

Clarion University of Pennsylvania

Clarion, Pennsylvania 16214-1232
(814) 226-2000

Catalog Issue 1994-96

Student Responsibility for Academic Requirements

Provisions in the Clarion undergraduate catalog cannot be considered an irrevocable contract between the university and the student.

The university makes every effort to keep information in the catalog current. It must reserve the right, however, to amend any academic, administrative, or disciplinary policies or regulations and to update fees or service charges described in this catalog without prior notice to persons affected.

Students are held responsible for reading and understanding the academic, administrative, and disciplinary policies or regulations and for understanding the general education requirements as published in the catalog when they matriculate. They are held responsible for the requirements of a major in effect at the time they officially declare a major. If students change majors, they are responsible for the requirements of the major in effect when they officially change majors.

Requirements for graduation as well as those for various curricula and degree programs may change after students matriculate at Clarion. Such changes will not be retroactive, although students will have the option to elect to meet the new program requirements, if desired. Exceptions may be necessary when changes in professional certification or licensure standards mandate such changes in requirements or programs.

Clarion University of Pennsylvania is authorized under federal law to enroll non-immigrant alien students.

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Teacher Education

Clarion University of Pennsylvania welcomes qualified students, faculty, and staff from all racial, religious, ethnic, and socio-economic backgrounds. Clarion University is an affirmative action, equal opportunity employer.

Clarion University takes affirmative action to provide equal employment and equal educational opportunities to all qualified individuals regardless of race, color, sex, religion, national origin, affectional or sexual preference, life style, age, disability, or other legally protected classifications, in accordance with Title IX and Section 504 of the Rehabilitation Act of 1973, and other pertinent state and federal laws and regulations. Direct equal opportunity inquiries to Assistant to the President for Social Equity, (814) 226-2109, 216 Carrier Administration Building, Clarion University, Clarion, PA 16214-1232, (or to the Director of the Office for Civil Rights, Department of Education, 330 Independence Avenue, SW, Washington, DC 20201).

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Clarion University

Academic Calendar 1994-95

(Subject to change without notice)

Summer Sessions 1994

Session I Pre-session	May16-June3
Session I Regularsession	June13-July15
Session II Regular session	July18-August18

FallSemester1994

Registration for day and evening classes	Monday, August29
Classes begin 8a.m.	Monday, August29
Labor Day holiday	Monday, September5
Midsemester break begins10 p.m.	Thursday, October13
Midsemester break ends 8a.m.	Monday,October17
Thanksgiving holiday begins10 p.m.	Tuesday, November22
Thanksgiving holiday ends 8am.	Monday, November28
Classes end 10 p.m.	Fiday, Decem~r 9
Reading day.. . . .	Saturday, December 10
Final examination period begins....	Monday, December12
Final examination period ends IOp.m.	Fiday, December16
Semester ends IOp.m.....	Friday, December16
Winter Commencement.	Saturday, December17
Semester grades due from faculty	Thursday, December22

Spring Semester 1995

Registration for day and evening classes	Tuesday, January 17
Classes begin 8a.m.	Tuesday, January 17
Winter holiday begins IOp.m.	Friday, March3
Winter holiday ends 8a.m.	Monday, March13
Spring vacation begins IOp.m.	Wednesday, April12
Spring vacation ends 8am.	Wednesday, April 19
Classes end10 p.m.	Fiday, May5
Reading day.. . . .	Saturday, May6
Final examination period begins	Monday,May8
Final examination period ends 10p.m.	Friday, May12
Semester ends 10p.m.	Fiday, May12
Spring Commencement	Saturday, May13
Semester grades due from faculty	Thursday, May18

Clarion University

Academic Calendar 1995-96

(Subject to change without notice)

Summer Sessions 1995

Session I Pre-session	May15-June2
Session I Regular session.....	June 5-July7
Session II Regular session.....	July 10-August10

