Secondary School Music** — The course is designed to prepare the student to teach junior and senior high school vocal music, choose appropriate teaching materials, supervise a music program, and become aware of professional organizations, workshops, and conferences. (2 sem. hour)

**Musi 347: Counterpoint I** — This study of practice of writing music according to contrapuntal theory of the 16th century. Prerequisite: CM IV. Course may be repeated up to 3 hours. (1 sem. hour)



**Musi 348: Counterpoint II** — The study and practice of writing music according to contrapuntal theory of the 18th century. Prerequisite: CM IV. Course may be repeated up to 3 hours. (1 sem. hour)

**Musi 349: Composition** — Compositional techniques relative to the student's interest will be studied through an analysis of works by major composers. Although no definite idiom is prescribed, contemporary techniques are encouraged. Prerequisite: Musi 252 or permission of instructor. May be repeated for credit, maximum of three credit hours. (1 sem. hour)

**Musi 350: Electronic Composition** — A course designed to present the elements involved in electronic composition. The student will compose using magnetic tape and synthesizer. Prerequisite: CM IV or permission of departmental chairperson. Course may be repeated up to 3 hours. (1 sem. hour)

**Musi 351: Arranging/Orchestration** — This course covers the basic concepts of arranging relative to instrumental and vocal groups. Emphasis is placed on the making of arrangements in addition to the transcription of composition. Prerequisite: Musi 251 or permission of instructor. (3 sem. hours)

**Musi 371: History of Music III** — This course examines the musical events from approximately 1890 to the present. Lectures, readings, performances and listening sessions develop the student's musical understanding of the period. (Music majors should plan to take this course simultaneously with Comprehensive Musicianship IV.) Prerequisite: Musi 101 or permission of the departmental chairperson. (3 sem. hours)\*

**Musi 390: Selected Topics** — To be announced each semester. Prerequisite: permission of instructor. (3 sem. hours)

**Musi 401: Instrumental Methods** — Instrumental methods is a music education course designed to prepare the student for a career in public school instrumental music, including: appropriate literature, repair of instruments, public relations, and rehearsal techniques. Prerequisites are: Musi 135, 136, 245, 246, 247, 333. (2 sem. hour)

**Musi 429: Music Therapy for Children** — Application of music therapy techniques and materials in all areas of health, correctional therapy, and special education. Prerequisite: Musi 227 and 327. (3 sem. hours)

**Musi 430: Music Therapy for Adult Clients** — Application of music therapy techniques and materials in all areas of mental health, corrections, and special education. Emphasis is placed on adult populations and ground dynamics. Clinical field experience is done concurrently. Prerequisite: Musi 227, 429. (3 sem. hours)

**Musi 431: Keyboard Pedagogy** — Analytical study of voice production techniques. Evaluation of scientific, psychological and physiological methods of voice teaching. Prerequisite: two semesters of Applied Voice or equivalent. (3 sem. hours)

**Musi 432: Clinical Integration** — A supervised clinical experience allowing the music therapy student practical experience in a variety of community health care agencies and educational settings. A total of six hours are required. Prerequisite: Sophomore standing. (1 sem. hour) (P/NC)

**Musi 433: Clinical Integration** — A supervised clinical experience allowing the music therapy student practical experience in a variety of community health care agencies and educational settings. A total of six hours are required. Prerequisite: Sophomore standing. (1 sem. hour) (P/NC)

**Musi 450: Music Therapy Internship** — A continuous six-month internship following completion of course work in a NAMT approved music therapy program under the direction of a Registered Music Therapist. Required for all candidates for music therapy registration. Prerequisite: Completion of all academic degree requirements. (3 sem. hours)

**Musi 452: Form and Analysis** — A course stressing the development of analytical skills and designed to give the advanced student a knowledge and understanding of the standard forms in music from 1600-1976. Prerequisite: Musi 252 or equivalent. (3 sem. hours)

**Musi 490: Independent Study** — A program of work allowing the outstanding student an opportunity to pursue independent study at this level under the direction of the music faculty. Prerequisite: Any 12 sem. hours in the music department's curriculum and approval of departmental chairperson and instructor. (1-3 sem. hours)

## Philosophy Department

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Eisenberg Building, Room 113

(412) 794-7322

Philosophy is concerned primarily with developing a deeper and more meaningful understanding of one's self, one's world, and one's place in the world. It seeks to tie together the findings of the various other disciplines and explored areas that they have not yet looked into. It encourages carefulness in thinking and the formation of a viewpoint that integrates many specialized perspectives into a unified whole.

Philosophy also develops the following skills, which are extremely valuable both in most areas of study as well as in every day situations:

**Analytical thinking:** deals with the ability to break down complex problems and ideas into their simpler parts and to reason logically about them.

**Evaluation thinking:** involves the assessment of the relative and absolute worth of things, ideas, and experiences, and what follows from that assessment.

**Synthetic thinking:** integrates various aspects of one's college learning experience into a meaningful whole.

Thus Philosophy integrates a person's education by developing thinking skills and promoting a humanistic view of life. It provides the essential remedy to the danger of over-specialization.

Students who major in Philosophy are well-prepared for further study and for careers in fields which demand critical insight, value-assessment, and the ability to see things from a broader perspective. Philosophy majors find successful careers in education, managerial positions, and other people-oriented professions.

### Majors in Philosophy

Three types of major in Philosophy offer a variety of possibilities to meet differing needs of students wishing to have a strong philosophical emphasis in their education.

1. *Professional Major* (B.A.) in Philosophy: A 40 credit-hour course of study which offers an intensive concentration in philosophy. Primarily for students seeking a career in philosophy with the intention of continuing their studies in graduate school.

Required course: Phil 103, 123, 301, 371, 372, 490, plus 3 courses which are 300-level or above (exclusive of 301, 371 and 372). 101 may be counted if taken as a first course in Philosophy.

2. *Liberal Arts Major* (B.A.) in Philosophy: A 30 credit-hour program aiming at giving a broad understanding of human existence with a focus on one of three tracks:
  - 1) Humanities and Fine Arts
  - 2) Social and Behavioral Sciences
  - 3) Natural Science and Mathematics



Required courses: Phil 103 or 301, 371, 372. Also, one Ethics course (123 for HFA-track, 123, 124, 125, or 126 for SBS and NSM tracks). A minimum of 3 courses must be taken in each track. (See chairman for courses in each track.) 101 may be counted if taken as a first course in Philosophy.

3. *The Career-Related Major in Philosophy*: A 24 credit-hour program in philosophy which ties in with an interest and goals in another area, such as Business, Communication, Counseling, Education, Environmental Studies, Fine and Performing Arts, Future Studies, Journalism, Law, Life Sciences, Medical and Health Care, Ministry, Physical Sciences, Politics, Public Administration, Recreation, Social Welfare, and Technology. This is designed to be a second major, along with a B.A. or B.S. in the student's other major.

Required courses: Each area of specialization has four to five required courses. (See chairperson for courses in specific areas.)

Students seeking to identify their major in a specific department should realize that they are obligated to fulfill the requirements of that department.

## PHILOSOPHY COURSES

**Phil 101: Introduction to Philosophy** — A first encounter with the nature of philosophical thinking, in which man's view on his own nature and of the world becomes challenged, explored and deepened. (3 sem. hours)\*

**Phil 103: Introduction to Logic** — Aims at understanding the nature of conceptual thinking including the role of language, correct and incorrect ways of reasoning, and elementary techniques of modern logical analysis, as well as at the improvement of one's skill in conceptual thinking. (3 sem. hours)

**Phil 123: General Ethics** — An introduction to the study of what belongs to right action and to a life well lived. (3 sem. hours)\*

**Phil 150: Introduction to Religious Studies** — An investigation into the various structures and possible approaches to the phenomenon of religion which will include topics on the nature of religious language; the relation of religious phenomena to the structures of human existence; and the difference between the sacred and the profane. (3 sem. hours)\*

**Phil 163: Philosophy in Literature** — An examination and discussion of the philosophical content of poetry and prose of outstanding literary and philosophical merit. Course content will typically focus on a type of literature such as plays or "existentialist literature" or classical literature, etc. (3 sem. hours)\*

**Phil 221: Philosophy of Human Existence** — The task of this course is to try to understand the concrete essence of human being, first through an analysis of the foundations of technological society and then through an investigation of non-western mythologies in order to see alternatives to our own way of life. (3 sem. hours)\*

**Phil 224: Environmental Ethics** — A perspective on ethics which is modeled on the dynamics of natural processes, notably those pertaining to the Life Sciences with a view to identifying right human behavior as that which is in harmony with the behavior of the ecosystem as a whole. (3 sem. hours)\*

**Phil 225: Medical Ethics** — A course in applied ethics about the conceptual, ethical and legal dilemmas in health care practice in medical experimentation and in the institutional rights and responsibilities of practitioners and patients. Prerequisite: prefer to have majors in health care fields, social and behavioral sciences, life sciences, pre-law, pre-med, and philosophy. (3 sem. hours)\*

**Phil 226: Business Ethics** — An inquiry into the value grounds upon which the free enterprise system is based; the evolution of values related to business and economics in historical and sociological contexts; comparisons and contrasts with other value bases prevalent in the world; particular attention to ethical responsibility of business in a pluralistic, world community. (3 sem. hours)\*

**Phil 231: Individuals, Institutions and Justice** — Considers the just treatment of individuals in conflict with bureaucracies. Traditional concepts of justice are evaluated through application to current practical situations. (3 sem. hours)\*

**Phil 240: World Religion** — An examination of the principle religions of the world, which may include Hinduism, Buddhism, Jainism, Sikhism, Taoism, Shintoism, Confucianism, Zoroastrianism, Islam, Judaism, and Christianity. The list will also include a sampling of the "archaic religions" of the Americans, Africa, etc. (3 sem. hours)\*

**Phil 241: Philosophy of Religion** — Critical inquiry into the nature and validity of religious experience, its unity and variety, its relation to other human interests. (3 sem. hours)\*

**Phil 261: Philosophy of Art** — An inquiry into symbolic media as forms of communication and understanding from an analysis of materials and techniques as the elements of artistic imaginings to questions about the feelings of artists and the value of heightening the aesthetic sensibility of society. (3 sem. hours)\*

**Phil 301: Symbolic Logic** — Is concerned with a deeper understanding and mastery of logical or conceptual thinking. Through the use of special techniques of symbolization, logical questions unanswerable in ordinary language are clarified and rendered solvable. (3 sem. hours)\*

**Phil 323: Mysticism and Psychical Research** — Aims at a philosophical assessment of the methods and findings of investigations into phenomena referred to as "paranormal", including ESP, Psychokinesis, survival of death, and the mystical state of consciousness, as well as techniques claiming to lead to such phenomena. (3 sem. hours)\*

**Phil 331: Social and Political Philosophy** — Examines the difference between the classical and the contemporary mode of political philosophy with an emphasis on the political values inherent in the scientifically planned society and attendant consequences/or democratic institutions. (3 sem. hours)\*

**Phil 333: Philosophy and Alternative Futures** — An interdisciplinary approach to future projections in the major areas of human inquiry: natural, social and behavioral sciences, education, environmental studies, the arts and humanities. An examination of the philosophical assumptions underlying these projections with a view to critiquing, comparing and integrating. (3 sem. hours)\*

**Phil 337: Philosophy of History** — Considers the nature of history and its methods and aims of inquiry, and tries to show, through consideration of classical and contemporary texts, to what extent history has laws, discloses truth, and has significance for current thought. (3 sem. hours)\*

**Phil 343: Oriental Religious and Philosophical Thought** — Considers the worldview and central philosophical and religious ideas in the Far East stemming from the cultural backgrounds of Hinduism, Buddhism, Confucianism, and Taoism, as well as their significance in contemporary life. (3 sem. hours)\*

**Phil 351: Philosophy of Natural Science** — Examines in depth the nature of the natural sciences in light of their aims, methods, central concepts, limits, and relationships to other disciplines. Presupposes some familiarity with the natural sciences (at least two college courses are recommended). (3 sem. hours)\*

**Phil 371: History of Philosophy I** — A study of Ancient and Medieval Western Philosophy, designed both to show how basic questions and concepts grew, and how the works of these periods continue to provide insight and inspiration. (3 sem. hours)\*

**Phil 372: History of Philosophy II** — A study of Western philosophy from the Renaissance through the 19th century, tracing the basic concepts and problems of this period, and showing how its thinkers continue to animate our age. (3 sem. hours)\*

**Phil 373: Modern Authors and Issues** — Variable content within the modern contemporary period of philosophical thinking. (3 sem. hours)\*

**Phil 375: Existentialism and Phenomenology** — Important twentieth century philosophers will be studied in terms of their attempt to establish new approaches to philosophy and with reference to their reaction and attempt to overcome "western metaphysics". (3 sem. hours)\*

**Phil 450: Internship** — Supervised placement and research in selected public and private agencies. (3-12 sem. hours)

**Phil 490: Individual Study** — Primarily for students seeking knowledge in philosophy beyond course offerings. The student's interest will determine the topic covered. Prerequisites: 15 hours in philosophy or permission of the instructor. (1-6 sem. hours)

**Phil 498: Selected Topics** — (3 sem. hours)



# Theatre Department

Miller Auditorium, Room 301A

(412) 794-7814

Studies in theatre tap some of the deepest, most profound veins of human self-expression and convey the abiding hold this unique art form has for today's liberally-educated person. Courses in theatre history examine the communal origins of the art and explore the ways in which theatre has responded to and developed from its times. Courses in acting or in the crafts of the theatre enhance the skills of students whether they seek eventual performance careers or simply wish to be more knowledgeable audience members. Inquiry through performance of the themes and values of great dramatic literature enables students to touch directly and intimately some of the enduring ideas of civilization.

The Department of Theatre sponsors an active co-curricular production program in its two performance facilities on campus. Four more plays of wide-ranging interest are produced each academic year. The Department offers the courses listed below. Application for approval of a new major in theatre is pending. Those interested should contact the Chairperson, Department of Theatre, for current information.

## THEATRE COURSES

**Thea 131: Fundamentals of Acting** — An introduction to the theory and practice of acting, based on the analysis of the physical and emotional approach to the role. (3 sem. hours)\*

**Thea 132: Stagecraft** — Theory, practice, and peculiarities of set construction and painting. Students assist with current productions in laboratory sessions. (3 sem. hours)\*

**Thea 135: Theater Practicum** — Development of theatre production and/or performance skills through participation in college theatre productions. May be taken for one hour of credit per semester. May be repeated for maximum total credit of three semester hours. Permission of instructor required. (1-3 sem. hours)

**Thea 141: Introduction to the Theatre** — Dramatic form and structure, from Greek to contemporary theatre. This course provides the theory and criticism for theatre practice and production techniques. (3 sem. hours)\*

**Thea 231: History of Theater and Drama I** — The origin and development of the theatre from antiquity to the Elizabethan Age. Surveys theatrical forms, physical theatre, methods of production, and styles of acting as part of social and artistic milieu. (3 sem. hours)\*

**Thea 232: History of the Theatre and Drama II** — Continuation of Thea 231 from the Jacobean Age to the present. May be taken separately. (3 sem. hours)\*

**Thea 233: Costuming** — The design, history, and construction of costumes, for educational or commercial theatre. Practical application of this knowledge is made in college productions. Prerequisite: Comm 132. (3 sem. hours)

**Thea 234: Make-Up** — Theory, practice, and materials of stage and television make-up. Practical application is mandatory and extensive; students will assist with current productions. Prerequisite: Thea 132 or permission of instructor. (3 sem. hours)

**Thea 237: Fundamentals of Directing** — The theory and practice of all phases of play production, with emphasis on the direction of the play. (2 sem. hours)\*

**Thea 238: Applied Directing** — The practical application of all phases of play production, with emphasis on the direction of the play. Prerequisite: Thea 237. (1 sem. hour)

**Thea 321: Shakespeare for the Actor** — The techniques of analysis and skills of acting applied to the literature of Shakespeare. Traditional and current styles of presentation with both individual and ensemble performances. Prerequisite: Thea 131 or permission of instructor. (3 sem. hours)

**Thea 331: Development of the American Theatre and Drama** — The development of American theatre and drama from their beginnings in Colonial times to the present day. (3 sem. hours)\*

**Thea 333: Scene Design** — The principles and application of design for stage, emphasizing sketches, diagrams, and model making. Prerequisite: Thea 132 or permission of instructor. (3 sem. hours)

**Thea 334: Stage Lighting** — The theory and application of stage lighting as practiced in modern schools and theatre, with application of current college productions. Prerequisite: Thea 132 or permission of instructor. (3 sem. hours)

**Thea 338: Advanced Acting** — The psychology of acting; methods of preparing a role; acting techniques for period plays such as Aristophanes, Shakespeare, Moliere. Lecture, demonstrations, and laboratory exercise. Prerequisite: Thea 131. (3 sem. hours)

**Thea 341: Creative Dramatics and Storytelling** — The technique and practice of storytelling, dramatic play, and dramatization primarily for the elementary teacher with creative possibilities in playwriting for the speech and English fields. (3 sem. hours)\*

**Thea 343: Dramatics in Recreation** — The basic principles of dramatic activities in the community recreation program including the establishment and administration of the community theatre, playground dramatic activities, and children's theatre. (3 sem. hours)

**Thea 361: Stage Dialects** — The study of sound-recognition, production, and vocal patterns as used in the predominant stage dialects of the world. A project of individual performance in a dialect role is required. Prerequisite: Comm 103. (3 sem. hours)

**Thea 431: Theatre Management** — Operational procedure for theatre, including fundamental structuring (administration, purchasing, accounting practices, ticket sales, promotion and public relations) and house management (box office and ushering). (3 sem. hours)





## SCHOOL OF NATURAL SCIENCES AND MATHEMATICS

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The School of Natural Sciences and Mathematics offers a wide range of programs leading to employment at the bachelor's level and/or entrance into graduate or professional school. Curricula in the school provide a broad, liberal education core and specialization in one or more areas.

Undergraduate instruction in the School of Natural Sciences and Mathematics is offered in six departments: Biology, Chemistry, Computer Science, Mathematics, Geology, and Physics. The Bachelor of Arts or Bachelor of Science degree may be earned in all departments. Curricula resulting in the above degrees differ somewhat between departments and are described at length.

Special multidisciplinary programs in the School include pre-medical, pre-dental, pre-para-medical, and other pre-health professions as well as a pre-engineering option. These programs are all acceptable for admission to the related professional school.

Participation in the Marine Science Consortium provides the School with a program of interest for those students inclined toward oceanographic pursuits. Degrees may be obtained from any Natural Science department with a concentration in marine science. Courses in the marine sciences are listed in the Special Programs section of the catalog. The School also has a three-year program in medical technology which a student may follow and qualify for in-hospital training during the fourth year. This program, too, is explained in the catalog's Special Programs section.

Finally, the School offers a career oriented major which is very popular: an interdisciplinary major in Environmental Science (see Special Programs section of this catalog).

The School is extremely proud of its programs and its commitment to the student through vigorous programs of individual faculty advisement, personal attention in small classes and extra-curricular activities such as science clubs and lecture/seminars. There is also a program in which science students live together in one dormitory, having a supportive study environment, science counselors, special programs, and close associations with students having mutual interests. The laboratories and classrooms in the School of Natural Sciences and Mathematics are among the best equipped in the United States. The faculty is dedicated and highly trained, combining to offer one of the best educational experiences available anywhere.

## Biology Department

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Vincent Science Hall, Room 123

(412) 794-7296

Biology introduces the student to basic biological principles at the cellular, organismal, and population levels. The program provides either breadth of training in the biological sciences or concentration in botany or zoology. With guidance, sequences of courses can be arranged which will prepare students for graduate work, industry, teaching, professional schools and further training in schools of allied health.

### **Bachelor of Arts degree in Biology**

Specialization: Biology

Required courses:

Biology (31 semester hours)

Biol 104, 201, 212, 250

Chemistry (16 semester hours)

Chem 107, 108, 111, 112 and 201, 202, 211, 212  
or Chem 200, 211, 260, 261

Mathematics (3 semester hours)

Math 125 or 225

Specialization: Cytotechnology

Required courses:

Biology (23 semester hours)

Biol 108, 210, 212, 250, 335, 353, 470

Chemistry (16 semester hours)

Chem 107, 108, 111, 112, 200, 211, 260, 261

Mathematics (3 semester hours)

Math 125 or 225

### **Bachelor of Science degree in Biology**

Specialization: Biology

Required courses:

Biology (39 semester hours)

Biol 104, 201, 212, 250, 330, 401

Three semester hours from Biol 410, 451

Three semester hours from Biol 340, 343, 465, 470

Chemistry (19 semester hours)

Chem 107, 108, 111, 112, 201, 202, 211, 212, plus  
three semester hours beyond 202

Mathematics (7 semester hours)

Math 225, CpSc 161 or Biol 460

Physics (7 semester hours)

Phys 211, 213



**Specialization: Perfusion Technology****Required courses:**

Biology (20 semester hours)

Biol 108, 210, 212, 250, 410 and 335 or 353 or 470

Chemistry (19 semester hours)

Chem 107, 108, 111, 112, 201, 202, 211, 212, 260

Mathematics (3 semester hours)

Math 225

Physics (10 semester hours)

Phys 211, 213, 260

**Bachelor of Science degree in Medical Technology****Specialization: Medical Technology****Required courses:**

Biology (23 semester hours)

Biol 108, 210, 212, 213, 214, 215, 250, 410

Chemistry (17 semester hours)

Chem 107, 108, 111, 114, 200, 211, 260, 261

Mathematics (3 semester hours)

Math 123

**BIOLOGY COURSES**

**Biol 100: Introductory Biology Laboratory** — Science processes and basic biological concepts are the focal points for the laboratory activities. This laboratory is designed for non-biology majors who are enrolled in Biol 101, 102, or 105. (1 sem. hour)\*

**Biol 101: General Biology** — A principles course in biology, designed for non-majors which emphasizes cellular structure and function, Mendelian and molecular genetics, reproduction, and classic and modern concepts of ecology and evolution. (3 sem. hours)\*

**Biol 102: Human Biology** — This non-major course considers the human as a whole organism, with emphasis on the interrelationships of organ systems, the relationship to the environment, and human origins and genetics. (3 sem. hours)\*

**Biol 104: Principles of Biology** — A laboratory and lecture course that emphasizes basic biological principles that will prepare the student for subsequent sequential courses required of biology majors. Prerequisite: None. (4 sem. hours)\*

**Biol 105: Environmental Biology** — A non-majors course which provides an introduction to ecological principles and concepts with an examination of the biological basis of contemporary environmental problems. (3 sem. hours)\*

**Biol 106-107: Anatomy and Physiology** — A sequence of courses designed for health science majors which surveys the normal structure and function of the human body. Biol 106 is a prerequisite for 107. (3 sem. hours)\*

**Biol 108: Allied Health Anatomy and Physiology** — This course and laboratory serves as the introductory course for Medical Technology students. It consists of an intensive survey of the human systems with emphasis upon normal structure and function. In certain instances, pathologies and clinical applications are included. (4 sem. hours)

**Biol 115: Biology of Sex** — A study of sexual reproductive processes as biological mechanisms in man and other animals, with emphasis on anatomical and functional relationships. (Non-major, will stress many of the economic and practical aspects of plants. It will also cover historical insights concerning the impact plants have had on world exploration, colonization, etc. Prerequisite: None. (3 sem. hours)\*

**Biol 201: General Botany** — Basic biochemical, morphological and physiological aspects of plant biology as they relate to evolution. Prerequisite: Biol 101 or 104. (4 sem. hours)\*

**Biol 207: Land Plants and Their Environment** — A survey of common plants with emphasis on identifying trees and shrubs. An introduction to plant anatomy and functions as these topics pertain to woody plants is included. (Non-majors course) (3 sem. hours)\*

**Biol 208: Introduction to Wildlife Management** — Basic ecological principles with emphasis on the taxonomy and life histories of vertebrate animals. (Non-majors course) (3 sem. hours)\*

**Biol 210: Medical Microbiology** — The study of pathogenic microorganisms to include taxonomy, structure, biological activities, host defense mechanisms, disease transmission and disease states. (Not for biology majors) Prerequisite: 3 hours of Biology (3 sem. hours)\*

**Biol 212: General Zoology** — The anatomy, physiology, ecology and economic importance of representative animals with emphasis on the understanding of development and the evolutionary blueprint of the animal kingdom. Prerequisite: Biol 101, 102 or 104. (4 sem. hours)\*

**Biol 213: Medical Immunology** — A lecture and laboratory course for medical technology majors which emphasizes immunological techniques of medical importance. Prerequisite: Biol 210. (1 sem. hour)

**Biol 214: Medical Parasitology** — A lecture and laboratory course for medical technology majors which emphasizes the protozoans and metazoa of medical importance. Prerequisite: Biol 210. (1 sem. hour)

**Biol 215: Medical Mycology** — A lecture and laboratory course for medical technology majors which emphasizes the fungi of medical importance. Prerequisite: Biol 210. (1 sem. hour)

**Biol 225: Human Physiology** — This non-major course considers functions of the human organ systems and their roles in maintaining homeostasis. Prerequisite: Biol 101 and a Chemistry course. (3 sem. hours)\*

**MarSci 241: Marine Biology** — A study of plant and animal life in the marine environment. (Offered each summer at the Marine Science Center, Wallops Island, VA.) (3 sem. hours)\*

**Biol 250: Genetics** — Mendelian inheritance, linkage and crossing over, determination of sex, random assortment, probability, and cellular phenomena are considered. Prerequisite: Biol 101, 102, or 104. (3 sem. hours)\*

**Biol 304: Applied Microbiology** — The study of those aspects of microbiology which directly affect human affairs with special attention given to environmental protection, agriculture, food technology and public health. Prerequisite: Biol 210. (3 sem. hours)

**Biol 305: Aquatic Plants** — The identification of their importance as indicator organisms. (Non-majors course) (3 sem. hours)

**Biol 306: Aquatic Animals** — The identification and qualifications of fish, zooplankton and benthos organisms, with emphasis placed on the productivity of aquatic animals and their importance as indicator organisms. (Non-majors course) (3 sem. hours)

**Biol 311: Entomology** — Insects, including their taxonomy, structure, function, ecology and economic importance. Prerequisite: Biol 212. (3 sem. hours)

**Biol 320: Ornithology** — Anatomy, physiology, taxonomy, ecology and behavior of birds. Two weekend field trips are required. Prerequisite: Biol 212. (3 sem. hours)

**Biol 330: Microbiology** — A consideration of the structure, metabolism, growth and genetics of microorganisms with emphasis placed on bacteria and viruses. Prerequisites: Biol 250 and Chem 200 or 201. (3 sem. hours)

**Biol 335: Cell Biology** — Lecture and laboratory investigations of the molecular basis for cellular structure and function. Prerequisites: Biol 250 and Chem 201. Topics include surface and internal membranes, energy conversions, elements of cytoskeleton, and cell-cell communication strategies. (3 sem. hours)

**Biol 340: Vertebrate Anatomy** — A comparative study of the adult structure of the various organs and systems of representative vertebrates. Laboratory included. Prerequisite: Biol 212. (3 sem. hours)

**Biol 343: Embryology** — Developmental processes of vertebrate embryology. A comparative study of gametogenesis, fertilization, cleavage, gastrulation, organogenesis and embryonic adaptations. Prerequisite: Biol 340 or consent of instructor. (3 sem. hours)



**Biol 353: Cytology** — The structure and function of the cell with emphasis on the nucleus. Topics include the cytoplasm and its organelles and the cellular, molecular and chromosomal bases of cytogenetics. Prerequisite: Biol 250. (3 sem. hours)

**Biol 355: Field Ecology** — The application of basic ecological principles and field techniques to ecosystems found in the northeastern United States. Extensive field work is required of the student. (Not for biology majors) Prerequisite: 1 course in basic biology. (3 sem. hours)

**Biol 360: Field Botany** — A field course covering the flora of Western Pennsylvania, designed to prepare students with a basic knowledge of the native plants, as well as some cultivated forms. Prerequisite: Biol 201. (3 sem. hours)

**Biol 368: Phycology** — Morphological, ecological and physiological attributes of the algal divisions will be presented. Special study related to the groups commonly found in local freshwater streams, with pollution indicator species being studied, will be undertaken. Prerequisite: Biol 201. (3 sem. hours)

**Biol 371: Vertebrate Field Zoology** — Taxonomy, life histories and ecological relationships of representative vertebrates are stressed. Several field trips are required. Prerequisite: Biol 212. (3 sem. hours)

#### **Biol 390: Selected Topics in Biology**

**Biol 401: Ecology** — Emphasis is placed on the structure, composition and dynamics of ecosystems. Lab work primarily consists of field studies. Prerequisite: Biol 201, 212 or comparable courses. (3 sem. hours)

**Biol 410: Animal Physiology** — Basic animal physiological processes, including a synthesis that begins at the molecular level and moves to the more complex cellular and organismal levels. Prerequisite: Biol 212 or Chem 201. (3 sem. hours)

**Biol 416: Animal Parasitology** — The physiology, evolution, ecology and systematics of parasites are discussed in general as well as the morphology, life histories, and the recognition and identification of representative forms. Prerequisite: Biol 212. (3 sem. hours)

**Biol 451: Plant Physiology** — A lecture-laboratory study of the functional relationships of the plant body including such topics as nutrition, water relations, photosynthesis, photoperiodism, hormones, and growth processes. Prerequisite: Bio, 201 and Chem 201. (3 sem. hours)

**Biol 460: Biometry** — An introduction to statistical techniques and experimental design as applied to biological problems. Descriptive methods, tests of significance, linear regression, correlation, analysis of variance and covariance, and non-parametric techniques are included. (3 sem. hours)

**Biol 465: Plant Anatomy** — A macroscopic and microscopic study of vascular plants, emphasizing the origin, development, evolution and function of plant tissues and structures. Prerequisite: Biol 201. (3 sem. hours)

**Biol 470: Histology** — Microscopic structure and arrangement of tissues in multicellular organisms. Prepared microscopic slides of representative animal organs are studied. Prerequisite: Biol 212 or consent of instructor. (3 sem. hours)

**Biol 490: Special Problems in Biology** — Independent research under the guidance of a faculty member. (1-3 sem. hours)

**Biol 491-492: Seminar** — For junior and senior biology majors — Each semester a different area of current research interest is chosen for study. (1 sem. hour each)

**Biol 510: Taxonomy of Vascular Plants** — Major groups of vascular plants with emphasis on taxonomic methods of analysis and family relationships. Prerequisite: Biol 201. (3 sem. hours)

**Biol 550: Evolution** — Stresses evolution as a process. Evidence of early theories, population genetics and ecology, modern synthetic theory, speciation, phylogeny, and the major features characteristic of organic evolution are included. Prerequisite: Biol 201, 212, 250. (3 sem. hours)

# Chemistry Department

Vincent Science Hall, Room 329

(412)794-7786

A chemistry major studies the characteristics and interactions of matter in depth, aiding the development of a rational perspective toward chemical information, technology, and societal problems. Upon graduation, the student may pursue further education in chemistry, chemical engineering, medicine, dentistry, or related health professions or directly enter industry, government, or secondary education. Approximately half of all chemistry graduates enter non-laboratory careers, such as science writing, sales, library science, patent law, market research, corporate management, plant production and safety and computer science.

## Bachelor of Arts degree in Chemistry

Specialization: Chemistry

Required Courses:

Chemistry (31 semester hours)

Chem 107, 108, 111, 114, 201, 202, 211, 212, 301, 302, 321 322, 491  
and three semester hours from Chem 420, 425, 442

Mathematics (8 semester hours)

Math 225, 230

Physics (11 semester hours)

Phys 211, 212, 213

## Bachelor of Science degree in Chemistry

Specialization: Chemistry

Required Courses:

Chemistry (44 semester hours)

Chem 107, 108, 111, 114, 201, 202, 211, 212, 301, 302, 321 322,  
420, 421, 422, 425, 442, 451 and 491

Mathematics (11 semester hours)

Math 225, 230, 301

German or Russian (9 semester hours)

Germ 101, 102, 103 or Russ 101, 200, 200

## CHEMISTRY COURSES

**Chem 100: Preparatory Chemistry** — Placement testing and/or department advisement are necessary for course registration of student lacking the skills for successful general chemistry study. (3 sem. hours)

**Chem 103: Elements of Chemistry** — Principles of inorganic, organic and physiological chemistry appropriate for students in the Health Sciences. (3 sem. hours)\*

**Chem 105: Contemporary Chemistry** — Designed for the non-science major. A study of the fundamental principles and basic concepts of chemistry and the impact of chemistry on society. (3 sem. hours)\*

**Chem 107: General Chemistry I** — Emphasizes problem solving particularly with regard to stoichiometry and solution composition. Other topics explain the properties and transformations of materials in terms of the accepted theories of atomic structure, chemical bonding and intermolecular forces. (3 sem. hours)\*

**Chem 108: General Chemistry II** — A continuation of Chem 107 with emphasis on chemical equilibria, ionic dissociation, chemical kinetics and thermodynamics. Prerequisite: Chem 107. (3 sem. hours)\*

**Chem 110: Contemporary Chemistry Laboratory** — Laboratory to accompany Chemistry 105 providing basic chemistry and environmentally related experiences. One two hour laboratory per week. Prerequisite: Chem 105 or 103 concurrent or previous registration. (1 sem. hour)\*



**Chem 111: General Chemistry I Laboratory** — A laboratory to accompany Chem 107. Laboratory experiments are designed to develop basic laboratory skills and concepts. Prerequisite: Concurrent registration in Chem 107. (1 sem. hour)\*

**Chem 112: General Chemistry II Laboratory** — A laboratory to accompany Chem 108. Laboratory experiments illustrate the concepts of General Chemistry II. Prerequisite: Chem 111 and concurrent registration in Chem 108. (1 sem. hour)\*

**Chem 114: Introductory Analytical Chemistry Laboratory** — A laboratory to accompany Chem 108. A thorough introduction to the techniques of volumetric and gravimetric analysis plus much of the laboratory experience of Chem 112. Consists of six hours of laboratory per week. Prerequisite: Chem 111 and concurrent registration of Chem 108. (2 sem. hours)\*

**Chem 200: Fundamentals of Organic Chemistry** — A one semester introductory course which covers the most commonly encountered properties of the major families of organic compounds. The course is designed for those students pursuing a B.S. in Medical Technology, a B.A. in Biology or a B.S. in Education in Biology. Not equal to Chem 201. Prerequisite: Chem 108. (3 sem. hour)\*

**Chem 201-202: Organic Chemistry I and II** — Modern theories relating molecular structure to chemical reactivity are stressed. Elucidation of molecular structure by infrared, ultraviolet, nuclear magnetic resonance and mass spectroscopy is also covered. Prerequisite: (1) For Chem 201: Chem 108; (2) For Chem 202: Chem 201. (3 sem. hours)

**Chem 211-212: Organic Chemistry Laboratory I and II** — A laboratory course in which students employ the synthetic techniques and analytical procedures of organic chemistry. Prerequisite: (1) For Chem 211: Chem 112 or 114 and concurrent registration in Chem 200 or Chem 201. (1 sem. hour)\* or (2) For Chem 212: Chem 211 and concurrent registration in Chem 202. (1 sem. hour)\*

**Chem 240: Industrial Hygiene** — Industrial hygiene requirements to preserve worker health and safety will be assessed. Prerequisite: two semesters of chemistry and a general knowledge of human anatomy and physiology or permission of instructor. (3 sem. hours)

**Chem 270: Industrial Chemistry** — A study of industries with emphasis on economic, technical, and possible ecological factors determining process design. Including on-site lectures and discussions of various industries in the area. Prerequisite: Chem 108 and 112 or 114. (3 sem. hours)\*

**Chem/Phys 301: Thermodynamics** — Thermodynamics as applied to chemical and physical systems. Prerequisites: Chem 108, Phys 212, Math 230. (3 sem. hours)

**Chem 302: Physical Chemistry** — Introduction to rate processes and Quantum Mechanics. Prerequisites: Chem 301, Phys 212, Math 230. (3 sem. hours)

**Chem 315: Lab Data Systems** — Students will use selected examples of data collection devices ranging from mechanically, manual comparative devices to automated electrical sensing devices interfaced with data management stations as means of gathering and analyzing data. Minimum prerequisite: a command of algebra and logic, one semester of college physics, two semesters of college chemistry. (4 sem. hours)

**Chem 321: Physical Chemistry Laboratory I** — Principles from Physical Chemistry I lecture will be employed in the laboratory for determining and relating physical properties such as viscosity, surface tension, boiling and freezing points to the identity and composition of chemical substances. Concurrent registration: Chem 301. (1 sem. hour)

**Chem 322: Physical Chemistry Laboratory II** — Applied principles from Physical Chemistry II lecture will be used for interpreting results from experiments involving kinetics, equilibria, and spectrophotometric data. Concurrent registration: Chem 302. (1 sem. hour)

**Chem 335: Biological Chemistry** — Investigates the basic theme of intermediary metabolism. A background for this study is gained through study of the chemistry of cellular constituents. Prerequisite: Chem 200 or 202. (3 sem. hours)\*

**Chem 336: Experimental Biological Chemistry** — A laboratory course in which the student uses techniques employed in biochemical investigations. Prerequisite: Chem 211 and concurrent registration in Chem 335. (1 sem. hour)\*

**Chem 340: Air Pollution Chemistry and Engineering** — A study of the quality of the air environment. Air quality assessment and potential problems will be examined both in lecture discussions and in laboratory or field situations. (Includes ambient air testing.) Prerequisite: Geol 121, Chem 270, or permission of instructor. (4 sem. hours)

**Chem 370: Water Pollution** — Water quality assessment and water quality problems will be examined both in lecture discussions and in laboratory or field situations. There are three hours of lecture and three hours of laboratory per week. Prerequisite: Chem 270 or permission of instructor. (4 sem. hours)

**Chem 420: Analytical Chemistry** — Lecture combines the basic principles of chemistry with consideration for problem solving and traditional, separation, and instrumental methods of analysis in three hours of weekly lecture. Prerequisite: Chem 301, registration in Chem 201, or consent. Offered in alternate years. (3 sem. hours)

**Chem 421: Analytical Chemistry Laboratory** — A three hour per week laboratory accompanying Chem 420. Participants will develop and utilize strategies for choosing and completing analyses of chemical systems. Concurrent registration: Chem 420. (1 sem. hour)

**Chem 425: Instrumental Analysis** — A lecture course to introduce the student to the theory, advantages, disadvantages, limitations, and power of contemporary chemical instrumentation, including computer methods in three hours of weekly lecture. Prerequisite: Chem 301, concurrent registration in Chem 301. Offered in alternate years. (3 sem. hours)

**Chem 426: Instrumental Analysis Laboratory** — A three hour per week laboratory accompanying Chem 425. Instrumentation and computing technology will be applied to quantitative and qualitative problems of chemistry. Concurrent registration: Chem 425 and knowledge of a computer language. (1 sem. hour)

**Chem 430: Industrial Pollution Control Engineering** — Economic and technical problems will be discussed as related to the abatement of harmful discharges from industrial sources. Systems analysis will be employed in the examination of engineering solutions in the physical or chemical treatment of discharge. Three hours of lecture per week or a field trip. Prerequisite: Chem 340, 370, or permission of instructor. (3 sem. hours)

**Chem 442: Inorganic Chemistry** — A lecture course covering atomic structure, bonding, and properties of inorganic materials. Coordination chemistry and other topics of current research interest are covered. Prerequisite: Chem 302 or concurrent registration. Offered in alternate years. (3 sem. hours)

**Chem 451: Qualitative Organic Analysis** — A laboratory course in organic chemistry in which various unknown compounds are identified by chemical and instrumental methods. Consists of one lecture hour and six laboratory hours per week. Prerequisites: Chem 202, 212, 302. (3 sem. hours)

**Chem 460: Polymer Chemistry** — A one semester introductory course which covers the synthesis, kinetics, properties and applications of various polymers. Prerequisite: Chem 202, 302, or instructor's permission. (3 sem. hours)

**Chem 490: Independent Study** — Independent research under the guidance of a faculty advisor. (1-3 sem. hours)

**Chem 491: Chemistry Seminar** — A course intended to provide junior and senior chemistry majors the opportunity to present reports and to lead discussions in selected areas of the field. (1 sem. hour)

**Chem 498: Selected Topics** —

## Computer Science Department

Vincent Science Hall, Room 226

(412)794-7133

The Computer Science program emphasizes modern *scientific* approaches to programming and computation. Theoretical subjects are included when they have high practical relevance, as well as for essential conceptual foundations.