Fall Semester 1995

Registration for day and evening classes	Monday, August28
Classes begin 8a.m.....	Monday, August28
Labor Day holiday	Monday, September4
Midsemester break begins 10p.m.	Thursday, October 12
Midsemester break ends 8a.m.	Monday, October16
Thanksgiving holiday begins 10 p.m.	Tuesday, November21
Thanksgiving holiday ends 8 am.	Monday, November 27
Classes end 10p.m.....	Friday, December8
Reading day.	Saturday, December9
Final examination period begins	Monday, December11
Final examination period ends 10 p.m.	Friday, December 15
Semester ends 10p.m.....	Friday, December 15
Winter Commencement.....	Saturday, December 16
Semester grades due from faculty.....	Thursday, December21

Spring Semester 1996

Registration for day and evening classes	Tuesday, January 16
Classes begin 8a.m.....	Tuesday, January 16
Winter holiday begins 10p.m.....	Friday, February23
Winter holiday ends 8 am.	Monday, March4
Spring vacation begins 10 p.m.	Wednesday, April13
Spring vacation ends 8 am.	Wednesday, April10
Classes end 10p.m.	Friday, May3
Reading day	Saturday, May4
Final examination period begins	Monday, May6
Final examination period ends 10p.m.....	Friday, May 10
Semester ends 10p.m.....	Friday, May 10
Spring Commencement	Saturday, May11
Semester grades due from faculty	Thursday, May16

Summer Sessions 1996

Session I Pre-session	May13-May31
Session I Regular session.....	June 3-July5
Session II Regular session.....	July 8-August 8

General Information

The University Mission

The mission of Clarion University is to provide a broad range of instructional programs, including associate degree programs; upper-division courses for students who have obtained the first two years of post-secondary education elsewhere; baccalaureate degree programs in the arts and sciences and applied fields, including teacher education; graduate programs in selected fields; and continuing education to meet the needs and interests of citizens.

Clarion University is committed to seeking excellence in all areas of higher education within its mission and to provide an environment which challenges students to develop their talents, to extend their intellectual capacities and interests, to expand their creative abilities, and to develop a life-long respect and enthusiasm for learning. The university is dedicated to helping students see in themselves what they may become, assisting them with an opportunity to develop the knowledge, skills, and attitudes required for entrance into a variety of careers and for participation in a free society as enlightened citizens capable of making wise and responsible choices.

In meeting its commitments, the university recognizes its responsibility to admit and retain qualified and enterprising students; to secure and maintain highly qualified and dedicated faculty and staff; to provide an intellectual and social climate conducive to the fullest development of students, to strive for inspired teaching and effective courses of study; to maintain high academic and professional standards for students, faculty, and staff; to provide classrooms, libraries, laboratories, and other facilities necessary to support high quality undergraduate and graduate programs; to encourage students and faculty to contribute to new knowledge through research activities; and to provide community and public service programs which are responsive to the needs of society and consistent with the responsibilities and mission of the university.

Approved by the Council of Trustees on 9/17/86

Clarion University of Pennsylvania rejects all form of racial discrimination and prejudice within the university and throughout the world. Clarion University opposes the governmental laws, rules, and regulations of any nation which officially imposes, sanctions, or condones racial discrimination against its citizens. Specifically with regard to South Africa, Clarion University finds that the South African white minority has established an elaborate system of laws, customs, and practices at the expense of the majority of South Africans, a system of laws, customs, and practices that cannot be sanctioned directly or indirectly by Clarion University. Clarion University will not be a de facto partner in the perpetuation of apartheid, a system that denies basic human rights.

Approved by the Council of Trustees on 1/10/90

Clarion Campus

Now well into its second century of service to the people of Pennsylvania, Clarion University has successively been Carrier Seminary, a state normal school, a state teachers' college, a state college, and beginning July 1, 1983, a university in the State System of Higher Education. Each phase of this development has marked a stage in the continuing effort of the institution to respond to the educational needs and aspirations of increasing numbers of students.