Computer Science majors are offered an entrance to all facets of the dynamic computer field. The degree offers a solid preparation for graduate study in computer science or applied areas involving computing.



**Bachelor of Science degree in Computer Science**

Specialization: Computer Science (44 semester hours)

Computer Science 171, 260, 262, 271, 274, 350, 374,

Mathematics 225, 230, 307, and nine hours of computer science electives (three of which may be replaced by Mathematics 222, 309 or 315) from 170 or 172, 265, 275, 366, 375, or 393.

**COMPUTER SCIENCE COURSES**

**CpSc 151: Computer Concepts** — An introductory survey of computers and their impact on society. A limited introduction to programming in BASIC will be included. Specific attention will be given to BASIC on personal computers, including sound and graphics primitives typically provided. May not be taken after, or with, a higher numbered course in Computer Science. Not recommended for anyone intending to take any other Computer Science course. (3 sem. hours)\*

**CpSc 160: Introductory Programming and Information Systems** — An introductory course devoted about equally to programming and fundamental computer system concepts. Included among these are hardware, system software, and the nature and use of programming languages in computing and information systems. Interactive and batch procedures and programming are studied. It may not be taken after a higher numbered course in Computer Science. (3 sem. hours)\*

**CpSc 161: FORTRAN** — A programming skills course with the major scientific and engineering computer language: standard FORTRAN. A modest introduction to BASIC is included as are FORTRAN files and character manipulation. Although standard FORTRAN is taught, much of the course uses a modern structured dialect embodied in a teaching computer. There is no formal prerequisite, but some facility in logical organization of programs is required. (3 sem. hours)\*

**CpSc 162: COBOL** — A programming skills course in the major business data processing computer language: standard COBOL. Although introductory, course work goes through file manipulation techniques and external subprograms. There is no formal prerequisite, but some facility in logical organization of programs is required. (3 sem. hours)\*

**CpSc 170: Small Computer Languages** — A study of one or two programming languages of particular importance for single-user computers. Object oriented languages, stack languages, implementation languages, graphics languages, and other special languages may be selected as the specific focus of the course. The idioms of the language, data, control, and other objects and methods, are always the object of study. Small computer systems, and emulation on the University mainframe, are employed to provide practical programming experience. Languages used as the focus of study have included C, Fort, Logo, Mouse, Smalltalk, B, Edison, and ICON. Prerequisite: permission of instructor. (3 sem. hours)

**CpSc 171: Modern Imperative and Procedural Programming** — Systematic development of clear, correct elementary programs; the Pascal programming language including data types, assignments, decisions, procedures, transput, program test, and debugging. Prerequisite: CpSc 160 or consent of instructor. (3 sem. hours)\*

**CpSc 172: Functional Programming** — Programming by application of functions is studied. A specific implementation is provided and used to provide concrete laboratory examples. Specific languages used are typically LISP-like. Critical comparison and discussion of functional and imperative programming are encouraged. Prerequisite: permission of instructor. (3 sem. hours)

**CpSc 173: Logic Programming** — Transformation of programming into the form of logical inferences. Use of, and practice with, this paradigm in the Prolog language. Comparison to other languages such as Flavors, Lisp, and Smalltalk, that impinge on the same ideas. Applications of Logic Programming in Expert Systems, Data Bases, and Natural Language Understanding. Prerequisite: CpSc 171 or permission of Instructor. (3 sem. hours)

**CpSc 174: ADA Programming** — A thorough treatment of the U.S. Department of Defense standard language ADA. Programming in ADA will be studied by means of graduated examples and constant laboratory practice. Newer ADA concepts, including packages, concurrency, generics, and exceptions will be emphasized. Prerequisites: CpSc 171 or permission of instructor. (3 sem. hours)

**CpSc 200: Applied Advanced Programming** — This is a language independent, practical advanced programming course. Practical methods of searching, sorting, character string, and word processing will be covered. Good programming style and use of pre-written programming tools will also be covered. A substantial individual programming project applying course principles in a subject area important to the student is required. Prerequisites: CpSc 160, 161, 162 or 171 or consent of instructor. (3 sem. hours)\*

**CpSc 201: Elementary File Processing** — An elementary and practical study of information storage and retrieval using computer data files. The fundamental methods of B-trees and indexed organization are emphasized and exemplified. All required programming, as well as class discussion, is done using BASIC. A project on indexed or B-tree storage and retrieval is required; typically this will be done on microcomputers. Other languages and computers may be selected with approval of instructor. Prerequisites: CpSc 160 or permission of instructor. (3 sem. hours)

**CpSc 260: Fundamental Structures of Computer Science I** — A deeper study of programming centering on algorithms, their interaction with data structures, and programming disciplines such as structured programming. Prerequisite: CpSc 171 and Math 121 or consent of instructor. (3 sem. hours)

**CpSc 261: Programming Languages** — Programming languages studied from the viewpoint of users. Features of common languages are surveyed along with developments in newer languages. The goal is deeper understanding of computer languages. Topics include compilation, interpretation, microcoded support, stack machines, data types, data structures, control mechanisms, conversions, storage management, reliability, probability, modularity, interfaces, documentation, implementation methods, and language extensibility. Prerequisite: CpSc 161 or 171. (3 sem. hours)

**CpSc 262: Fundamental Structures of Computer Science II** — A continuation of CpSc 260. Prerequisite: CpSc 260 or consent of instructor. (3 sem. hours)

**CpSc 265: Data Base Systems** — Comprehensive information systems are contrasted with file processing. Redundancy, security and program independence are studied in information systems. Logical and physical design principles are contrasted. CODASYL proposals and existing data base languages are surveyed. Programming is done in an illustrative data base language. Prerequisite: CpSc 160, 161 or 171. (3 sem. hours)

**CpSc 274: Assembly Language and Machine Organization** — Computer instruction sets, organization and elementary architectural features are studied and used via programming in symbolic machine language. Work centers on the Computer Center's mainframe system, but small systems are available to interested students. Prerequisite: CpSc 260 or permission of instructor. (3 sem. hours)

**CpSc 275: Simulation** — Models of real-life phenomena are programmed in GPSS. These are run and adjusted for accurate prediction and explanation. Other simulation languages are surveyed and needed statistical background is reviewed. One prior computer science course, 160 or above, is a prerequisite. (3 sem. hours)

**CpSc 283: Computers in Education** — A survey of ways computers are used in education, with emphasis on secondary education. Practical work in computer-aided instruction will be provided. One prior computer science course, 160 or above, or progress in an education program is required. (3 sem. hours)

**CpSc 330: Introduction to Computer Graphics** — This course introduces basics of interactive computer graphics including software and hardware requirements for computer graphics systems, graphics data structures, algorithms and programming languages, raster and random display devices, graphics applications. Students will work with dedicated graphics computers in completing laboratory exercises and course projects. (3 sem. hours)

**CpSc 350: Principles of Concurrent Programming and Operating Systems** — An introduction to operating systems with emphasis on fundamental principles. These include store management, processor management, file systems, and transport. Half of the course is dedicated to languages and principles for concurrency. Laboratory exercises are assigned using a language in the ADA tradition, that supports concurrency. Distributed and "real time" illustrations are used as well as standard operating system illustrations. Prerequisites: CpSc 262 and 274. (3 sem. hours)

**CpSc 366: Small Computer Systems** — Minicomputers and microcomputers are studied with emphasis on systems programs, small system architecture, Interactive Graphics, and real-time applications. Laboratory projects using the small systems in the department are an integral part of the course. Prerequisite: CpSc 350. (3 sem. hours)

**CpSc 374: Compiler Design and Implementation** — Introduction to language translation. Topics include specification of languages and its relation to automata, lexical analysis, finite state machines, context free languages, syntax-directed translation, top-down and bottom-up methods, ad hoc methods, compiler diagnostics and error recovery, basic code generation, implementation languages and portability. Prerequisite: CpSc 293. (3 sem. hours)

**CpSc 375: Computer Architecture** — A mathematical study of computing foundations, including what can and cannot be effectively computed. Topics include algorithmic computation, classes of automata, including Turing machines, primitive recursive, recursive, and computable functions. Godel numberings, halting and decision problems. Prerequisite: CpSc 363. (3 sem. hours)



**CpSc 379: Artificial Intelligence** — A survey of Artificial Intelligence topics including, heuristic programming, search techniques, knowledge representation, expert systems, vision and speech in automators, pattern recognition, and robotics. Prerequisites: CpSc 172, 261, 262. (3 sem. hours)

**CpSc 393: Analysis of Algorithms** — An advanced study of algorithms and data structures. Analysis of algorithms, space and time complexity, and the NP classes will be considered. Significant illustrative individual or group programming projects are required. Examples may be drawn from heuristic programming, encipherment, natural language processing, object code generation, combinatorial analysis, graphics, robotics, relational databases, or other algorithmic issues of current importance. Prerequisites: CpSc 262 or permission of instructor. (3 sem. hours)

**CpSc 460: Senior Seminar in Computer Science** — Topics are selected from current literature concentrating in Programming Methodology and Program correctness. (1 sem. hour)

**CpSc 490: Independent Study** — Supervised study in a special interest area. Prerequisites: two computer science courses selected from 260, 274, 293, consent of instructor, and approval of chairperson. (1-3 sem. hours)

**CpSc 498: Topics in Computer Science**

## Geology Department

Vincent Science Hall, Room 225C

(412)794-7303

The student in geology gains an understanding of the various terrestrial processes and features (mountains, oceans, volcanoes, glaciers), the immenseness of geologic time, the history of the earth and organisms that inhabited it (fossils), the importance of natural resources in the development of civilization, the exploration and exploitation of the earth's mineral wealth, and the close relationship of geology to the total environment.

Demand for the professional geologist comes from the needs of oil, gas and mining companies, engineering and environmental firms, geological surveys, state and national parks, museums, conservation agencies, planning commissions and teaching institutions. Completion of the four-year curriculum in geology offers the basis for entry to graduate schools or for employment as a geologist.

Students who intend to enter graduate school in geology or seek geologic employment in industry or government upon graduation are encouraged to elect the B.S. curriculum. Students who wish to combine interests in geology and other fields such as business, recreation, environmental studies, language, or other areas, are encouraged to elect the B.A. curriculum. The B.S. curriculum emphasizes a wide range of geologic knowledge and has fewer electives; the B.A. curriculum emphasizes a minimum number of basic geology courses, with options for electives in other areas. The department also offers minors in geology and in meteorology.

### Bachelor of Arts degree in Geology

Specialization: Geology

Geology (24 semester hours)

Geol 101, 111, 102, 112, 201, 241, 271, 272 and eight semester hours of geology electives

Chemistry (8 semester hours)

Chem 107, 108, 111, 112

Minor (15 semester hours minimum)

**Bachelor of Science degree in Geology**

Specialization: Geology

Required courses:

Geology (specifically required) (32 semester hours)

Geol 101, 111, 102, 112, 271, 272, 291, 292, 327, 328 Geology (electives) (13 semester hours — 7 hours must be at 400-level or higher)

Geol 231, 242, 242, 360, 445, 451, 452, 453, 475, 476 530, 550, 561

Geology Field Camp (at an approved station) (4 semester hours minimum)

Chemistry (8 semester hours)

Chem 107, 108, 111, 112

Mathematics and Computer Science (14 semester hours)

Math 114, 225, 230; CpSc 160 or 161

Modern Language (0-9 semester hours) (proficiency through the 103 level in a given foreign language)

Physics (6 semester hours minimum)

Phys 201 or 211 and 202 or 213

Minor in Geology (17 semester hours minimum)

Required courses:

Geology (specifically required)

Geol 101, 102, 111, 112

Geology electives

a. At least three semester hours of geology at a level of 200 or above.

b. At least six semester hours of geology at a level of 300 or above.

Note: Electives should be chosen only after consultation with the chair person of the Department of Geology to be sure **all** pre-requisites are met.

Minor in Meteorology (18 semester hours)

Required courses:

Geology (specifically required) (12 hours)

Geol 121, 221, 340, 360

Geology electives (6 semester hours)

Choice A: Geol 131, 450 (3 semester hours)

Choice B: Geol 450 (6 semester hours)

**GEOLOGY COURSES****Geol 101: Physical Geology** — emphasis is placed upon those processes acting to create earth materials, landforms, and structures in and on the earth. Three lectures per week. (3 sem. hours)\***Geol 102: Historical Geology** — The evolutionary history of the earth and its life. Three lectures per week. Two Saturday field trips required. Prerequisite: both Geol 101 and concurrent registration in Geol 112. (3 sem. hours)\***Geol 111: Physical Geology Lab** — Complement to Geol 101; laboratory studies of minerals, rocks and maps illustrate the concepts of Geol 101. Two hours of lab per week. Prerequisite: Geol 101 must be taken prior to or concurrently. (1 sem. hour)\***Geol 112: Historical Geology Lab** — Complement to Geol 102; introduction to fossils, interpretation of geologic maps, and principles used in historical geology. A two-hour lab per week. Prerequisite: Geol 111, Geol 102 must be taken prior to or concurrently. (1 sem. hour)\***Geol 121: Meteorology** — Introduction to principles controlling weather and their effect on man and the environment. Two lectures and a two-hour lab per week. (3 sem. hours)\***Geol 131: Oceanography** — Introduction to the physical, chemical and biological aspects of the marine environment. Three lectures per week. (3 sem. hours)\*



**Geol 141: Environmental Geology** — Problems of mineral, energy and water resources, waste disposal, soils and health, and land use. Two lectures and a two-hour lab per week. (3 sem. hours)

**Geol 201: Earth Materials** — Identification of rocks and minerals based on observation of physical properties. Origin, occurrence, and value of earth materials. Two lectures and a two-hour lab per week. (3 sem. hours)

**Geol 221: Weather and Climate Forecasting** — An analysis and use of local and regional teletype-transmitted surface and upper air weather data to forecast weather. A study of past records of climate as clues to future changes. Three hours of laboratory work, lecture and discussion. Prerequisite: Geol 121. (3 sem. hours)\*

**Geol 231: Aerial Photography Interpretation** — Introduction to photogrammetry, remote sensing, and interpretation of geologic and cultural imagery. One lecture and two two-hour labs per week. Prerequisite: Geol 101 or 201 or consent of instructor. (3 sem. hours)

**Geol 241: Geomorphology** — A study of landforms, their origin and relation to geologic processes, structure, and climate. Two lectures and a two-hour lab period per week. Prerequisite: Geol 111. (3 sem. hours)

**Geol 242: Glacial Geology** — A study of erosional and depositional landforms left by glaciers and their meltwaters. Glacial landforms and soils are examined on maps, air photos and in the field. Two lectures and a two-hour lab per week. Prerequisite: Geol 111. (3 sem. hours)

**Geol 271: Geotechniques: Field & Lab** — Training in field and laboratory techniques and instruments for geological, geophysical and environmental surveys. Three lab hours per week. (1 sem. hour)

**Geol 272: Geotechniques: Geologic Reports** — Training in the use of library facilities and bibliographies, literature searches, construction of index cards, writing of abstracts and technical reports, and oral reporting. One two-hour lab period per week. Prerequisites: Geol 102 and Engl 103 or permission of instructor. (1 sem. hour)

**Geol 291: Paleontology** — The study of fossils with particular emphasis on the morphology classification, and evolution of the invertebrate phyla. Two two-hour discussion/lab periods per week. One weekend field trip (2-3 days) required. Prerequisite: Geol 112 and 272; or permission of instructor. Geol 292 must be taken concurrently. (3 sem. hours)

**Geol 292: Geotechniques: Paleo-Field and lab techniques** — One two-hour lab period per week. Prerequisite: Geol 271. (1 sem. hour)

**Geol 327: Structural Geology** — Origin and description of primary and secondary structures of sedimentary, igneous, and metamorphic rocks. Three lectures per week. Prerequisite: Geol 112 and 272. Geol 328 must be taken concurrently. (3 sem. hours)

**Geol 328: Geotechniques: Structure** — Lab and field techniques. One two-hour lab per week. Prerequisite: Geol 271. (1 sem. hour)

**Geol 340: Air Pollution Meteorology** — A study of meteorological parameters of air pollution concentration, dispersion, and removal. Includes air pollution forecasting and modeling. Three hours of lecture, laboratory, or field work per week. Prerequisite: Geol 121. (3 sem. hours)

**Geol 351: Mineralogy** — Occurrence chemical and physical properties, identification and use of minerals. Two lectures and two two-hour labs per week. One field trip required. Prerequisite: Geol 111, 272, 273, Chem 108, 112 and consent of instructor. (4 sem. hours)

**Geol 352: Petrology** — Classification, occurrence, and genesis of igneous, sedimentary, and metamorphic rocks. Two lectures and two two-hour labs per week. Prerequisite: Geol 351. (4 sem. hours)

**Geol 360: Water Resources** — A study of the occurrence and movement of water and man's effect on this basic resource. Two lectures and two hours of lab per week. Prerequisite: Geol 101 and 201, or consent of instructor. (3 sem. hours)

**Geol 361: Sedimentation** — Principles governing origin, distribution, and interpretation of sedimentary rocks. Three lectures and a two-hour lab per week. Two Saturday field trips required. Prerequisite: Geol 201 or 352. (3 sem. hours)

**Geol 362: Stratigraphy** — Examination, correlation and geologic history of the Paleozoic, Mesozoic and Cenozoic units of the Appalachian Mountain Region. Prerequisite: consent of instructor. (3 sem. hours)

**Geol 445: Economic Geology** — A study of the origin and classification of mineral deposits and techniques of exploration and exploitation. Two lectures and a two-hour lab period per week. Prerequisite: Advanced standing and consent of instructor. (3 sem. hours)

**Geol 450: Internship** — Supervised placement and research in selected public and private agencies. Prerequisite: permission of departmental chairperson. (3-12 sem. hours)

**Geol 451: Environmental Geochemistry** — A study of the laws governing the migration of anthropogenic pollutants in natural waters (oceans and fresh water) and earth materials (soils, sediments and rocks). Three hours of lecture and two hours of field or lab work per week. One field trip required. Prerequisite: Chem 108, 112, Geol 201 or equivalent. (4 sem. hours)

**Geol 452: Exploration Geochemistry** — Application of geochemical principles to the problems of exploration for mineral and energy resources. Three hours of lecture. Prerequisite: Geol 351 or consent of instructor and Geol 452 taken concurrently. (3 sem. hours)

**Geol 453: Geotechniques: Geochemistry** — Geochemical laboratory and field techniques in prospecting for mineral and energy resources. Two hours of laboratory or field work per week. One field trip required. Prerequisite: consent of instructor. (1 sem. hour)

**Geol 475: Exploration Geophysics** — The basic concepts of geophysics introduced through lab and field problems based on techniques used in the search for minerals and fuels. One year of physics. Geol 476 must be taken concurrently. (3 sem. hours)

**Geol 476: Geotechniques: Geophysics** — Lab and field techniques. One two-hour lab per week. (1 sem. hour)

**Geol 481: Map and Photo Interpretation** — A seminar for advanced undergraduates in which students and staff participate in map and photo interpretation. One two-hour lab per week. Prerequisite: Advanced standing or consent of instructor. (1 sem. hour)

**Geol 482: Senior Seminar** — A seminar for advanced undergraduates in which students and staff participate in discussions concerning classical and current geological problems. One two-hour lab per week. Prerequisite: senior standing or permission of instructor. (1 sem. hour)

**Geol 490: Independent Study** — Independent work on a topic in the earth sciences selected by the student with consent and advice of an instructor. Enrollment must be approved by the Department chairperson. (1-3 sem. hours)

**Geol 498: Selected Topics**

## Mathematics Department

Vincent Science Hall, Room 229

(412)794-7306

Students who have the desire and the ability to major in mathematics will find a course of study which will meet their personal needs. Graduates are prepared for diverse career opportunities including jobs in finance, business, industry and education. With proper guidance students may prepare for graduate work in various disciplines, including mathematics and the professional schools.