Today, Clarion University is a multi-purpose institution with an enrollment of approximately 6,000 students offering associate degrees in five areas; 74 baccalaureate programs leading to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, and the Bachelor of Science in Nursing; and 11 graduate programs leading to the Master of Arts, Master of Business Administration, Master of Education, Master of Science, and Master of Science in Library Science.

The main campus of the university contains **99** acres and 43 buildings, the majority of which were constructed within the past 20 years. Beyond the main campus, situated at the west end of the town of Clarion, is a 27-acre athletic complex with football, baseball, and practice fields and Memorial Stadium, seating 5,000 spectators. The university is within the Borough of Clarion some two miles north of Interstate 80 at Exits 9 and 10 and is approximately two and one half hours' driving time from the urban centers of Pittsburgh, Erie, and Youngstown. High on the Allegheny Plateau overlooking the Clarion River, the rural setting is in the midst of one of Pennsylvania's most scenic resort areas. The rolling wooded countryside, interspersed with small farms, affords some of the most enjoyable outdoor activities to be found anywhere in Northwestern Pennsylvania, and the Clarion River provides an excellent setting for summer boating, swimming, and aquatic sports.

Among facilities supporting programs at Clarion University are the Carlson and Suhr Libraries; the George R. Lewis Center for Computing Services operating Digital Equipment Corporation computers and associated equipment; several microcomputer laboratories; a planetarium; modern science laboratories having excellent instrumentation; well-equipped support areas for special education and speech pathology and audiology; a modern business administration building; technologically equipped classrooms for library science; radio and television studios and experimental audio-visual facilities in the Department of Communication; and a writing center, tutorial services, and a counseling center to assist students who can benefit from these services.

Facilities

ALUMNI HOUSE on Wood Street contains offices for the Alumni Association and Public Affairs.

BALLANTINE RESIDENCE HALL, located on Wood Street, houses 116 men.

BECHT RESIDENCE HALL, also on Wood Street, houses 160 women plus faculty offices for psychology and modern languages.

BECKER HALL, at Greenville Avenue and Thorn Street, houses the Communication Department and the Computer Information Science Department.

CAMPBELL RESIDENCE HALL houses 450 students. It is located at the corner of Payne and Wilson Avenues.

CARLSON LIBRARY is on the central campus just off Wood Street. (See page 8.)

CARRIER ADMINISTRATION BUILDING, at Main Street and Ninth Avenue, houses offices for the president and staff, the provost and academic vice president and staff, the vice president for finance and administration and staff; Office of the Registrar, Business Office, Human Resources, Social Equity, Student Accounts, Graduate, and Continuing Education Offices.

CHANDLER DINING HALL is north of Wood Street behind Ballantine Hall.

DAVIS HALL on Greenville Avenue has classrooms, the Department of Academic Support Services, Speech Pathology and Audiology.

EGBERT HALL is on the central campus behind Carlson Library. It has administrative offices for the vice president for student affairs and staff, the Department of Counseling, the Office of Financial Aid, Career Services, and the Housing Office.

FOUNDERS HALL is situated at the corner of Wood and Ninth and houses classrooms; History and Anthropology, Philosophy, and Political Science Departmental offices; College of Arts and Sciences Office; and Office of International Programs.

GIVAN RESIDENCE HALL, situated on the hill behind Chandler Dining Hall, houses 250 women.

HART CHAPEL THEATRE is located on Wood Street and Eighth Avenue.

HARVEY HALL is on center campus between Peirce Science Center and Chandler Dining Hall and houses various faculty offices and labs as assigned due to renovations in other buildings.

HASKELL HOUSE, on Wood Street, houses the offices of the vice president for university advancement and staff and the Clarion University Foundation.

HAZEL SANDFORD GALLERY is located on the balcony level of Marwick-Boyd Fine Arts Center. The permanent collection covers all media, with special emphasis in photography, prints, artist's books, and ceramics. Exhibitions are scheduled throughout the academic year as well as summer sessions with regular gallery hours weekdays and Sundays.