### Bachelor of Arts degree in Mathematics

Specialization: Mathematics

Required courses: (32 semester hours)

Mathematics and/or Computer Science including Mathematics 231 and two 300 level mathematics courses but excluding Mathematics 101, 107, 120, and Computer Science 151. In addition, 103 competency in a foreign language is required.



## Bachelor of Science degree in Mathematics

### Specialization: Mathematics

Required courses: (39 semester hours)

Mathematics 222, 225, 230, 231, 235, 301, 307, 309, 315, Computer Science 161 or 162 and at least 6 hours selected from CpSc 260 through 293 but excluding 283 and/or mathematics courses above 300. In addition, the requirements in one of several special interest areas ranging from 11-15 hours must be completed or the student has the option of taking a minor. Special interest area chosen from Biology, Chemistry, Computer Science, Economics, Pre-Masters of Business Administration, Geology, Physics, Psychology, and Sociology.

## MATHEMATICS COURSES

**Math 101: Basic Mathematics** — A basic skills course in arithmetic operations and introductory algebra. Pass-No Credit only. (3 sem. hours)

**Math 107: Looking at Mathematics** — A cultural enrichment course which introduces topics from different branches of mathematics. (Not suitable for mathematics majors) (3 sem. hours)\*

**Math 110: Financial Mathematics** — Methods of solving problems arising from the growth of money through simple and compound interest. Savings accounts, loans, financing, mortgages, depreciation, bonds, pensions and life insurance are included. (3 sem. hours)\*

**Math 114: Elementary Statistics** — Introduction to statistics and elementary probability. (3 sem. hours)\*

**Math 118: Elementary Geometry** — A survey of Euclidean geometry for elementary majors and/or general education. (3 sem. hours)\*

**Math 120: Intermediate Algebra** — Addition, subtraction, multiplication, division and simplification of algebraic expressions. Exponents, radicals, equations and inequalities. (3 sem. hours)\*

**Math 121: Discrete Mathematics** — Intended primarily for Computer Science majors but can be taken by any student interested in the topics which include propositional calculus, set theoretic concepts, relations and functions, mathematical induction, counting techniques, recursion, matrices. Prerequisite: two years of high school algebra or Math 120. (3 sem. hours)\*

**Math 122: Matrices and Linear Programming** — The algebra of matrices with applications in linear programming. (3 sem. hours)

**Math 123: Informal Applied Calculus** — The course is compatible with the background and interests of students not majoring in the physical sciences or mathematics. The theorem-proof approach of differential and integral calculus is replaced with the explanation-example approach. Non-traditional applications are stressed. (3 sem. hours)\*

**Math 125: Elementary Functions** — A bridge between high school algebra and calculus involving polynomial, trigonometric, logarithmic, and exponential functions. (3 sem. hours)\*

**Math 210: Elementary Mathematics** — Sets, operations, relations, and theory of arithmetic. Required for elementary majors with sophomore standing. (3 sem. hours)\*

**Math 214: Statistical Methods** — Sampling techniques, multiple correlation and regression, analysis of variance and covariance, non-parametric methods. Bayesian statistics. (3 sem. hours)\*

**Math 222: Introduction to Operations Research** — Linear programming, transportation and assignment problems, branch and bound algorithm, simulation. Prerequisite: Math 122 or Bus. Adm. 220 or consent of instructor. (3 sem. hours)\*

**Math 225: Calculus I** — Calculus of one variable with emphasis on polynomial and algebraic functions. Limits, continuity, derivatives, extrema and integrals and investigated. Prerequisite: Math 120 or equivalent. (4 sem. hours)\*

**Math 230: Calculus II** — Techniques of integration, calculus of elementary transcendental functions; vectors and polar coordinates. Prerequisites: Math 125 and 225. (4 sem. hours)\*

**Math 231: Calculus III** — Continuation of Calculus II, calculus of several variables, and infinite series. Prerequisite: Math 230. (4 sem. hours)\*

**Math 235: Modern Concepts of Mathematics** — Basic logic and set theory, and methods of proof within axiomatic systems. Prerequisite: Math 225. (3 sem. hours)\*

**Math 301: Differential Equations I** — First and second order differential equations, infinite series solutions, Laplace transforms, existence and uniqueness theorems. Prerequisite: Math 230. (3 sem. hours)\*

**Math 302: Differential Equations II** — A continuation of the prerequisite, Math 301. (3 sem. hours)

**Math 303: Non-Euclidean Geometry** — A metric approach of absolute, Euclidean, and non-Euclidean geometries. Prerequisite: Math 235. (3 sem. hours)

**Math 304: Geometric Structures** — Finite and infinite axiomatic systems, including Euclidean and projective geometries. Prerequisite: Math 235. (3 sem. hours)

**Math 305: Modern Algebra I** — An introduction to groups and rings. Prerequisite: Math 235. (3 sem. hours)

**Math 307: Mathematical Statistics** — Introductory probability, distribution of random variables, point and interval estimation, tests of hypotheses, simple regression and correlation. Prerequisite: Math 230 or consent of instructor. (3 sem. hours)

**Math 309: Linear Algebra** — Vector spaces, linear transformations, matrices and determinants with applications. Prerequisite: Math 230 or consent of instructor. (3 sem. hours)

**Math 313: Introductory Analysis** — Rigorous approach to concepts of calculus. Prerequisite: Math 230, 235. (3 sem. hours)

**Math 315: Numerical Mathematics** — The mathematics of computation and approximation, interpolation, calculating the roots of equations, curve fitting linear systems, numerical differentiable and integration and error analysis. Prerequisite: Math 230 and some competence in computer language. (3 sem. hours)

**Math 320: Theory of Numbers** — A study of the properties of natural numbers and number theoretic functions. Prerequisite: Math 235. (3 sem. hours)

**Math 403: Elementary Topology** — Topological properties of the real line. Prerequisite: Math 309, 313. (3 sem. hours)

**Math 404: Modern Algebra II** — Ring theory, assorted topics from applied and theoretical algebra. Prerequisite: Math 305. (3 sem. hours)

**Math 405: Intermediate Analysis I** — Real numbers,  $n$ -dimensional spaces, series, derivatives, integrals, transformations, uniform continuity and convergence. Prerequisite: Math 309, 313. (3 sem. hours)

**Math 406: Intermediate Analysis II** — Selected topics extending the prerequisite: Math 405. (3 sem. hours)

**Math 407: Complex Variables** — Complex numbers, analytic functions, complex integration, convergence of sequences and series, and applications. Prerequisite: Math 313. (3 sem. hours)

**Math 490: Independent Study** — Supervised study in advanced area. Prerequisite: Four 300-level mathematics courses, a 2.0 QPA in mathematics above Math 225, consent of instructor, and approval of chairperson. (1-3 sem. hours)

**Math 498: Selected Topics in Mathematics**



# Physics Department

Vincent Science Hall, Room 327

(412)794-7301

Physicists investigate the fundamental properties of matter and attempt to create a consistent explanation of natural phenomena using such concepts as mass, length, time, charge, force energy, momentum, fields, waves, etc. An understanding of natural phenomena enables man to control nature and thus contribute to the well being of humanity. Traditionally physics is composed of mechanics, electricity, magnetism, optics, acoustics, atomic physics, and nuclear physics. The curriculum is designed for the student desiring professional preparation for a career in engineering, technology or physics, although graduate education is normally required of professional physicists. Career opportunities also exist in geophysics, biophysics, space science, technological administration and scientific journalism.

Because of the mathematical maturity required of physicists careful observation of prerequisites is necessary.

## Bachelor of Arts Degree in Physics

Specialization: Physics

Required Courses

Physics (32 sem. hours)

Phys 211, 212, 213, 331, 361, 400

Mathematics

Math 225, 230, 231, 301

Computer Science 161

## Bachelor of Arts Degree in Physics

Specialization: Engineering

See Specialized Programs

## Bachelor of Science Degree in Physics

Specialization: Physics

Required Courses

Physics (40 sem. hours)

Phys 211, 212, 213, 314, 315, 331, 361, 400

Mathematics

Math 225, 230, 231, 301

Computer Science 161

## PHYSICS COURSES

**Phys 101: Concepts of Science I** — A descriptive and conceptual course in Physics designed for the non-science major. Topics are selected from light, sound, motion, and astronomy to develop a necessary scientific attitude and background for today's society. Two lectures and one-two hour laboratory per week. (3 sem. hours)\*

**Phys 102: Concepts of Science II** — A descriptive and conceptual course in physics designed for the non-science major to study energy systems. Topics are selected from heat, electricity, magnetism, the structure of matter and modern areas of physics, such as lasers, X-rays, and nuclear energy. The purpose of the course is to develop a positive scientific attitude and background for today's society. Lecture-demonstration format. No laboratory. (3 sem. hours)\*

**Phys 140: Engineering Graphics I** — A beginning laboratory course in technological design and drawing. Topics: lettering, scales, geometric construction, orthographic sketching, and auxiliary views. (2 sem. hours)

**Phys 141: Engineering Graphics II** — An advanced laboratory course in technological drawing and implementation. Topics: Vectors, graphing, nomography, isometric pictorials, technical illustration, computer graphics, and working drawings. Prerequisite: Phys 140. (1 sem. hour)

**Phys 171: Popular Astronomy** — This course is designed for the general student. Recent findings in astronomy are discussed, i.e., black holes, quasars, etc. Other topics of interest are the evolution of stars, how to find the planets, stars and constellations, life elsewhere in the universe and UFOs; the scientist's view of astrology. No math required. (3 sem. hours)\*

**Phys 201: Elements of Physics I** — Introduction to physics considering mechanics, heat, techniques of motion study and equilibrium study. Two lectures and two-hour lab. (3 sem. hours)\*

**Phys 202: Elements of Physics II** — A course designed to meet the physics needs of students at a non-calculus level. Application of physical principles to the life sciences is stressed. Topics in optics, electricity, heat and radiation are emphasized. Two hours of lecture and one two-hour lab per week. Prerequisite: Phys 201. Offered spring term only. (3 sem. hours)\*

**Phys 204: Environmental Biophysics** — Introductory course covering the energy problem and alternative solutions; radiation and its effects on man; the eye and vision; the ear, hearing and noise pollution; electrical power production alternatives and the environmental costs; some instruments used in biophysics and medicine. (3 sem. hours)\*

**Phys 211: General Physics I** — Introduction to physics using calculus and including extensive problem solving. Mechanics-Statics, Kinematics, kinetics, work-energy, rotational motion, impulse-momentum. Corequisite: Math 225. Three lectures and one three-hour lab per week. (4 sem. hours)\*

**Phys 212: General Physics II** — This is a calculus based course which follows General Physics I. It develops the concepts of electric and magnetic fields. Topics covered are Gauss' Law, Ampere's Law, Biot's Law, Faraday's Law, electric charges and their dynamics, capacitance, resistance inductance, etc. Prerequisite or corequisite: Math 230, Phys 211. Three lectures and one three-hour lab per week. Offered fall semester only. (4 sem. hours)\*

**Phys 213: General Physics III** — Continuation of General Physics. Fluids, hydrostatics and hydrodynamics, heat transfer and measurements, Laws of Thermodynamics, vibrating bodies, wave motion, light lenses and optical instruments, interference and diffraction, polarization. Two lectures and one three-hour lab per week. Prerequisites: Phys 211. Offered spring term only. (3 sem. hours)\*

**Phys 260: Basic Circuitry and Electronics** — An introductory course developing the practical laws of electricity and magnetism that are necessary to understand the common electronic circuits used in experimentation. The emphasis is placed on measurement and instrumentation techniques rather than theory and design. Two one-hour lectures and a three-hour laboratory. (3 sem. hours)\*

**Phys 272: Physical Astronomy** — The main theme of the course is stellar evolution and how the modern theory evolved. Other topics mentioned are the geometry of eclipses, the mechanics of space travel, relativity and spacetime and the reading of star maps. Content is selected to meet the needs of the science teacher. Opportunities are available to learn to use the planetarium. (3 sem. hours)\*

**Chem/Phys 301: Thermodynamics** — Thermodynamics as applied to chemical and physical systems. Prerequisites: Chem 108, Phys 212, Math 230. (3 sem. hours)

**Phys 314: Engineering Mechanics I: Statics** — Includes the application of equilibrium conditions to fluids and structures, plane and space trusses, frames and machines, beams with concentrated and distributed loads, flexible cables. Prerequisites: Phys 212 and Math 230. Corequisite: Math 301. (3 sem. hours)

**Phys 315: Engineering Mechanics II: Dynamics** — Integrates the subject content of kinematics and kinetics which deal respectively with the description of motion of bodies and the causes for their motion. Prerequisite: Math 301. (3 sem. hours)

**Phys 320: Electronics** — This is an electronics course for pre-engineering and other science majors. It begins with a review of ac and dc circuits and covers transistor and other discrete solid state devices and circuits. Included are power supplies and regulators, filtering, amplifiers, etc. Also included are linear integrated circuits. Prerequisite: Gen. Phys. II or permission of instructor. (3 sem. hours)

**Phys 330: Digital Circuits and Interfacing** — This is an introductory course in digital circuits and interfacing. It will start with the basic logic gates and progress fairly quickly to interfacing and controlling circuits using the computer. The interfacing will mostly be parallel interfacing, although some serial interfacing will be done. The interfacing technique will be general in nature even though interfacing will be done using the Commodore 64 computer. Prerequisite: CpSc 160 and a general knowledge of voltage and current. (3 sem. hours)



**Phys 331: Methods of Theoretical Physics** — Applications in physical science and engineering of the following: vector analysis, complex variables, Fourier and Laplace transforms, linear algebra, and some boundary value problems. Prerequisite: Phys 212. Corequisite: Math 301. Four lecture-discussion meetings per week. (4 sem. hours)

**Phys 361: Modern Physics** — Introductory survey of modern physics. Atomic and nuclear structure; wave and particle aspects of both electromagnetic radiation and matter, radio-activity; fundamental particles and methods of determining the fundamental constants of atomic and nuclear physics. Three lectures per week. Prerequisite: Phys 212 or consent of instructor. (3 sem. hours)

**Phys 400: Advanced Physics Synthesis** — Provides student with a variety of experiences in advanced physics involving both theoretical and experimental work. When the student enrolls in the course the first time the subject matter is drawn primarily from thermodynamics, kinetic theory, wave phenomena, electricity and magnetism and is unified by examining the energy methods common to these topics. The first course provides an overall view of classical physics. On repeated enrollment the student in consultation and with guidance by the instructor can develop on an individual basis to whatever level is necessary to meet his/her needs. Four hours of lecture or laboratory per week. Prerequisite: Phys 211, 212, 213 or permission of instructor. (4 sem. hours — may be repeated for a maximum credit of 12 hours.)

**Phys 410: Electricity and Magnetism** — Electric fields and potentials of charge distributions and polarized materials, magnetic fields and vector potentials of current distributions and magnetized materials; electric and magnetic energies; electric and magnetic energies, application of Maxwell's equations. Prerequisite: Phys 212, 331. (4 sem. hours)

**Phys 490: Independent Study** — Investigation of the theoretical or experimental area following a plan or proposal initiated by the student and approved by the major advisor. (1-3 sem. hours)

**Phys 498: Selected topics**

## Pre-Engineering Cooperative Program

Information on the Pre-Engineering cooperative programs with Pennsylvania State University and The University of Pittsburgh may be found in the Special Programs section of this catalog.



## SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES

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The School of Social and Behavioral Sciences acknowledges the significance of the Liberal Arts tradition which specifies a curriculum that educates students for a lifelong learning experience. The School is dedicated to creating a learning environment which encourages and stimulates curiosity, self-awareness and a sense of perpetual growth and development. The School is committed to responsible academic planning involving both the Liberal Arts tradition and programs devised for career preparation. It is our conviction that the Liberal Arts tradition and career education are compatible and that we should not elect to pursue one to the exclusion of the other. The curriculum of the School seeks to establish a complementary relationship in which the two concepts will reinforce one another.

### Business Administration

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#### Accounting Department

Spotts World Culture Building, Room 312-O (412)794-5191

#### Economics and Finance Department

Spotts World Culture Building, Room 312-O (412)794-5191

#### Management and Marketing Department

Spotts World Culture Building, Room 314 (412)794-7324

Men and women who major in one of the various fields of Business Administration develop a solid foundation in the discipline and specialize in areas of their choice. You may choose a major in Accounting, Economics, Finance, International Business, Management and Marketing. These majors provide understanding and expertise in recording and analyzing financial transactions; structuring and operating the economy, acquiring and utilizing funds; venturing into foreign business operations; directing personnel in stores, offices and factories; and providing products and services to consumers. The Business Administration departments offer computer simulations and experimental activities in the classroom, strong and active student chapters of professional organizations, personal attention from and easy access to professors outside the classroom and field experiences in the form of internships and the Small Business Institute program.

The marketplace offers a tremendous variety of occupations for women and men with a strong business administration background, a broad liberal arts education and a good record of extracurricular activities. Such career opportunities in both large and small organizations (CPA, CMA, others), government administration, personnel, manufacturing, forecasting, research and graduate school (MBA, others).



**Bachelor of Science in Business Administration**

Required Core: (30 semester hours)

BusA 209, 210 or 213, 219, 220, 230, 250, 320, 340, 458, and  
Econ 202

Plus Math 120 or equivalent (3 sem. hours)

Specialization: Accounting

Required Courses: (12 semester hours)

BusA 309, 310, 313, and 314

Elective courses: (6 semester hours)

Select other Accounting courses.

Specialization: Economics

Required courses: (9 semester hours)

Econ 301, 302, and 412

Elective courses: (9 semester hours)

Select from 300 and 400 level courses (one course may also be  
selected from BusA 319, 452, and 453)

Specialization: Finance

Required courses: (12 semester hours)

BusA 321, 323, 327, and 420

Elective courses: (6 semester hours)

Select from 300 and 400 level BusA and Econ courses

Specialization: Management

Required Courses: (9 semester hours)

BusA 352

or

353, 354, 454

Elective courses: (9 semester hours)

Select from 300 and 400 level BusA and Econ courses

Specialization: Marketing

Required Courses: (12 semester hours)

BusA 332, 333, 430 and 431

Elective courses: (6 semester hours)

Select from 300 and 400 level BusA and Econ courses

Specialization: International Business

Required Courses: (15 semester hours)

Fren 303 and 454

or

Germ 303 and 454

or

Span 303 and 454

and

Econ 407 or 415

and

BusA 427 and 437

Elective Courses: (3 semester hours)

Fren, Germ, Span 305 or 306 or 307

### **Bachelor of Arts in Economics or Accounting**

**Required courses:**

Three semesters of modern language (0-9 semester hours)

Math 120 or equivalent (0-3 semester hours)

**Specialization: Economics**

**Required courses:** (18 semester hours)

Econ 201, 202, 301, 302, 412, and BusA 219

**Electives:** (15 semester hours)

Econ 304, 305, 306, 307, 316, 360, 402, 407, 408, 415, 490, and BusA 319

**Other Electives:** (6 semester hours)

Any 200, 300, or 400 level Econ or BusA courses

**Specialization: Accounting (39 semester hours)**

**Required courses:**

BusA 210, 219, 220, 309, 311, 313, 314, 320, 340, 411, 412, 413, and

Econ 202

**Recommended courses:** (Free electives)

BusA 209, 216, 310, 319, 341, 414, 415, 419, and

Econ 201

### **Bachelor of Science in Economics or Accounting**

**Required:** (6 semester hours from any one of the following categories)

(1) Any two Mathematics courses above 120. Math 210, 303, and 304 are excluded.

(2) Any two Computer Science courses at the level of CpSc 160 or above, Computer Science 283 is excluded.

(3) English 204 Composition and Rhetoric, English 205 Technical Writing English 207 Advertising Writing.

(4) Philosophy 103 Introduction to Logic, Philosophy 301 Symbolic Logic Math 120 or equivalent (0-3 semester hours)

**Specialization: Economics**

**Required Courses:** (18 semester hours)

Econ 201, 202, 301, 302, 412, and BusA 219

**Electives:** (15 semester hours)

Econ 304, 305, 306, 307, 316, 360, 402, 407, 408, 415, 490, and BusA 319

**Other Electives:** (6 semester hours)

Any 200, 300, 04 400 level Econ or BusA courses

**Specialization: Accounting (39 semester hours)**

**Required courses:**

BusA 210, 219, 220, 309, 311, 313, 314, 320, 340, 411, 412, 413, 419, and Econ 202

**Recommended courses:**

BusA 209, 216, 301, 312, 341, 414, 415 and Econ 201

### **Minor: Business Administration**

**Required courses:** (12 semester hours)

BusA 209, 230, 250, and Econ 202

**Elective courses:** (12 semester hours)

Selected from 200, 300, and 400 level BusA and Econ courses (At least 6 semester hours must be from 300 and 400 level courses)



**Minor: Economics**

Required courses: (9 semester hours)

Econ 201, 202, and Econ 301 or 302

Elective courses: (12 semester hours)

Econ 301, 302, 304, 305, 306, 307, 316, 360, 402, 407, 408, 412, and 415  
All majors in the Bachelor of Science in Business Administration (BSBA) and the BS or BA in Economics or Accounting specialization must pass Econ 201, Principles of Economics Macro, BusA 209, Fundamentals of Accounting I, (Econ 202—Principles of Economics Micro for economics majors) and BusA 219, Elementary Business and Economic Statistics with an average grade of C equalling 2.0 or better in those three courses before being permitted to enroll in any 300 or 400 level course in the Departments of Accounting, Economics and Finance or Management, and Marketing.

**ACCOUNTING COURSES****BusA 190: Selected Topics**

**BusA 209: Fundamental Accounting I** — A study of the elementary principles of the accounting cycle. The recording, classifying, summarizing and interpretation of monetary transactions of the business firm are emphasized. The student is introduced to financial statement reporting. Corequisite: Math 120 or equivalent. (3 sem. hours)\*

**BusA 210: Fundamental Accounting Prin. II** — Elementary principles of financial accounting with emphasis on the theory of the accounting model, organization and use of accounting records, accounting working papers, and the construction and interpretation of financial statements. Prerequisite: BusA 209. (3 sem. hours)

**BusA 213: Managerial Accounting** — Principles of accounting reviewed: introduction to basic cost accounting including cost, volume, profit relationships and cost behavior patterns. (For non-accounting majors) Prerequisite: BusA 209 or 210. (3 sem. hours)

**BusA 216: Principles of Personal Income Tax** — Covers returns, filing status personal exemptions and rates, income exclusions and inclusions, gains and losses, deductions, alternate tax methods and withholding of taxes. Prerequisite: BusA 209 or 210. (3 sem. hours)

**BusA 309: Cost Accounting I** — Control concepts and costing methods, including systems for management control, manufacturing inventory valuation, standard variance analysis and budgeting. Prerequisite: BusA 210. (3 sem. hours)

**BusA 310: Cost Accounting II** — Long range budget preparation, capital investments, transfer pricing, decision models in cost accounting and quantitative methods in cost analysis. Prerequisite: BusA 220 or permission, 309. (3 sem. hours)

**BusA 311: Federal Income Tax** — Corporate, partnership, estate and trust taxation are covered along with topics such as depletion, net operating losses and installment and deferred payment sale. Prerequisite: BusA 216 or permission. (3 sem. hours)

**BusA 313: Intermediate Accounting I** — Intermediate theoretical accounting principles emphasizing A.P.B. and F.A.S.B. principles as applied to financial statement assets. Prerequisite: BusA 210. (3 sem. hours)

**BusA 314: Intermediate Accounting II** — Continuation of BusA 313. Analysis of accounting for liabilities and stockholder's equity. Fund flow analysis and statement interpretations. Prerequisite: BusA 313. (3 sem. hours)

**BusA 390: Selected Topics**

**BusA 411: Auditing Theory and Practice** — Objective examination of financial statements with emphasis on internal control, review and evaluation, sampling theory and application and procedural testing. Prerequisite: BusA 314 or permission. (3 sem. hours)

**BusA 412: Accounting Seminar** — Analysis of current accounting theory and practice. Preparation for Certified Public Accountants examination. Prerequisite: BusA 314 or permission. (3 sem. hours)

**BusA 413: Advanced Accounting I** — Advanced financial accounting theory and practice with emphasis on consolidations and partnerships. Prerequisite: BusA 220 and 314. (3 sem. hours)

**BusA 414: Advanced Accounting II** — Continuation of BusA 413 with emphasis on fund and estate accounting. Prerequisite: BusA 220 and 413 or permission. (3 sem. hours)

**BusA 415: Accounting Theory** — A study of advanced accounting theories of The American Accounting Association, Financial Accounting Standards Board, and The American Institute of C.P.A.'s. Will also emphasize SEC regulations as they apply to accounting. Prerequisite: 314, 413 or permission. (3 sem. hours)

**BusA 416: Fund Accounting** — Accounting theory and practice as it is applied to governmental and other not-for-profit institutions. Prerequisite: BusA 210. (3 sem. hours)

**BusA 419: Auditing Systems** — Continuation of BusA 411 with emphasis on computerized accounting systems and auditing procedures. Prerequisite: BusA 411 or permission. (3 sem. hours)

**BusA 450: Internship** — Supervised placement and research in selected public and private agencies at appropriate institutions. Prerequisite: application, permission. (1-2 sem. hours)

**BusA 490: Independent Study** — In-depth reading and/or research in an area of particular interest to the student, done with the guidance of an individual faculty member. Prerequisite: 12 hours of BusA, application, and permission. (1-3 sem. hours)

## ECONOMICS COURSES

**Econ 100: Consumer Economics** — Practical money management including information about careers, how to get a job, budgeting, credit, investments, insurance, housing, taxes, and other consumer matters. Course does not count toward the Economics and Business major. (3 sem. hours)\*

**Econ 175: Environmental Economics** — Economic causes and effects of pollution. Evaluation of costs, benefits and risks of alternative solutions to the problem of damage and destruction of the environment. Course does not count toward the Economics and Business major. (3 sem. hours)

### Econ 190: Selected Topics

**Econ 201: Principles of Econ I** — Definition of economics; concepts and institutions; demand, supply and the price system; national income; employment and fiscal policy; monetary policy; economic stability and growth. Corequisite: Math 120 or equivalent. (3 sem. hours)\*

**Econ 202: Principles of Econ II** — Economics of the firm; resource allocation; price and output determination; market structure; current economic problems; international economics. Prerequisite: Math 120 or equivalent, Econ 201 or permission. (3 sem. hours)\*

**Econ 301: Macroeconomic Analysis** — Determination of national income and employment. National income accounts as measures of aggregate economic behavior. Analysis of income stability, unemployment, inflation and growth. Prerequisite: Econ 202. (3 sem. hours)

**Econ 302: Microeconomic Analysis** — Price theory including theories of demand, supply, production, resource allocation, market structure, general equilibrium and risk analysis. Prerequisite: Econ 202. (3 sem. hours)

**Econ 303: Health Economics** — The production and distribution of health services in the United States. Principles of organization and finance are analyzed, with particular emphasis on the roles of government, insurance and the non-profit traditions of the industry. Prerequisite: Econ 202. (3 sem. hours)

**Econ 304: Money and Banking** — Emphasis is upon monetary policy, how it is implemented, the theories on which it is based, and the implication of this policy on our economy. Prerequisite: Econ 201. (3 sem. hours)

**Econ 305: Government and the Economy** — A study of the economic effects of government regulation of business. Economic and legal concepts of competition and monopoly. Prerequisite: Econ 202. (3 sem. hours)\*

**Econ 306: Comparative Economic Systems** — Analysis of resource allocation within capitalist, socialist, communist and fascist systems with emphasis on the USSR. Prerequisite: Econ 202. (3 sem. hours)\*



**Econ 307: Urban Economics** — Analysis of the economic functions and problems of modern urban areas including theoretical and practical proposed solutions. Prerequisite: Econ 202. (3 sem. hours)

**Econ 316: Evolution of Economic Thought** — This course provides a look at economics from an historical perspective. Original works of many early economists will be examined. Ideal for anyone interested in how our economics system has developed. Prerequisite: Econ 201. (3 sem. hours)

**Econ 317: Managerial Economics** — Covers the application of microeconomics to managerial decision making. Major topics include: Demand estimation, cost minimization, pricing and production decisions, and planning under conditions of risk and uncertainty. Prerequisite: Econ 201, Math 120 or above. (3 sem. hours)

**Econ 360: Labor Economics** — An investigation of labor markets and the effect of institutional forces on employment, wage determination, stability, and the availability of labor. Prerequisite: Econ 202. (3 sem. hours)

#### **Econ 390: Selected Topics**

**Econ 402: Public Finance** — Nature, incidence and economic effects of taxation; government spending; public debt management; fiscal administration. Prerequisite: Econ 202. (3 sem. hours)\*

**Econ 407: International Economics and Finance** — Alternative exchange rate systems, commercial trade policies, balance of payments, adjustment mechanisms and the role of international financial organizations. Prerequisite: Econ 202. (3 sem. hours)

**Econ 408: Development Economics** — Study of the growth process including institutional problems, political, cultural and technological problems, development theories, planning and programming. Prerequisite: Econ 202. (3 sem. hours)\*

**Econ 412: Economics Seminar** — Application of advanced economic theory for problem solving and research. Topic selection will vary with instructor. Prerequisite: Econ 301, Econ 302, BusA 219, or permission of the instructor. (3 sem. hours)

**Econ 415: Trade Flow Analysis** — Brings to bear the principles of comparative advantage, the factors proportions theorem, and the regional theory of world trades on the analysis of trade flows and economic growth. (3 sem. hours)

#### **Econ 450: Internship**

**Econ 490: Independent Study** — In-depth reading and/or research in an area of particular interest to the student, done with the guidance of an individual faculty member. Prerequisite: 12 hours of Econ, application and permission. (1-3 sem. hours)

## **FINANCE COURSES**

#### **BusA 190: Selected Topics**

**BusA 320: Managerial Finance** — Capital budgeting, cost of capital, management of short and long term assets, mergers and financial reorganization. Prerequisite: BusA 213 (3 sem. hours)

**BusA 321: Investments** — Introduction to security markets and their operation; investment alternatives; fundamentals of investment analysis. Prerequisite: BusA 320 or permission. (3 sem. hours)

**BusA 322: Bank Financial Management** — Principles of modern bank financial management including sources and uses of funds and the role of the bank in financial markets. Prerequisite: BusA 320 or permission. (3 sem. hours)

**BusA 323: Financial Markets and Institutions** — Introduction to financial markets and institutions and to their role in financing business, consumers and government. Prerequisite: BusA 320 or permission. (3 sem. hours)

**BusA 325: Real Estate** — Introduction to Real Estate is designed to acquaint the student with the subject matter of the profession. The course includes topics of ownership, transfer, selling, leasing, advertising, real estate law, and management. Prerequisite: junior standing. (3 sem. hours)

**BusA 327: Intermediate Managerial Finance** — In-depth analysis of financial management of business firms with special emphasis on the management of working capital. Prerequisite: BusA 320. (3 sem. hours)

### BusA 390: Selected Topics

**BusA 420: Finance Seminar** — Capital budgeting, cost of capital, capital structure, working capital management and long-term financing. Prerequisite: BusA 320 or permission. (3 sem. hours)

**BusA 421: Portfolio Theory** — Advanced treatment of investment concepts. In-depth analysis of Modern Portfolio Theory, Capital Asset Pricing Model (CAPM) and its extensions, options, interest options, future markets and precious metals. Prerequisite: BusA 321 (3 sem. hours)

**BusA 427: Financing International Operations** — International monetary systems, sources of funds, import and export financing; taxation of multinational corporations, foreign investment decisions; political risk; risk of foreign exchange losses; management of working capital. Prerequisite: BusA 320. (3 sem. hours)

**BusA 450: Internship** — Supervised placement and research in selected public and private agencies at appropriate institutions. Prerequisite: application, permission. (1-12 sem. hours)

**BusA 490: Independent Study** — In-depth reading and/or research in an area of particular interest to the student, done with the guidance of an individual faculty member. Prerequisite: 12 hours of major courses, application, and permission. (1-3 sem. hours)

## MANAGEMENT COURSES

**BusA 103: Introduction to Business** — An overview of the business world including an introduction to such major business specialties as marketing, management, finance, accounting and statistics. Course does not count toward Economics and Business major. (3 sem. hours)\*

### BusA 190: Selected Topics

**BusA 219: Elementary Business and Economic Statistics** — Statistical analysis including frequency distributions, measures of central tendency and dispersion, probability, parameter estimation, hypothesis testing, simple regression and correlation, time series and index numbers. Prerequisite: Math 120 or equivalent. (3 sem. hours)

**BusA 220: Quantitative Management** — Business applications of analysis and control techniques including forecasting, inventory, simulation, queuing, linear programming, transportation, PERT and game theory. Prerequisite: BusA 219. (3 sem. hours)

**BusA 250: Principles of Management** — Decision-making in all types of organizational systems, including planning, organizing, leading, motivating, controlling and conflict resolving activities. Prerequisites: Psyc 100 or 110, Math 120 or Equivalent, sophomore standing. (3 sem. hours)\*

**BusA 319: Intermediate Business and Economic Statistics** — Multiple regression and correlation, analysis of variance, Bayesian statistics and decision analysis. Includes model construction and forecasting with computer application in business and economics. Prerequisite: BusA 219. (3 sem. hours)

**BusA 340: Legal Environment of Business I** — Torts and crimes, contracts, agency, property and commercial paper. Prerequisite: junior standing. (3 sem. hours)

**BusA 341: Legal Environment of Business II** — A study of the Uniform Partnership and Uniform Corporation Act and other areas of business law not covered in Legal Environment of Business I. Prerequisite: junior standing (3 sem. hours)

**BusA 352: Production Management** — Techniques for generating a product or service including planning and control or work effort, scheduling, quality, inventory, facility and equipment. Prerequisite: BusA 220 and 250. (3 sem. hours)

**BusA 353: Development of Management Thought** — Contemporary management as the result of an evolutionary process-involving the thoughts and writings of many famous management theoreticians and practitioners. Prerequisite: BusA 250 or permission. (3 sem. hours)

**BusA 354: Personnel Management** — The basic processes, principles and policies, as well as the tools, techniques and methods which can be utilized in the management of personnel in any organization. Prerequisite: BusA 250. (3 sem. hours)

### BusA 390: Selected Topics



**BusA 450: Internship** — Supervised placement and research in selected public and private agencies at appropriate institutions. Prerequisite: application, permission. (1-12 sem. hours)

**BusA 451: Labor Law** — This course will cover the evolution of Labor Law in the United States. Special emphasis will be placed on recognition, representation, and unfair labor practices. Some attention will be spent on anti-discrimination and unfair labor standards. Prerequisite: BusA 250 or permission of instructor. (3 sem. hours)

**BusA 452: Management-Labor Relations** — Modern industrial relations from the perspective of both management and labor, including development of large-scale business and organized labor. Prerequisite: BusA 250 or permission, junior standing. (3 sem. hours)

**BusA 453: Collective Bargaining** — The "negotiation game"; major issues in bargaining; public policy implications, impasse resolution and strikes; legislation affecting collective bargaining. Prerequisite: BusA 452 or permission. (3 sem. hours)

**BusA 454: Management Seminar** — The methods and theories of management are brought together, interrelated and discussed in terms of current administrative practice. Prerequisite: BusA 220 and 250. (3 sem. hours)

**BusA 458: Administrative Policy** — An integrating course dealing with the formulation and implementation of organizational strategy and policy. Prerequisite: Business Administration senior or permission. (3 sem. hours)

**BusA 459: Small Business Institute** — Small Business Administration-sponsored field experience where student consulting teams analyze actual problem situations of cooperating regional businesses.

**BusA 490 Independent Study** — In-depth reading and/or research in an area of particular interest to the student, done with the guidance of an individual faculty member. Prerequisite: 12 hours of major courses, application, and permission. (1-3 sem. hours)

## MARKETING COURSES

### BusA 190: Selected Topics

**BusA 302: Principles of Marketing** — Principles of marketing including product pricing, place and promotional strategies. Provides an analytical framework of marketing decision-making. Prerequisite: Math 120 or equivalent, sophomore standing. (3 sem. hours)\*

**BusA 331: Marketing Channels** — Principles, methods and problems relating to wholesaling, retailing and physical distribution management. Prerequisite: BusA 230. (3 sem. hours)

**BusA 332: Industrial Marketing** — Analysis, from a management perspective of the internal and external environments affecting the demand for industrial goods; marketing intelligence and control; marketing strategy for product, service, channel, price, and promotional components. Prerequisite: BusA 230 and 250. (3 sem. hours)

**BusA 333: Marketing and the Consumer** — An examination of the buying process with emphasis on economic, social, cultural and psychological determinants of consumer choice. Prerequisite: BusA 230, Psych 110. (3 sem. hours)

**BusA 334: Advertising Management** — Management of advertising including background, roles, planning, media strategy, message, testing, research, evaluation, and administration of advertising. Prerequisite: BusA 230. (3 sem. hours)

**BusA 335: Retail Management** — Analysis of decisions in the areas of store location and layout, retail personnel management, merchandising policies and control, and marketing strategy. Prerequisites: BusA 230 and 250 or permission. (3 sem. hours)

**BusA 336: Sales Management** — Provides a foundation in the fields of selling and prepares the student for a future career in selling or sales management. Prerequisite: BusA 230 and 250 or permission. (3 sem. hours)

### BusA 390: Selected Topics

**BusA 430: Marketing Research** — Research methods applied to marketing problems. Marketing research as a managerial tool in problem solving and decision making. Prerequisite: BusA 220, 230, senior standing or permission. (3 sem. hours)

**BusA 431: Marketing Seminar** — Selected topics in marketing with emphasis on the analysis and solution of operational problems. Prerequisite: BusA 230 permission. (3 sem. hours)

**BusA 437: International Marketing and Management** — The managerial problems of firms engaged in international business with emphasis on strategies for successful foreign market penetration. Prerequisite: Senior, BusA 230, 250 or permission. (3 sem. hours)

**BusA 450: Internship** — Supervised placement and research in selected public and private agencies at appropriate institution. Prerequisite: application, permission. (1-12 sem. hours)

**BusA 490: Independent Study** — In-depth reading and/or research in an area of particular interest to the student, done with the guidance of an individual faculty member. Prerequisite: 12 hours of major courses, application, and permission. (1-3 sem. hours)

## Geography and Environmental Studies Department

Spotts World Culture Building, Room 107

(412)794-7310

Land use planning. Historic preservation. Regional development. Resource management. Map compilation. Human Ecology. These are just a few of the exciting topics that are covered in the Department of Geography and Environmental Studies. The department's program can lead to an equally exciting diversity of employment opportunities. Some of our recent graduates are: conducting floodplain studies for a private consulting firm, administering land subdivision regulations for a county planning commission, developing an energy plan for a five-county region, designing a system of bikeways for a small city, doing store location research for a large retail chain, heading the cartography department of an engineering firm, working as an aerial photo analyst in the military, working for a travel agency, teaching, and pursuing graduate studies. You are urged to stop by our offices for further information on our various programs and a tour of the department's facilities.