KEELING HEALTH SERVICES CENTER, off Wilson Avenue behind Givan Hall, has modern clinical and infirmary facilities located on the first floor. The Speech Pathology and Audiology Diagnostic Center is located on the ground floor.

MARWICK-BOYD FINE ARTS CENTER, which stands at the south corner of Payne Street and Greenville Avenue, provides a 1,600 seat auditorium, Little Theatre, Sandford Art Gallery, classrooms, studios, laboratories, and office and exhibit areas for Art, Music, and Speech and Theatre Departments.

McENTIRE MAINTENANCE BUILDING on Wilson Avenue south of Payne Street, is the center for physical plant maintenance, the motor pool, and maintenance shops.

MOORE HALL, east of Carlson Library, is the residence of the president.

NAIR RESIDENCE HALL provides housing for 450 students and is located on Main Street.

PEIRCE SCIENCE CENTER AND PLANETARIUM between Greenville Avenue and Chandler Dining Hall, provides modern classrooms, laboratories, and offices for the Departments of Biology, Chemistry, Geography, and Mathematics; a 250-seat lecture hall; and a planetarium.

RALSTON RESIDENCE HALL houses 200 students and is situated on the hill just behind Chandler Dining Hall. The Earl R. Siler Children's Learning Center, featuring a day care center for student and employee children, is located on the ground floor.

RECEIVING located on Wood Street houses Publication Offices, duplicating center and print shop, and mail-room operations.

RIEMER STUDENT CENTE/WJAMES GEMMELL STUDENT COMPLEX located at the north corner of Wilson Avenue and Payne Street, provides offices for student government and student activities personnel. Also housed in this area are the bookstore, multi-purpose room for meetings and dances, fitness center, snack bar, meeting rooms, and other recreation areas for students.

SPECIAL EDUCATION CENTER, at the corner of Eighth and Greenville, houses the reception area of the Educational Appraisal Clinic and therapy rooms, along with some faculty offices and classrooms.

STEVENS HALL, off Greenville Avenue, provides classrooms and faculty offices for education and human services programs and offices for the College of Education and Human Services.

STILL HALL BUSINESS ADMINISTRATION AND THE LEWIS COMPUTER CENTER are in a single building on the north campus at Main Street and Ninth Avenue housing the Departments of Accountancy, Administrative Science, Economics, Finance/Real Estate, and Marketing.

THORN HOUSES #1 and #2 located on Thorn Street house the Public Safety Department and the Information Center (#1) and plant services operation (#2).

TIPPIN GYMNASIUM-NATATORIUM stands at the north center of Payne Street and Greenville Avenue. It houses classrooms, offices, and gym areas for the Health and Physical Education Department, a 3,600 seat arena for varsity sperm, and a natatorium.

WILKINSON RESIDENCE HALL houses 450 students on the Main Street area of the campus.

WOOD STREET HOUSE. In November of 1994, Admission operations will be moved to this area. Until that time Admissions will be housed in Carlson.

Venango Campus

Venango Campus of Clarion University, established in 1961, was the first branch campus in the Pennsylvania State System of Higher Education. Located in Oil City, Venango Campus is scenically situated on 62 acres surrounded by heavily wooded foothills overlooking the Allegheny River.

Venango Campus is appropriate for students who prefer the atmosphere of a small campus with its capacity for providing individual attention for each student and for permitting and encouraging varied student initiated activities.

Venango Campus offers programs for both part-time and full-time students. Students may complete the first two years of college or study for one of five associate degrees and concentrations in arts and sciences, business, nursing, paralegal business studies, and rehabilitation, and a bachelor's degree in nursing.

Currently student dormitories are not available at the Venango Campus.

Facilities

RICHARD C. FRAME CLASSROOM BUILDING is a modern building containing classrooms, laboratories, and offices.

ROBERT W. RHOADES CENTER provides student lounge and recreation facilities, a gymnasium, an auditorium-theatre, bookstore, and snack bar.