### Bachelor of Science degree in Environmental Studies

Specialization: Environmental Studies

Required coursework (48 semester hours)

Social & Behavioral Science Core (18 semester hours)

G&ES 135, Econ 175, Psyc 189, PolS 324, PkRc 340, Hist 445

Natural Science Core (select 9 semester hours)

Biol 105, Chem 105, Geol 141, Phys 204

Research Skills (select 3 semester hours from **each** group)

Group I: G&ES 199, G&ES 220, Geol 231

Group II: PolS 210, Psyc 221, SASW 317

Environmental Studies Electives (select 12 semester hours)

Biol 207, Biol 208, G&ES 150, G&ES 199, G&ES 235, G&ES 304

G&ES 331, G&ES 401, Geol 231, PolS 200, PkRc 440, PkRc 460

Required Course (3 semester hours)

G&ES 489



**Bachelor of Arts degree in Geography**

Specialization: Urban and Rural Planning

Required coursework (40 semester hours)

G&amp;ES 115, G&amp;ES 135, G&amp;ES 150, G&amp;ES 199, G&amp;ES 210, G&amp;ES 220, G&amp;ES 230, G&amp;ES 235, G&amp;ES 301, G&amp;ES 304, G&amp;ES 331, G&amp;ES 445, G&amp;ES 489.

Specialization: Human Ecology

Required coursework (39 semester hours)

G&amp;ES 135, G&amp;ES 150, G&amp;ES 199, G&amp;ES 202, G&amp;ES 220, G&amp;ES 230, G&amp;ES 235, G&amp;ES 301, G&amp;ES 331, G&amp;ES 380, G&amp;ES 410, G&amp;ES 485

Specialization: Liberal Arts Geography

Required coursework (37 semester hours)

Required courses (27 semester hours)

G&amp;ES 101, G&amp;ES 102, G&amp;ES 115, G&amp;ES 150, G&amp;ES 199, G&amp;ES 220, G&amp;ES 230, G&amp;ES 331, G&amp;ES 444

Regional courses (select 6 semester hours)

G&amp;ES 201, G&amp;ES 202, G&amp;ES 204, G&amp;ES 303, G&amp;ES 308, G&amp;ES 309, G&amp;ES 420

Elective G&amp;ES courses (select an additional 6 semester hours)

**Bachelor of Science degree in Secondary Education**

Specialization: Social Studies with a Geography Emphasis

Required G&amp;ES coursework (24 semester hours)

Required courses (12 semester hours)

G&amp;ES 150, G&amp;ES 230, G&amp;ES 331, G&amp;ES 444

Regional courses (select 12 semester hours)

G&amp;ES 101, G&amp;ES 102, G&amp;ES 201, G&amp;ES 202, G&amp;ES 303, G&amp;ES 308, G&amp;ES 309, G&amp;ES 420

Other certification requirements (30 semester hours)

An additional 6 semester hours each in Econ, Hist, PolS, and sociology/anthropology

**Minor in Geography**

Required G&amp;ES coursework (21 semester hours)

Group I (select 6 semester hours)

G&amp;ES 150, G&amp;ES 230, G&amp;ES 331

Group II (select 3 semester hours)

G&amp;ES 202, G&amp;ES 301

Group III (select 3 semester hours)

G&amp;ES 199, G&amp;ES 220, G&amp;ES 410

Group IV (select 9 semester hours)

Any G&amp;ES course at the 200 Level or above

**GEOGRAPHY AND ENVIRONMENTAL STUDIES COURSES****G&ES 100: Discover Geography** — An introductory course that surveys the field of geography and demonstrates the relevance of basic geographic concepts and methodologies to the solving of practical problems. (3 sem. hours)\***G&ES 101: Developed Nations** — An introductory course that surveys the developed world, stressing the economic, social, political, and environmental characteristics of Anglo-America, Europe, the Soviet Union, and Japan. (3 sem. hours)\***G&ES 102: Third World Nations** — An introductory course that surveys the Third World, stressing the economic, social, political, and environmental characteristics of Latin America, Africa, the Middle East, and Asia. (3 sem. hours)\*

**G&ES 115: Map Reading and Interpretation** — Provides basic map reading and interpretation skills with an emphasis on map projections, earth grid systems, principles of map reading, interpretation, and use of an atlas. (1 sem. hour)\*

**G&ES 135: Introduction to Environmental Problems** — An introduction to some of the more crucial environmental problems and alternative solutions that are available. (3 sem. hours)\*

**G&ES 150: Physical Geography** — An introduction to interrelationships among the physical elements of the environment, including the study of weather, climates, vegetation, soils, and landforms. (3 sem. hours)\*

**G&ES 201: Latin America** — Consideration is given to physical, historical, cultural, political, and economic patterns in Latin America. (3 sem. hours)\*

**G&ES 202: United States and Canada** — Study of Anglo-America, considering the physical environment, resources, economic activity, population distribution, and interregional relationships. (3 sem. hours)\*

**G&ES 204: The Soviet Union** — Study of the Soviet Union and Soviet-bloc nations with emphasis on economic, physical, political, and cultural aspects. (3 sem. hours)\*

**G&ES/PubA 215: Rural and Urban Planning** — An introduction to social and physical planning for rural areas, towns, and cities. Cross-listed with Public Administration. (3 sem. hours)

**G&ES 220: General Methods of Fieldwork** — A survey of methodology commonly employed for field research, including techniques of field observation, the use of field equipment, field mapping procedures, and the identification and tabulation of primary field data. (3 sem. hours)

**G&ES 230: Cultural Geography** — Deals with spatial aspects of cultural phenomena. The course focuses on the origin, diffusion, and geographic organization of cultural groups and regions. (3 sem. hours)\*

**G&ES 235: Conservation of Natural Resources** — An examination of the earth's complex resource base which places special emphasis on the geographic location of resources and on conservation-preservation practices. (3 sem. hours)\*

**G&ES 242: Geography of Religion** — The distribution and arrangement of world religions, giving consideration to the comparative influence of religion on the cultural landscape and on regional development. (3 sem. hours)\*

**G&ES 244: Resources and Society** — An examination of basic factors underlying the spatial allocation and development of resources. (3 sem. hours)\*

**G&ES 245: Population and Resources** — Basic demographic principles and their relationship to regional development. (3 sem. hours)\*

**G&ES 255: General Climatology** — The systematic analysis of the earth's climates, including their description, classification, and location. (3 sem. hours)\*

**G&ES 301: Geography of Rural Areas** — Analyzes the structure and primary functional patterns of rural areas, with an emphasis on agricultural and industrial land use, problems of rural development, and population shifts. (3 sem. hours)\*





**G&ES 303: Asia** — A survey of the major regions of Asia emphasizing their physical, cultural, and political characteristics. Several countries are selected for special emphasis. (3 sem. hours)

**G&ES 308: Europe** — The evolution of nations, the cultural landscape, and the spatial-economic organization of Europe. (3 sem. hours)\*

**G&ES 309: Africa** — The political and economic evolution of new nations, the problems faced by these nations in establishing political stability, the distribution of resources, and problems of economic development. (3 sem. hours)\*

**G&ES 310: Urban Geography** — The course is designed to provide insights into the nature of urban places. Emphasis is placed on their internal spatial organization. (3 sem. hours)\*

**G&ES 315: Cartography I** — Designed to develop basic skills in the drafting of maps, charts, and cartograms. Special emphasis is given to the cartographic compilation and representation of statistical data, map design, construction, and interpretation. Prerequisite: G&ES 115. (3 sem. hours)

**G&ES 330: Political Geography** — The effects of politics on geography and the effects of geographic factors on politics. (3 sem. hours)\*

**G&ES 331: Economic Geography** — Examines man's use and economic organization of the earth. (3 sem. hours)\*

**G&ES 345: Population Analysis** — A study of the techniques of population analysis with respect to growth, distribution, fertility, migration, and other demographic characteristics. Prerequisite: Some background in algebra or statistics. (3 sem. hours)

**G&ES 410: Remote Sensing** — Covers the electromagnetic and thermal properties of earth objects, principles and operations of sensors, and the practical applications of remote sensing. (3 sem. hours)

**G&ES 415: Cartography II** — Advanced cartographic compilation and design techniques are explored using statistical data sources, aerial photographs and remote sensed data. Computer graphics and computer assisted cartographic techniques are examined. Prerequisite: G&ES 315 or permission of instructor. (3 sem. hours)

**G&ES 420: Historical Geography of Anglo-America** — A study of settlement patterns, land utilization, and sequent occupation for selected periods since 1500. A student is expected to have background in geography and American history. (3 sem. hours)\*

**G&ES 431: Trade Flow Analysis** — Brings to bear the principles of comparative advantage, the factors proportions theorem, and the regional theory of world trade on the analysis of trade flows and economic growth. (3 sem. hours)

**G&ES 435: Preservation Planning** — A study of the American preservation movement as it relates to features of the cultural landscape. The origin and diffusion of building styles and the methods and problems associated with their preservation are emphasized. (3 sem. hours)\*

**G&ES 444: Philosophy of Geography** — Acquaints the student with traditional and current geographic literature and traces the development of geographic methodology in the United States during the twentieth century. Prerequisite: junior standing and/or permission of the instructor. (3 sem. hours)

**G&ES/PubA 445: Regional Planning** — Deals with planning for the future of regions that are larger than any single local government. Consideration is given to economic development, land use, transportation, and other regional planning concerns. Prerequisite: G&ES/PubA 215. (3 sem. hours)

**G&ES 485: Human Ecology** — A proseminar which studies the cultural-ecological stages of mankind, emphasizing attitudes, values, beliefs, and traditions toward environmental issues. Prerequisite: permission of the instructor. (3 sem. hours)\*

**G&ES 489: Field Studies** — A proseminar, field-oriented, problem-solving course that stresses the interactions between the forces of nature and the self-conscious activities of man in western Pennsylvania. Prerequisite: permission of the instructor. (3 sem. hours)

**G&ES 490: Independent Study** — Special permission is required. (1-3 sem. hours)

**G&ES 498: Selected Topics**

# History Department

Spotts World Culture Building, Room 212

(412)794-7317

History is a discipline which supports the liberal arts concentrations in the humanities and the social and behavioral sciences. Its aim is to place man and his achievements in the proper perspective of our own western heritage and the heritage of other cultures. The concentration in history is designed to develop a knowledge of the past with special emphasis on an understanding of contemporary problems. The key to historical scholarship consists of the exercise of critical analysis in order to evaluate and discover the comparative significance of men and events.

Social science majors with a concentration in history enter careers in business, government agencies and education, or pursue graduate work in history, law and other professional schools. For graduate work, a modern foreign language is recommended.

Beginning courses are numbered 100 and 200. Courses numbered 300 and 400 have a prerequisite of three credits in history or permission of the instructor.

Bachelor of Arts: 33 credits

Bachelor of Science-Education: 30 credits

The following courses are required of both Bachelor of Arts and Bachelor of Science in Education majors.

Required courses: 12 semester hours

Two of the following:

Hist 121: Ancient and Medieval Civilizations

Hist 122: Twentieth Century World

Hist 123: Europe to 1815

Two of the following:

Hist 201: U.S. to 1825

Hist 202: U.S. to 1900

Hist 203: U.S. Since 1900

Distributional electives: 21 semester hours for Bachelor of Arts. 18 for Secondary Education Majors. 6 credits in each area (9 in one area for B.A.)

American History

Hist 211, 212, 215, 327, 351, 372, 401, 410, 445, 451, 452, 453, 455

Non-Western History

Hist 270, 280, 311, 341, 342, 351, 352, 362, 363, 371, 462, 471

European History

Hist 270, 322, 325, 331, 332, 341, 345, 420, 422, 424, 440

Minor in History: 18 semester hours required in one of the following tracks:

1. American History Track: 6 hours from 201, 202, 203; 9 hours from 211, 212, 215, 327, 351, 352, 372, 401, 410, 420, 445, 451, 452, 453, 455 (6 hours must be 300 level or above); 3 hours free elective in history.
2. European History Track: 6 hours from 121, 122, 123; 9 hours from 270, 322, 325, 331, 332, 341, 342, 345, 420, 422, 424, 440; 3 hours free elective in history.
3. Non-Western History Track: 6 hours of 121, 122; 9 hours from 270, 280, 311, 341, 351, 352, 362, 363, 371, 420, 462, 471 (6 hours must be 300 level or above); 3 hours free elective in history.
4. General History Track: 9 hours of 100 and 200 level courses; 9 hours of electives 300 level or above.



## HISTORY COURSES

**Hist 121: Ancient and Medieval Civilization** — Major civilizations of the Western world as they meet and interact with the East. Emphasis is upon cultural achievements and institutional development to 1650. (3 sem. hours)\*

**Hist 122: Twentieth Century World** — Contemporary history in the perspective of World War I and II, the Great Depression and the challenge of totalitarianism to democracy—Lenin vs. Wilson; Mussolini, Franco, Hitler and Tojo vs. Churchill and Roosevelt; Stalin and Mao Tse-tung. (3 sem. hours)\*

**Hist 123: Europe to 1815** — European peoples and nations from the Renaissance and Reformation to the French Revolution and the Napoleonic Wars. (3 sem. hours)\*

**Hist 201: Colonial America to 1825** — The colonies, the American Revolution, the new nation and Jeffersonian democracy to the Jacksonian period, including some study of ethnic groups. (3 sem. hours)\*

**Hist 202: United States, 1825-1900** — Jacksonian era to world power, including sectionalism, manifest destiny, Civil War and Reconstruction and problems of industrialization. (3 sem. hours)\*

**Hist 203: U.S. History Since 1900** — Social, economic and political history of the 20th century, including World War I, and the twenties, the New Deal, World War II, postwar problems and the American Negro's struggle for acceptance. (3 sem. hours)\*

**Hist 211: Black America to 1876** — To investigate, discuss and debate the historical experience of Black Americans from their origins in West Africa, through the Middle Passage and the Plantation, to the 15th Amendment and the Sell-Out of 1876. (3 sem. hours)\*

**Hist 212: Black America Since 1876** — The historical experiences of Black Americans from the collapse of the Reconstruction and the emergence of Booker T. Washington, through the NAACP, UNIA and the Harlem Renaissance, to the rise of the Nation of Islam, CORE, SCLC and the election of 1976. (3 sem. hours)\*

**Hist 215: Outstanding Americans** — A biographical approach to the study of American history. A study is made of the lives of those Americans who have made a contribution to society outside the political arena. (3 sem. hours)\*

**Hist 270: Warfare in the Twentieth Century** — A survey of wars in this century with emphasis on World Wars I and II. Technical innovation, military theory and strategy will be examined along with their relationship to the nations involved. (3 sem. hours)\*

**Hist 280: Egyptology** — A study of the history and culture of Ancient Egypt from the Old Kingdom through the New Kingdom. The methods and disciplines utilized in the study of an ancient culture will be analyzed and evaluated. (3 sem. hours)\*

**Hist 311: History and the Bible** — The history of the eastern Mediterranean area from 1800 B.C.-100 A.D. with a study of the Old and New Testaments in order to evaluate their historical validity. (3 sem. hours)\*

**Hist 322: Germany in the Twentieth Century** — Germany's drive for recognition as a world power, culminating in the horror of World War I, and failure of the Weimar Republic, the rise of Hitler and Nazism, World War II and the division into East and West Germany. (3 sem. hours)\*

**Hist 325: History of Women** — An analysis of women from the earliest civilizations to the 20th century through the examination of the lives of ordinary and outstanding women from different levels of the social order. (3 sem. hours)\*

**Hist 327: Indians of the United States** — The history and culture of the seven major geographic-cultural groups of Native Americans, including analysis of the clash of cultures with European civilization. (3 sem. hours)\*

**Hist 331: England to 1689** — Celts, Anglo-Saxons, Danes and Normans in the formation of a nation, the medieval period, and the Tudor and Stuart Centuries. (3 sem. hours)\*

**Hist 332: England Since 1689** — The rise to world dominion through sea power to the rivalry with Germany. (3 sem. hours)\*

**Hist 341: Russia to 1855** — A social, political and cultural history from ancient times to the death of Nicholas I. (3 sem. hours)\*

**Hist 342: Russia Since 1855** — Continuity and change in Russia from the reign of Alexander II through the Soviet period. (3 sem. hours)\*

**Hist 345: Nineteenth Century Europe** — From the Congress of Vienna to the outbreak of World War I, examining nationalism, liberalism, the response to industrialism, imperialism, the rise of the alliance system, and the breakdown of nineteenth century order. (3 sem. hours)\*

**Hist 351: Latin America to 1830** — Political, economic and social development of the Spanish and Portuguese colonies in America, culminating in the winning of national independence. (3 sem. hours)\*

**Hist 352: Latin America Since 1830** — Various developing countries of Latin America, their internal problems, international relations and historic evolution to the present. (3 sem. hours)\*

**Hist 362: Africa North of the Zambezi** — Language groups, migrations of peoples, external influences, colonialism and the emergence of independent states. (3 sem. hours)\*

**Hist 363: Southern Africa** — The Republic of South Africa and the High Commission Territories of Bechuanaland, Swaziland and Basutoland, including colonialism, imperialism, war and reconstruction in the 19th and 20th centuries. (3 sem. hours)\*

**Hist 371: History of Jews** — A course surveying Jewish life and thought from early Roman times to the present. Four thousand years of Jewish participation in most world civilizations are examined, and religious, philosophical and literary contributions are analyzed. (3 sem. hours)\*

**Hist 372: The American City** — Growth, impact and significance of the city and town in American history. A study of ethnology, religion and education as factors in urban development with emphasis on industrialization as it transformed society and thought. (3 sem. hours)\*

#### **Hist 390: Selected Topics in History**

**Hist 401: Pennsylvania** — The founding and growth of Pennsylvania to the present. (3 sem. hours)\*

**Hist 410: Westward Movement** — The westward movement in continental United States from discovery to 1890. Special emphasis on the trans-Mississippi West. (3 sem. hours)\*

**Hist 420: Women's Studies Synthesis** — An in-depth investigation into specific topics of Women's Studies through individual reading assignments and group discussions. Prerequisite: 3 hours in Women's Studies or instructor approval. (3 sem. hours)\*

**Hist 422: Greece and Rome** — The major events in the evolution of classical civilization. (3 sem. hours)\*

**Hist 424: The Middle Ages** — Major political, social, economic, and intellectual events in the feudal era of Western Europe. (3 sem. hours)\*

**Hist 440: French Revolution and Napoleon** — French political, social and economic affairs in the 18th century, the French Enlightenment, the Revolution and the Napoleonic period. (3 sem. hours)\*

**Hist 445: Environmental Thought in the United States** — American philosophical foundations of environmental thought in American history with emphasis upon changing attitudes and evaluations of successes and failures. (3 sem. hours)

**Hist 450: History Internship** — Supervised placement and research in selected public and private agencies at appropriate institutions. (sem. hours arranged)

**Hist 451: U.S. Foreign Relations to 1890** — Foreign relations from the beginning of our national history to the era of imperialism and the Spanish-American War. (3 sem. hours)\*

**Hist 452: U.S. Foreign Relations Since 1890** — American foreign policy from the Spanish-American War to the present. (3 sem. hours)\*

**Hist 453: American Constitutional History and Law** — Federal constitution by the Supreme Court, including the growth of constitutional law and political, social, economic and technological changes. May be used as a political science elective. (3 sem. hours)\*

**Hist 455: Economic U.S. History** — American economic development, with emphasis on change and growth in commerce, industry, labor, finance and governmental participation. May be used as an economics elective. (3 sem. hours)



**Hist 462: The Contemporary Middle East** — The economic, social, cultural and political aspects of the Middle East in the perspective of the past. (3 sem. hours)\*

**Hist 471: China and Japan** — Transformation of China and Japan in modern times, under the impact of Europe, America and Russia. (3 sem. hours)\*

**Hist 490: Independent Study** — For history majors or advanced students with a background in history. Prerequisite: QPA of 2.75 in history, permission of department. (1-3 sem. hours)

## Political Science Department

Spotts World Culture Building, Room 209

(412)794-7315

Central to all our lives is government and what it does. Political Science studies the politics that surround government and the political behavior of citizens and politicians. It tries to explain and understand the structure and operation of governments, the policies that government adopts, and the major issues and values of political life.

Political Science majors develop the analytic and practical skills that are necessary to grasp the wide range of political problems and opportunities that challenge society in the last decades of the 20th century. The concern for maintaining a quality academic environment is combined with an emphasis on expanding the future employment possibilities of political science majors. Political science majors are prepared to: (1) enter occupations related to the field, (2) enter graduate or law school, and (3) enter occupations in other fields such as education or business and industry.

The members of the department assist students in developing a philosophy of life and meaningful civil roles and in acquiring the skills that are basic to political, social, and economic success. To prepare students for continuous civic involvement, responsible citizenship in the academic community is encouraged through participation in department, school and university affairs. Practical experience in politics is provided through class activities and the internship program that involves students in the work-a-day worlds of neighboring communities, Harrisburg, Washington, D.C., and other governments.

**Requirements for the Major in Political Science.** Majors in political science must complete a minimum of 30 semester hours. Students are required to take PolS 100, 101, 103, and 210, and at least two courses from each of the following areas: (1) American politics, (2) International/Comparative politics, and (3) Political Theory. Additional elective courses may be taken from within the political science fields. The political science graduate receives a BA degree.

Education majors concentrating in political science must complete a minimum of 36 semester hours just as the BA candidate. In addition, the education-political science major must take at least two courses from each of the other disciplines in the social sciences and complete 28 hours of professional education courses. The education-political science graduate receives a B.S. Ed. degree.

### **Political Science Minor in American Politics**

The student who elects to take the Political Science minor in American Politics is required to take a number of courses as detailed below. The total number of hours is 18.

Required courses, 12 hours

PolS 101, American National Government

PolS 321, The Presidency

PolS 323, The Courts

PolS 325, The Congress

Electives: select two (2) of the following, 6 hours minimum

PolS 200, State and Local Government

PolS 201, Interest Groups

PolS 224, Civil Liberties

PolS 260, Political Parties and Elections

PolS 403, Constitutional Law

### **Political Science Minor in International/Comparative Politics**

The student who elects to take the Political Science minor in International/Comparative Politics is required to take courses as detailed below. The total number of hours is 15.

Required courses, 12 semester hours

PolS 103, Elements of World Politics

PolS 200, Foreign Policy

PolS 320, International Politics

PolS 363, Comparative Politics

Electives: select one (1) of the following, 3 semester hours minimum

PolS 328, Politics of the Socialist World

PolS 425, International Organization and Law

## **POLITICAL SCIENCE COURSES**

**PolS 101: American National Government** — A survey of American national politics, emphasis on the constitution, parties, interest groups, elections, organization, and structure of government. (3 sem. hours)\*

**PolS 103: Elements of World Politics** — An overview of the politics of various governments; the nature of relations among nations; a study of problems such as terrorism and multinationals as political actors. (3 sem. hours)\*

**PolS 105: Political Systems and Ideologies** — An introduction to classical and modern theories of politics, government, and citizenship. (3 sem. hours)\*

**PolS 200: State and Local Government** — Examines state levels of government; emphasis is on constitutions, parties and interest groups, elections, organization and structure of government. (3 sem. hours)\*

**PolS 201: Interest Group Politics** — The study of formation, membership, status, tactics, and policies of interest groups. (3 sem. hours)\*

**PolS 202: Politics of Law Enforcement** — The study of the courts, police, offenders, and the community in terms of the criminal justice system. (3 sem. hours)\*

**PolS 224: Civil Liberties** — An examination of the development, nature and content of individual civil liberties in the United States. (3 sem. hours)\*

**PolS 228: Communist Politics** — Communist political systems, their government, policies, social and economic environment, and relations with other nations are examined. (3 sem. hours)

**PolS 231: Japanese Politics and Culture** — This course is designed to be a survey of Japanese politics, society, and culture. It will cover such areas as arts, history, philosophy, but will focus on politics and problems associated with all of these areas. (3 sem. hours)\*



**PolS 310: Research Methods** — An examination of the foundations of systematic research, techniques of data collection and methods of data analysis. Prerequisites: PolS 101, 103 and 105 or permission of instructor. (3 sem. hours)

**PolS 321: The Presidency** — The study and evaluation of executive leadership in modern governments; the roles, functions and types of presidential leaders. Prerequisite: PolS 101 or permission of instructor. (3 sem. hours)

**PolS 323: The Courts** — The examination of judicial structures, functions and organizations; emphasis on judicial decision-making and policies. Prerequisite: PolS 101 or permission of instructor. (3 sem. hours)

**PolS 324: Politics of Ecology** — The study of political control of the environment; focus on the roles played by individuals and groups. (3 sem. hours)

**PolS 325: The Congress** — The study of legislative structures, functions and organizations; focus on legislative elections, committees, and decision-making. Prerequisite: PolS 101 or permission of instructor. (3 sem. hours)

**PolS 327: Public Opinion and Political Attitudes** — An examination of the nature, origins, and structures of political attitudes. Prerequisites: 3 hours of political science or permission of instructor. (3 sem. hours)

**PolS 341: Classical Political Thought** — The examination and evaluation of political theorists to approximately 1500: Plato, Aristotle, Augustine, Aquinas and others. Prerequisite: PolS 105 or permission of instructor. (3 sem. hours)

**PolS 343: Modern Political Thought** — The examination and evaluation of political theories from 1500 to the present: Machiavelli, Rousseau, Locke, Marx, Dewey, and others. Prerequisite: PolS 105 or permission of instructor. (3 sem. hours)

**PolS 345: Contemporary Political Thought** — The study of contemporary political theory since Marx and Mill. The course shall cover such theorists as Lenin, Marcuse, Freud, Arendt, Habermas, and Niebuhr, and others. Prerequisite: PolS 105 or permission of instructor. (3 sem. hours)

**PolS 361: Foreign Policy** — The study of selected instruments of foreign policy, how it is formulated and implemented; focus on one country. Prerequisite: PolS 103 or permission of instructor. (3 sem. hours)\*

**PolS 363: Comparative Politics** — Stress on descriptions and conceptions of the state and political institutions in the non-western and western worlds; attention on policy-making, national issues, and systems. Prerequisite: PolS 103 or permission of instructor. (3 sem. hours)\*

**PolS 365: International Politics** — The in-depth analysis of the political relationships among nation-states. Prerequisite: PolS 103 or permission of instructor. (3 sem. hours)

**PolS 367: National and International Security: Problems and Issues** — National security problems combine aspects of American government, international relations, game theory, and logistical problems derived from Research Development priorities, economics. The course introduces the major issues of our time such as arms control, disarmament, the nature of war, the reality of decision-making and various case studies. Prerequisite: PolS 103 or permission of instructor. (3 sem. hours)

**PolS 368: The Politics of Industrialized Nations** — A study of the uniformities and differences among mobilized modern political systems through the utilization of the development method of approach to comparative politics. Prerequisite: PolS 103 or permission of instructor. (3 sem. hours)

**PolS 369: The Politics of Industrializing Nations** — A developmental approach to the comparative study of the primary functions, structures and capabilities of various industrializing political systems such as India, China, Mexico, Brazil, Tanzania. Prerequisite: PolS 103 or permission of instructor. (3 sem. hours)

**PolS 390: Selected Topics** — The in-depth examination of a specific topic; nature of topic selected and its treatment dependent on the instructor. (3 sem. hours)

**PolS 403: Constitutional Law** — The case study and analysis of the development and growth of constitutions through judicial interpretation. (3 sem. hours)

**425: International Organization and Law** — The examination of the structure, scope and development of international organizations; the analysis of the sources and development of international law. (3 sem. hours)

**PolS 450: Internship** — Supervised placement and research in selected public and private agencies. (3-12 sem. hours)

## SPECIAL COURSES

**PolS 490: Independent Study**—In-depth reading and research in an area of particular interest to the student, with the guidance of an individual faculty member. (1-3 sem. hours)

# Psychology Department

Strain Behavioral Science Building, Room 210

(412)794-7284

Psychology is a science of the behavior of living organisms with a scope of interest which ranges from the amoeba to man. The discipline is experiencing unprecedented growth and change. There is no more exciting nor more important science than one which attempts to understand man himself.

In the Department of Psychology emphasis is placed upon student-faculty interaction. Several courses are individualized with tutorial instruction rather than lectures to large groups. Students are offered many opportunities to conduct, under faculty supervision, empirical studies of behavior related to their interests and career goals.

The department has established experimental laboratories for studying animal and human learning, psychophysics, physiological processes and clinical behavior modification. Students have access to the SRU Computer Center facilities for training in computer applications in psychology. The department has developed working relationships with a number of private and community agencies to provide research and training experiences for students.

The Psychology Department is oriented toward meeting three broad educational needs: (1) preparation of students for occupations related to the field; (2) preparation of exceptional students for entry into graduate programs at universities; and (3) preparation for other fields, such as medicine, law, social work and others.

## Bachelor of Arts degree in Psychology

Specialization: Psychology (30 semester hours)

Required courses:

Psyc 110, 111, 221, 225

## Bachelor of Science degree in Psychology

Specialization: Psychology (36 semester hours)

Required courses:

Psyc 110, 111, 221, 225, 450

## Minor in Psychology

Required courses: (15 semester hours)

Psyc 110 and 12 semester hours of elective psychology courses, 6 hours of which must be at the 300 or 400 level

## PSYCHOLOGY COURSES

**Psyc 100: Applied Psychology and Human Problems** — Introduction to behavior problems and the relationship of cognitive, social, ecological and cultural factors. (3 sem. hours)\*

**Psyc 110: Principles of Behavior** — Psychology as a natural science covering the goals and principles of a science of behavior. (3 sem. hours)\*

**Psyc 111: Basic Behavior Science** — Basic rudiments of simple experimental design, descriptive statistics, and correlation taught through direct experimentation. Prerequisite: Psyc 110 or concurrent registration or equivalent. (1 sem. hour)\*



**Psyc 189: Environmental Psychology** — Man's interference with the environment, including overpopulation, isolation, social institutions as environment, noise, housing, community design, behavioral effects of pollutants and behavior genetics. (3 sem. hours)\*

**Psyc 190: Selected Topics in Psychology**—(Lower Division)

**Psyc 210: Psychology in Business and Industry** — Introduction to the application of psychology to business, industry and other organizational behavior. Subjects include employment, promotion practices, supervision, motivation, training and human factors. Prerequisite: 3 hours of psychology. (3 sem. hours)\*

**Psyc 221: Research Methods and Statistical Applications I** — Introduction to descriptive and inferential statistics used in evaluation and reporting of behavioral research. (3 sem. hours)

**Psyc 225: Introduction to Experimental Psychology** — Training in the design and performance of behavioral experiments. Prerequisites: Psyc 110, 221. (4 sem. hours)

**Psyc 230: Nutrition and Behavior** — The course will examine the nutritional factors involved in several emotional and mental disorders such as learning disabilities, hyperkinesis, autism, criminal behavior, depression, anxiety, schizophrenia, alcoholism, drug addiction and related behaviors (e.g. anorexia nervosa). (3 sem. hours)\*

**Psyc 240: Human Sexual Behavior** — Examines personal socio-cultural factors in sexual functioning. Motivational, developmental, personality and clinical implications are explored. Prerequisite: Psyc 100 or 110 or permission (3 sem. hours)\*

**Psyc 300: Psychology of Women** — A survey of empirical and theoretical psychological studies of women. (3 sem. hours)\*

**Psyc 301: Motivation** — Concepts, theories and findings related to contemporary psychology of motivation. Prerequisite: 6 hours of psychology. (3 sem. hours)

**Psyc 302: Psychology of Criminal Behavior** — The study of how individual criminal behavior is acquired, evoked, maintained and modified. Prerequisite: Psyc 100 or 110 or permission. (3 sem. hours)\*

**Psyc 303: Learning** — Classical and instrumental conditioning, verbal learning, problem solving, habit formation and retention. Prerequisite: Psyc 221, 225. (3 sem. hours)

**Psyc 306: Introduction to Psychological Testing** — Psychological tests including intelligence, achievement, aptitude, interest and personality. Prerequisite: Psyc 221. (3 sem. hours)

**Psyc 310: Organization and Management** — A survey of the major approaches to organization theory with emphasis on the application of psychological theories to behavior in organizational settings. Prerequisite: 3 hours of psychology or consent of the instructor. (3 sem. hours)\*

**Psyc 311: Physiological Psychology** — Physiological components of behavior, including neuro-anatomy and neuro-physiology, functional organization, neuro-chemical control and motivational/emotional states. Prerequisite: Psyc 110. (3 sem. hours)\*

**Psyc 313: Animal Behavior** — An introduction to contemporary "comparative" animal psychology with an emphasis on principles of ethology, phylogenetic/evolutionary concepts and social behavior of infra-human organisms. Prerequisite: Psyc 100 or 110. (3 sem. hours)

**Psyc 321/621: Drugs and Behavior** — Psychoactive drugs and their action on the human nervous system; legal and socio-cultural aspects of drug abuse. Prerequisite: Psyc 100 or 110 or consent of instructor. (3 sem. hours)\*

**Psyc 333: Sensory Systems** — Basic anatomy, physiology and role of sensory systems in perception and sensation. Prerequisite: Psyc 110. (3 sem. hours)\*

**Psyc 338: Cognitive Psychology** — A survey of theories and facts related to complex information processing and conscious experience in humans. Topics covered will include attention, memory, problem solving, symbolic processes and human consciousness. Prerequisite: Psyc 100 or 110. (3 sem. hours)\*

**Psyc 344: Developmental Psychology** — Human development from conception to senescence with emphasis on the theoretical and practical implications. Prerequisite: Psyc 110. (3 sem. hours)\*

**Psyc 360: History of Psychology** — Changes in approaches to understanding behavior as they appear in the evolution of Western civilization. Prerequisite: Psyc 110. (3 sem. hours)

**Psyc 365: Psychology of Aging** — Psycho-social, clinical and developmental aspects of aging, implications of optimal developmental and effective management of problems confronting the aged. Prerequisite: 6 hours of psychology. (3 sem. hours)\*

**Psyc 376: Abnormal Behavior** — Contemporary views of abnormal behavior, its implications and treatment. Prerequisite: Psyc 100 or 110. (3 sem. hours)\*

**Psyc 377: Social Psychology** — The psychological implications of man's social existence; a study of the social forces affecting human behavior. Prerequisite: Psyc 100 or 110. (3 sem. hours)\*

**Psyc 378: Clinical Child Psychology** — An overview of the clinical practice with children with a concentration on child therapies as they are part of the contemporary practice of psychology. (3 sem. hours)

**Psyc 390: Selected Topics in Psychology**—(Upper Division)

**Psyc 408: Personality** — Study of normal personality: structure, dynamics, change, measurement and theories. Psychological knowledge from various sources is integrated in the search for an explanation of human behavior. Prerequisite: 6 hours of psychology. (3 sem. hours)

**Psyc 410: Introduction to Clinical Psychology** — Introduction to basic skills of clinical psychology. Prerequisite: Psyc 306 and 376. (3 sem. hours)

**Psyc 415: Intellectual Assessment** — Techniques of administrative, scoring and interpretation of objective tests of intelligence. Prerequisite: Psyc 306. (3 sem. hours)

**Psyc 421: Research Methods and Statistical Applications I** — Intermediate forms of statistical analysis of behavioral research, their rationale, and computer applications are introduced. Prerequisite: Psyc 221, and 225. (3 sem. hours)

**Psyc 449: Seminar in Psychology** — Advanced topics will be announced in the schedule. Prerequisite: 9 hours of psychology or permission. (3 sem. hours)

**Psyc 450: Psychology Internship** — Supervised placement and research in selected public and private agencies at appropriate institutions. Prerequisite: permission. (3-9 sem. hours)

**Psyc 475: Behavior Modification** — Application of learning and other psychological principles in behavior therapy. Prerequisite: Psyc 100, 110 and 303, or permission. (3 sem. hours)

**Psyc 480: Behavior Management** — Principles, methods and ethics of behavior management in community, industrial and/or congregate facilities. Prerequisite: Psyc 110 and 303. (3 sem. hours)

**Psyc 490: Independent Study** — Supervised project, historical, theoretical or experimental. Prerequisite: permission. (1-3 sem. hours)





# Public Administration Department—

Spotts World Culture Building, Room 214

(412)794-7717

Public Administration deals with the management of government agencies at all levels of government, how the decisions of our elected and appointed officials are made and carried out, and the impact that these decisions have on the public and private sectors of the economy. The courses of study in Public Administration include: organizational theory, bureaucratic behavior, policy analysis, budgetary processes, personnel administration, management and administrative responsibilities, ethics, and the future of American public administration.

The Department offers a Bachelor of Science in Public Administration and a minor in Public Administration. The B.S. in Public Administration is offered for students who: (1) desire a thorough knowledge of the skills needed for successful management of public and quasi-public programs and institutions; (2) believe that an understanding of public administration and the issues and problems faced by public institutions will be useful in their life and career plans; or (3) are interested in pursuing a graduate program in public administration or public affairs. While the rapid rate of growth in government employment is expected to slow somewhat in the 1980's, there is continuing demand for well-educated, professional managers at all levels of government, particularly in local government.

The minor in Public Administration is intended to be useful to those students in various majors who anticipate that their careers will be in, or importantly affected by, government agencies. It is also useful for students who expect to move into managerial levels in the course of their careers.

## Bachelor of Science Degree in Public Administration

Required courses: (48 semester hours)

- I. Core Courses (18 semester hours)  
PubA 150, 254, 280, 284, 352, 460, 450, or 490
- II. Research Skills (9 semester hours)  
CpSc 160, BusA 219, 220, PolS 210, Psyc 421, and PubA 351
- III. Area Requirements (12 semester hours)  
Three semester hours from PubA 252, 312, 354, 453  
Three semester hours from PubA 346, 366, 390, 402  
Six semester hours from PubA 300, 310, 348, 350, 360
- IV. Major Electives (6 semester hours)  
Six semester hours in other departments selected from a list of related courses.