THE CHARLES L. SUHR LIBRARY BUILDING provides library and study facilities.

MONTGOMERY HALL is a modern classroom and office building which houses the School of Nursing, Student Development Services, and faculty offices.

Student Affairs

Office: 220 Egbert Hall

Clarion University is concerned not only with the academic development of young men and women, but also with their development as mature, self-confident, socially competent adults. To assist this development, various student personnel services are provided. These services enable those enrolled in the university to perform more adequately as students and to derive benefits from the academic, cultural, social, and recreational opportunities offered by the campus environment. In addition, every administrative and teaching member of the faculty is charged with the responsibility of assisting students to select and achieve goals consistent with the ideals of a university community.

Student Services

University-Supervised Housing—Residence Halls

The University Housing Policy states, “The university considers the residential experience to be an important part of a student’s educational program. Housing space will be distributed in proportion to the demand by class with special consideration given a student upon recommendation by either the Student Affairs staff, Health Center, or Counseling staff.”

Within each residence hall there is a cross-section of students representing most aspects of a highly divergent student body, and the housing assignments are made without regard to race, religion, color, ancestry, or national origin. Hall and roommate preferences stated on housing applications are given consideration in making assignments and are honored whenever possible.

The agreement for assignment to residence halls is for the entire academic year unless otherwise specified. The only grounds for an automatic release from the agreement are withdrawal from the university or a change in student teaching or internship assignment.

Housing and food service fees are payable at the same time that other university fees become due. Refunds cannot be made unless the student withdraws from the university or is granted an agreement release. The amount refunded for housing fees is listed in the “Refunds” section of this catalog. Food service fee refunds are governed by a prorated schedule available in the Business Office.

A separate housing and food service application must be submitted for each year. All students returning to residence halls must submit a housing application card at the announced time. Housing information and applications will be mailed to new students prior to registration. After a room assignment is made, the student will be issued agreements to be signed and returned with a non-refundable deposit.

Housing and food services are provided only on a combined basis for students living in the residence halls. Housing and food service agreements may not be transferred or assigned. The meal ticket may be used only by the student to whom it is issued, and a room may be occupied only by the student to whom it is assigned.

Student rooms in the residence halls are furnished with beds, desks, chairs, dressers, and closets. Students should plan to furnish pillows, blankets, linen, bedspreads, desk lamps, and small throw rugs. Radios and stereo equipment are permitted if they are operated with due consideration for others. Contract linen service is available.

Students are not permitted to keep firearms or weapons in their campus living quarters. The Department of Public Safety will store these articles for students. Students are free to check stored items in and out of the Department of Public Safety at their discretion.

Off-Campus Housing

Students not residing in university-supervised housing live in fraternity houses, rental facilities in the community, or at their own homes. The Office of Residence Life maintains a limited listing of available housing in the community. Householders listing available facilities must comply with all local, state, and federal regulations pertaining to rental units. Other sources of information are local newspapers and realtors.

All arrangements for housing in the community are a business arrangement between the student and the householder. The university does not approve, or make recommendations for off-campus housing accommodations.

Food Service

Wholesome, well-balanced meals are provided in Chandler Dining Hall by a reputable food service company. Residence hall agreements include food service. Students not living in residence halls may contract for meals on a semester basis.

Student Health Service

The Keeling Health Center provides health services and wellness promotion to the student population of Clarion University. Two Certified Nurse Practitioners, four registered nurses certified in College Health, and a part-time physician provide care to the students. Health Center hours are Monday through Thursday from 8 a.m. to 8 p.m., Friday from 8 a.m. to 6 p.m., and Saturday and Sunday from 1 p.m. to 5 p.m. The Clarion University student health service promotes the optimum well-being of students by delivering primary care and providing health education.

The University Health Services provides primary care, health education, chemical health, and wellness services and programs. An on-site laboratory and pharmacy provides "rapid screening" tests and medications for a nominal charge to students. Health issues are approached holistically taking into consideration individual physical, spiritual, environmental, social, intellectual, occupational, and emotional issues. Through the activities of the Health Center, the educational process is enhanced by modifying or removing health related barriers to learning, promoting optimal wellness, enabling individuals to make informed decisions about health related concerns, and empowering students to be self-directed and well informed consumers of health care services.

Alcohol and Drug Awareness Education/Training

This office provides alcohol and other drug intervention, prevention, and educational services to students and employees of the university community. An Alcohol Education Program is conducted for self-refereed students as well as those who have violated university alcohol policies or who are referred by other members of the university community. This office also performs alcohol and drug use assessments and makes referrals to treatment facilities when necessary. An employee assistance program is offered. Presentations are frequently made to academic classes as well as other groups on campus and the surrounding community. A supply of current alcohol and drug information and literature is maintained. Student support groups are also facilitated. The office also assures compliance with state and federal regulations concerning dissemination of drug and alcohol information.

Student Health Insurance

The health center fee which students are assessed applies only to treatment and services at Keeling Health Center. Diagnosis, treatment, services, or facilities not available at the health center, but required due to an illness or accident, are the financial responsibility of the student. These would include, but are not limited to, x-rays, ambulance, emergency room treatment, setting and casting breaks, and hospitalizations. Without insurance, the cost involved could jeopardize a student's ability to continue his or her education. Therefore, if the students are not covered by parental or their own medical insurance, we strongly urge that such coverage be secured. In addition, university policy requires that students have medical insurance coverage to be eligible for participation in university sanctioned, sponsored, and/or approved activities. The assumption is that when students participate in such activities they are covered by medical insurance and proof of coverage can be produced upon the university's request.

Department of Counseling Services

The Counseling Services staff provides professional services related to developmental, educational, and career goals as well as to problems of personal, social, and emotional adjustment. These services of the center are available without charge to all students.

Most students request counseling on their own initiative. Others are referred by faculty, staff, or fellow students. In keeping with accepted professional practice, counseling contacts with students are strictly confidential. No information is released without the student's written authorization in advance, except as required by law. Exceptions to the above policy may occur when, in the counselor's professional opinion, there is a clear, immediate threat to the life or welfare of the student, other students, or the community at large.

The Department of Counseling Services is accredited by the International Association of Counseling Services, Inc.

Office of Minority Student Services

The Office of Minority Student Services provides developmental services to both minority and majority students, faculty, and staff. The overriding goal of the office is to achieve understanding through education for the attainment of harmony in the midst of diversity. The focus toward minority students, faculty, and staff is one of motivation and support to assist them in their acclimation to a campus like Clarion's. The ultimate goal and purpose of the Office of Minority Student Services is to achieve integration. True integration is shared power, respect for distinct cultures, and infusion of various perspectives. The Office of Minority Student Services also focuses on the retention of minority faculty, staff, and students. Moreover, the office is a resource for the entire campus concerning issues of diversity.

Career Services

The Office of Career Services is a centralized career development office serving all Clarion University students and alumni. Individual assistance, programs, and resources are provided to help students (1) make informed career and educational decisions, (2) prepare for the job search, and (3) begin the transition from campus to career.

Since career planning is a continuous process, students are encouraged to make Career Services an integral part of their entire university experience. The services are designed to educate and guide students through the career planning process: discovering abilities

and interests, exploring educational and career options, making decisions, planning activities to progress toward desired goals, and implementing a job search or application to graduate school.

Career Services provides individual assistance for students with major selection and career planning concerns; career planning and job search workshops; programs in collaboration with academic departments, campus organizations, and residence halls; the Careerline newsletter; a library of occupational, employer, and graduate school resources; and summer job and internship information. In addition, it provides a credentials service, on-campus recruiting program by employers, a candidate referral system, a mock interview program, job fairs, and job bulletins.

Information on the post-graduation activities of Clarion's graduates is available upon request from the Office of Career Services.