## Minor in Public Administration

Required courses: (24 semester hours)

- A. Core courses (12 hours)  
PubA 150, 254, 280, 284
- B. Research skills (3 hours)  
Three semester hours from BusA 219, PolS 210, Psyc 221
- C. Area Requirements (9 hours)  
Three semester hours from PubA 252, 354, 453  
Three semester hours from PubA 346, 366, 390  
Three semester hours from PubA 300, 310, 348, 360

## PUBLIC ADMINISTRATION COURSES

**PubA 150: Introduction to Public Administration** — The study of the organization and procedures of administrative agencies. (3 sem. hours)\*

**PubA 205: Local Administration** — An introduction to the sub-state administration of public service, counties, municipalities, special districts, and local quasi-governmental organizations. (3 sem. hours)\*

**PubA/G&ES 215: Rural and Urban Planning** — An introduction to social and physical planning for rural areas, towns, and cities. (3 sem. hours)

**PubA 252: Administration Law** — A study of the legal basis, powers, and procedures of the administrative agencies. (3 sem. hours)\*

**PubA 254: Introduction to Public Policy** — The study and evaluation of the formulation, enactment, and implementation of public policies. (3 sem. hours)\*

**PubA 280: Budgeting and Financial Management** — Analysis of the theory and practice of public budgeting in various jurisdictions, including incremental, performance, program and objectives budgeting, ZBB, applications and relationship to financial management and fiscal policy. (3 sem. hours)\*

**PubA 284: Personnel and Human Resources** — An examination of techniques, practices and procedures in public personnel administration, with emphasis on state and local governments, in addition to Federal government policies and practices. (3 sem. hours)\*

**PubA 300: Intergovernmental Relations** — Study of federalism, its impact on administrative policy, and the current forms of intergovernmental relations including grants-in-aid and revenue-sharing. (3 sem. hours)

**PubA 310: Organization Development** — An introduction to the theories and methods of "planned change" in public organizations. The course will focus on the relationships of organization purpose, the human interaction process, and the organization culture. (3 sem. hours)\*

**PubA 312: Fund Accounting** — Accounting theory and practice as it applies to governmental and other not-for-profit institutions. Prerequisite: BusA 209. (3 sem. hours)

**PubA 346: Policy Analysis and Evaluation** — An examination of the theoretical and practical issues associated with the application of analytic and evaluative techniques to selected public policy problems and programs. (3 sem. hours)\*

**PubA 348: Bureaucracy** — Approaches to the study of the structure and functions of large scale social organizations. Prerequisite: SASW 201 or 202. (3 sem. hours)\*

**PubA 350: Principles of Management** — Decision-making in all types of reorganizational systems, including planning, organizing, leading, motivating, controlling, and conflict resolving activities. Prerequisite: Psyc 110, sophomore standing. (3 sem. hours)

**PubA 351: Public Management Techniques** — Analysis of management techniques applicable to non-profit and governmental operations. Network analysis, queueing theory, trade-off analysis, decision trees and cost-benefit analysis are explained with application offered through case studies of public programs. PolS 210 Research Methods or Econ 219 Elementary Business and Economic Statistics are prerequisites. (3 sem. hours)

**PubA 352: Theory of Public Administration** — A study of the background of current administrative models, of the functions served by rational execution of the laws, and of the political values and motivations of bureaucracies. (3 sem. hours)

**PubA 353: Development of Management Thought** — Contemporary management as the result of an evolutionary process involving the thoughts and writings of many famous theoreticians and practitioners. (3 sem. hours)

**PubA 354: Personnel Administration** — The basic processes, principles and policies to be pursued, as well as the tools, techniques, and methods which can be utilized in the management of personnel in any organization. Prerequisite: PubA 350. (3 sem. hours)

**PubA 360: Comparative Public Administration** — An examination of non-American public administration systems with particular emphasis on innovative structures and procedures and their possible application to American problems. (3 sem. hours)



**PubA 366: Selected Topics in Public Policy** — An examination of the background, current issues, major problems, and central actors involved in a particular area of public policy. (3 sem. hours)\*

**PubA 402: Public Finance** — Nature, incidence, and economic effects of taxation; government spending; public debt management; fiscal administration. (3 sem. hours)

**PubA/G&ES 445: Regional Planning** — Deals with planning for the future of regions that are larger than any single local government. Consideration is given to economic development, land use, transportation, and other regional planning concerns. Prerequisite: G&ES/PubA 215. (3 sem. hours)

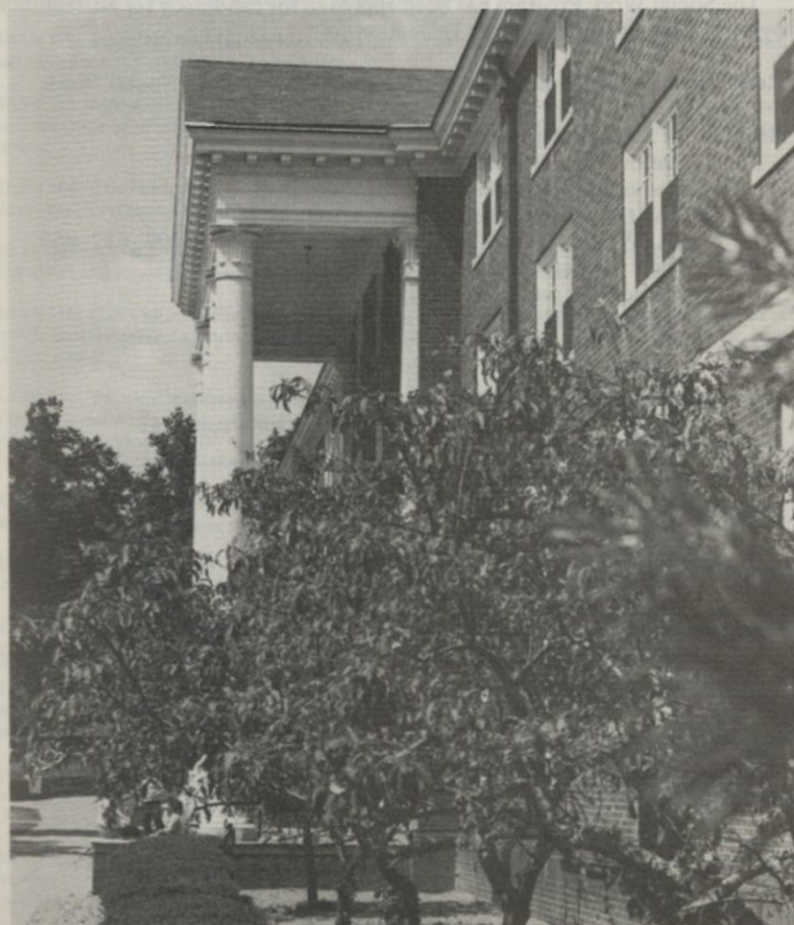
**PubA 450: Internship** — Supervised field experience in a selected public agency or other organization related to public administration. (3-12 sem. hours)

**PubA 453: Collective Bargaining** — The "negotiation game," major issues in bargaining; public policy implications; impasse resolution and strikes; legislation affecting collective bargaining. Prerequisite: Econ 452 or permission. (3 sem. hours)

**PubA 460: Seminar in Public Administration** — Integrative, senior level seminar which applies administrative and research skills to a practical problem in public administration. (3 sem. hours)

**PubA 490: Independent Study** — In-depth reading and/or research in an area of particular interest to the student, done with the guidance of an individual faculty member. (1-3 sem. hours)

**PubA 498: Selected Topics in Public Administration** — The in-depth examination of a specific topic; the nature of the topic selected and its treatment depend on the instructor. (3 sem. hours)



# Sociology/Anthropology/ Social Work Department

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Spotts World Culture Building, Room 004

(412)794-7325

Sociology/Anthropology/Social Work offers a variety of courses which explore the social and cultural bases of human existence. Many of these courses deal with the origin, behavior, interactions and products of human groups, as well as the problems created in living in groups.

The department offers two degrees: the Bachelor of Science in Social Work and the Bachelor of Arts in Sociology. The B.A. degree has three tracks: Applied Sociology, General Sociology, and Anthropology.

The B.S. in Social Work is designed to prepare students for entry level positions in public and private social work agencies. The Applied Sociology concentration prepares graduates to work in organizations in planning, research, and policy analysis positions. The General Sociology and Anthropology tracks offer broad liberal arts preparation for a variety of careers as well as for graduate education.

The department also offers minors in sociology, anthropology and social work for students who wish to gain an understanding of culture and society but do not want to concentrate their studies in this department.

The Social Work Program has been approved for candidacy for accreditation by the Council on Social Work Education.

## Requirements for the major in Sociology/Anthropology/Social Work

### Bachelor of Science degree in Social Work

Specialization: Social Work

Required courses:

SASW (44 semester hours)

SASW 201, 250, 251, 317, 318, 355, 356, 357, 407, 412, 450

Three semester hours from SASW 202, 321

Psychology (6 semester hours)

Psyc 110, 344

Biology (3 semester hours)

Biol 102

Electives (6 semester hours)

Any 300 or 400 level courses with advisor's approval

### Bachelor of Arts degree in Sociology

Specialization: Applied Sociology

Required courses:

SASW (39-42 semester hours)

SASW 201, 202, 317, 318, 348, 401, 412, 415, 450

Three semester hours from SASW 304, 305

Specialization (9 semester hours)

Three courses in sociology or other subjects chosen in consultation with advisor

### Bachelor of Arts degree in Sociology

Specialization: General Sociology

Required courses:

SASW (30 semester hours)

SASW 201, 202, 317, 318, 412

12 semester hours from 300 and 400 level SASW courses



**Bachelor of Arts degree in Sociology**

Specialization: Anthropology

Required courses:

SASW (30 semester hours)

SASW 201, 202, 310, 311, 317, 320, 401, 412

6 semester hours from 300 and 400 level SASW courses

**SOCIOLOGY/ANTHROPOLOGY/SOCIAL WORK COURSES****SASW 103: Contemporary Social Problems** — An analysis of major social problems confronting modern society. (Intended for freshmen and sophomores). (3 sem. hours)\***SASW 104: Courtship and Marriage** — Contemporary beliefs and behavior with respect to dating, marriage and related topics. (Intended for freshmen and sophomores) (3 sem. hours)\***SASW 105: Human Diversity** — An orientation to living and working with diverse populations within modern American society, including examination of the strengths and stresses associated with diversities. (3 sem. hours)\***SASW 201: Principles of Sociology** — Basic concepts of social behavior, group structure and group processes. (3 sem. hours)\***SASW 202: Introduction to Anthropology** — Human beings as cultural and biological entities. Emphasis-primitive and peasant societies. (3 sem. hours)\***SASW 250: Social Welfare Institutions** — An introductory analysis of social welfare policies, issues, and institutions. (3 sem. hours)**SASW 251: Introduction to Social Work** — An orientation to the field of social work and social work activities in the community. Includes agency lab. Prerequisites: SASW 201 or permission. (3 sem. hours)**SASW 304: The Modern City** — Sociological aspects of urban life. Includes metropolitan areas and small cities. Prerequisite: 201 or 202. (3 sem. hours)\***SASW 305: Rural Society** — An examination of contemporary non-metropolitan life styles, population factors and social structures. Prerequisite: 201 or 202. (3 sem. hours)\***SASW 310: Cultural Area Studies** — Anthropology course dealing with sociocultural phenomena of specific culture-areas. Topics to be announced. May be taken for 6 semester hours. Prerequisite: 202. (3 sem. hours)**SASW 311: Physical Anthropology and Archaeology** — The physical dimensions of human beings. Their place among the primates; physical evolution, genetics, variation and microevolution. Archaeological evidence for cultural evolution. Survey and excavation techniques and archaeological analysis. Prerequisite: 202 or permission. (3 sem. hours)\***SASW 317: Sociological Research and Statistical Analysis I** — Introduction to basic statistical concepts and research techniques used in social research. Prerequisite: 201 or 202. (3 sem. hours)**SASW 318: Sociological Research and Statistical Analysis II** — Major methods and procedures used in sociological research. Prerequisite: 317. (3 sem. hours)**SASW 319: Sociology of Education** — Sociological analysis of education as a social institution and a social process. Prerequisite: 201 or 202. (3 sem. hours)\***SASW 320: Anthropology Methods** — Data gathering techniques and evaluation of anthropological phenomena from tribal, peasant and industrial societies. Alternative to SASW 318. Prerequisites: 202 and 317 or permission. (3 sem. hours)**+SASW 321: Minority Groups** — An examination of the minority group concept with special emphasis on women, the poor, behavioral and physical minorities. Prerequisite: 201 or 202. (3 sem. hours)\***SASW 323: Deviant Behavior** — The subject and nature of deviance with particular emphasis on its relativity and its relationship to social control and social change. Prerequisite: 201 or 202. (3 sem. hours)\*

**+SASW 324: The Family** — Comparative perspectives of the family as a universal social institution. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 325: Society, Culture, and Self** — An examination of the relationship between personal characteristics and social environment. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 326: Population and Society** — Sociological/anthropological analysis of selected population trends, problems and controversies in the contemporary world—both literate and non-literate. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 330: Collective Behavior** — An analysis of social movements, publics, crowds, mobs and similar social phenomena. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 339: Sex Roles and Society** — An examination of sex roles, what they are, how they develop and how they are maintained. An examination of the effects of sex roles on education, occupation, the policy and other institutions as well as the effects of role restrictions of personal relationships. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 340: Class, Status and Power** — Power in modern society. Theoretical and factual analysis of stratification and mobility. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 342: Sociology of Aging** — Social changes which accompany aging. Emphasis placed upon how social processes influence patterns of aging and social problems of older people. Prerequisite: 201 or 202. (3 sem. hours)

**SASW 348: Bureaucracy** — Approaches to the study of the structure and functions of large scale social organization. Prerequisite: 201 or 202. (3 sem. hours)\*

**SASW 350: Sociology of Sport** — Theory and research on sport and its functions as a social institution. Prerequisite: 201 or permission. (3 sem. hours)\*

**SASW 355: Principles of Social Work Practice** — Principles and practice of interviewing processes as applied to casework methods. Prerequisite: SASW 250, 251, or permission. (3 sem. hours)

**SASW 356: Social Work Methods I** — Expands knowledge and skills base to include social work practice with family and group systems. Prerequisite: SASW 355, or permission. (3 sem. hours)

**SASW 357: Social Work Methods II** — Expands knowledge and skills base to include social work practice in communities and larger social systems. Prerequisite: SASW 356, or permission. (3 sem. hours)

**SASW 390: Selected Topics** — One-time offering of courses not found in formal curriculum. Prerequisite: 201 or 202. (3 sem. hours)

**+SASW 401: Applied Sociology/Anthropology** — Deals with the application of sociological (anthropological) concepts and techniques to the solution of societal and group problems. Prerequisite: 6 hours in SASW including 201 or 202. (3 sem. hours)

**SASW 407: Social Welfare Issues** — Problems and issues associated with local, state and national legislation. Prerequisite: 357 or permission. (3 sem. hours)

**SASW 409: Medical Sociology** — An analysis of health services, public policy and institutional relations. Prerequisite: 201 and 3 SASW hours. (3 sem. hours)\*

**SASW 412: Basic Sociological Theory** — Historical and modern development of basic concepts of sociology and cultural anthropology. Prerequisite: 201, 202, 317, 318 or permission. (3 sem. hours)

**SASW 415: Social Policy Analysis** — Analysis of the formulation, implementation and evaluation of organizational decision making relative to social issues. Prerequisite: 6 hours of SASW courses at 200 level and above, or permission. (3 sem. hours)

**SASW 423: Crime, Justice and Society** — Crime and the social mechanisms designed to control it, vis-a-vis offender and enforcer. Prerequisite: 201 and 3 SASW hours. (3 sem. hours)\*

**+SASW 430: Religion and Society** — Religious behavior as a component of culture and society. Prerequisite: 201 or 202 and 3 SASW hours. (3 sem. hours)\*



**SASW 450: SASW Internship** — Supervised placement in selected professional agencies. Prerequisite: for Social Work — SASW 250, 251, 355 and permission. For Sociology — SASW 317, 318, 415 and permission. For Anthropology — SASW 202, 311 and permission. (3-15 sem. hours)

**SASW 460: Senior Synthesis** — Senior level integration of conceptual and methodological frameworks and skills. Prerequisite: For Social Work — all required SASW courses at 200 and 300 level and permission. For Sociology — SASW 317, 318, 412. (3 sem. hours)

**SASW 490: Independent Study** — A rigorous investigation of a subject area within the department. Prerequisite: permission. (1-3 sem. hours)

+ These courses are taught from either a sociological or anthropological viewpoint. The student should check with the instructor to determine the approach being taken in the current offering.



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### CYTOTECHNOLOGY PROGRAM

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## Student Affairs Staff

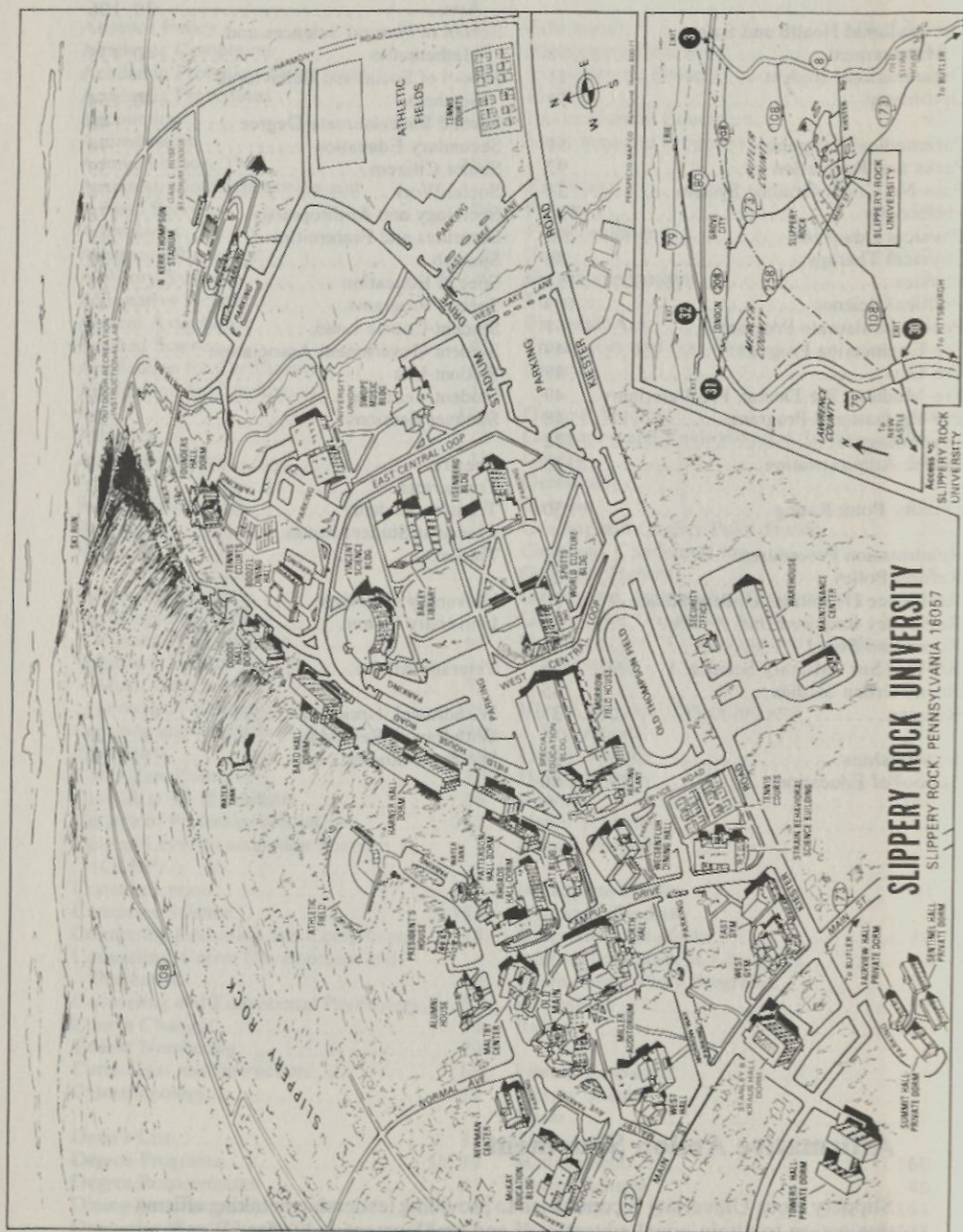
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University, M.A.
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University of Pittsburgh, Ph.D.
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Slippery Rock University, B.S.Ed.
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St. Francis School of Nursing in Pittsburgh, R.N.
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- Viau, Paul H.**, Coordinator of Resident Education/Student Activities  
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- Yantis, Joanne G.**, Director of College Union/Student Activities  
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B.A., M.A.
- Yartz, Lillian**, Housemother

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Mr. Dwight Baker	Music
Mrs. Jean Baker	Music
Mr. Milton E. Carless	Communication
Dr. Charles Cunkle	Mathematics
Dr. Robert Duncan	History
Mr. Joseph Frazier	History
Dr. Narciso L. Gamberoni	Secondary Education
Mrs. Martha Gault	Art
Dr. Harvey Goehring	Secondary Education
Dr. R. Nelson Hale	Student Teaching
Dr. Charles Halt	Social Studies
Miss Lois Harne	Dean of Women
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Mr. Harold Helmrich	Library
Ms. Veroncia Kollar	Student Teaching
Mrs. Alma Ladd	Modern Languages
Dr. Wesley Laing	History
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Dr. J. William McKay	Secondary Education
Dr. Rosa M. Pallas	Spanish
Mrs. Mary Alice Potter	Library
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Ms. Shu-Shen Sah	Mathematics
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