University Library

The Rena M. Carlson Library is a modern, multi-level facility offering a broad range of resources and services to the university community. Located in the center of campus, the Carlson Library contains over 350,000 book volumes and over 1,600 periodical titles. A computerized catalog makes finding materials quick and efficient. A well-equipped learning resources center, housed on the first floor of the library, contains all types of nonprint materials as well as microcomputers, typewriters, and computer terminals linked to the university's mainframe computer.

Library services to students include assistance with information needs, access to computerized data bases to meet research requirements, and instruction in how to use the library. An active interlibrary loan program provides Clarion University students with a way to obtain materials not owned by the library.

Parking and Automobile Regulations

All provisions of the Vehicle Code of the Commonwealth of Pennsylvania as supplemented by parking regulations issued by the chancellor, State System of Higher Education, and Clarion University, will be strictly enforced on the Clarion University Campus. Authority for such enforcement rests with the director of public safety. Persons failing to pay fines will be reported to the district magistrate, and upon conviction will be subject to penalties provided by law.

All persons who possess, maintain, or operate a motor vehicle on campus are required to register such vehicle with the Department of Public Safety. Registering a vehicle does not guarantee a parking space.

1. Persons qualifying for campus parking privileges will be issued a tag indicating that this privilege has been granted and will be assigned to a specific parking area.
2. Any person acquiring the use of a motor vehicle after the regular registration period who intends to operate the vehicle on campus must register the vehicle within 24 hours with the Office of the Director of Public Safety. Motor vehicles must be registered even when their use is intermittent rather than regular.

Student Activities

Student activities at Clarion are viewed as another means of self-development. Therefore, the responsibility for the success of any activity or organization must rest with the students involved, and ample opportunity exists for gaining experience in leadership and self-government.

Clarion is fortunate to have a wide variety of activities available to its students while offering many opportunities for involvement and leadership development.

Student Government

Through participation in student government, students have an opportunity to gain experience in democratic living and self-government. All students become members of the Clarion Students' Association (CSA) upon payment of the CSA activity fee, and thereby are eligible to participate in the election of the Student Senate, the governing body of the association. The Student Senate is responsible for expenditure of student activity fees through allocations to the various activities and organizations. The senate has an important relationship to other association operations such as the University Book Center and the Student Center. It also appoints student representatives to various standing committees of the university.

Other leadership opportunities are provided through the governing boards of the Panhellenic Council, Interfraternity Council, University Activities Board, InterHall Council, and residence hall councils.

Activities Program

Many of the major cultural and entertainment programs are sponsored by committees of the University Activities Board. The UAB receives its funds through the allocation of student activity fees by the Student Senate. Examples of such programming are Homecoming events, novelty and variety entertainment, a non-alcoholic nightclub, pops concerts, and performances by noted professionals in the fine arts area, drama groups, speakers, musicians, etc.

Some of these activities take place in the Chapel, Marwick-Boyd Auditorium, and Tappin Gym, but the majority are held in Gemmill Center. The newly remodeled Center provides a major auditorium and multi-purpose area, a recreation area with fitness facilities, an aerobics area, three racquetball courts, check-out services for cross-country skiing and camping equipment, and a games area. In addition, there are a TV lounge, two casual lounges, three meeting rooms, a conference room, and a separate lounge for returning adult and commuting students.

Gemmill Center also houses the University Book Center and the Clarion Students' Association offices on the first floor; and has a major computer lab on the second floor. Eight major student organizations have offices in the area and there are lockable file drawers and work stations available to organizations who do not have offices.

Administratively, there are offices here for the Coordinator of Student Activities, Director of Special Activity Programs, Director of the University Center, the Federal Credit Union, and Director of Clarion Students' Association.

Honorary Organizations

Alpha Mu Gamma (foreign language)
Alpha Psi Omega (dramatics)
Beta Beta Beta (biology)
Kappa Delta Pi (education)
Kappa Kappa Psi (band)
Lambda Sigma (library science)

Omicron Delta Epsilon (economics)
Phi Alpha Theta (history)
Phi Eta Sigma (freshman)
Psi Chi (psychology)
Society for Collegiate Journalists
Tau Beta Sigma (band)

Media Organizations

Clarion Call (newspaper)
Sequelle (yearbook)

WCCB (AM radio)
WCUC (FM radio)

Special Interest Groups

Accounting Club
 African American Student Union
 Alpha Phi Omega
 American chemical Society
 American Library Association
 American Marketing Association
 American Production and Inventory Control Society
 Amnesty, International
 Anthropology Association
 Arete
 Association for Childhood Education International
 Association of Computing Machinery
 Association of Graduate Business Students
 BACCHUS
 Bios Club
 Brass Choir/Brass Ensemble
 Circle K
 Clarion **International** Association
 College Republicans
 Concert Choir
 Council for Exceptional Children
 Dance Team
 Data Processing Management Association
 Debate Team
 English Club
 Fellowship of Christian Athletes
 Financial Management Association
 French Club
 German Club
 Health Careers Club
 Individual Events Team
 InterHall Council
 International Association of Business Communicators
 Intervarsity
 Into the Streets
 Jazz Band
 Jewish Student Association
 Koinonia
 Lift Every Voice Choir
 Library Media and Information Science Society
 Madrigal Singers/Show Choir
 Marching Band
 Mathematics Club
 Music Educators National Conference
 Music Marketing Association
 Muslim Students Association
 National Student Speech-Larrguage-Hearing Association
 Newman Association
 Pennsylvania Science Teachers' Association
 Pennsylvania State Education Association
 People Understanding Situations of the Handicapped
 Percussion Ensemble
 Political Economy Club
 Pre-Law Club
 Psychology Club
 Returning Adult and Commuting Students
 Rho Epsilon
 Rotaract
 Russian Club
 Science Fiction and Fantasy Club
 Ski Club
 Society for Human Resource Management
 Society for the Advancement of Management
 Society of Physics Students
 Sociology Club
 Spanish Club
 Student Alumni Ambassadors Spirit
 Student Senate
 Students Against Violating the Environment
 Students Together Against Rape
 Symphonic Band
 Terra Club
 United Campus Ministry
 University Activities Board
 University-Community Symphony Orchestra
 University Theatre
 Visual Art Association

Athletic Program

INTERCOLLEGIATE ATHLETIC competition plays an important role in the lives of Clarion students. Clarion University is affiliated with the N. C. A. A., PA State Athletic Conference, and the Eastern Wrestling League.

The present athletic program includes varsity competition for men in baseball, basketball, cross country, football, golf, swimming, track, and wrestling. Competition for women includes basketball, cross country, softball, swimming, tennis, track and field, and volleyball.

Facilities for intercollegiate athletics include the Memorial Stadium and the Waldo S. Tippin Gymnasium-Natatorium. The stadium will seat approximately 5,000 spectators for football and track, and has dressing rooms for varsity freshman teams in football, baseball, and track, with separate visiting team dressing, shower, and locker rooms. The football field is surrounded by an all-weather track. The facility also includes a baseball diamond and field, practice football fields, and parking areas for several hundred cars. The Gymnasium-Natatorium, seating approximately 4,000 spectators, provides year-round physical education and athletic activities and services.

INTRAMURAL ATHLETICS are provided for men and women students by funds from student activity fees allocated by the Student Senate. The program is planned and supervised by the Department of Health and Physical Education. Intramural competition includes touch football, soccer, volleyball, squash, handball, chess, bowling, table tennis,

basketball, bridge, "500," wrestling, badminton, archery, billiards, swimming, softball, track and field, water basketball, golf, paddleball, and other areas where interest is sufficient.

Music Program

CONCERT CHOIR. Membership in the Concert Choir is by audition only. Auditions are held at the beginning of each semester, and membership is open to any student who can satisfactorily pass the audition examination. The Concert Choir has a long and distinguished history as a performing group.

MADRIGAL SINGERS/SHOW CHOIR. A highly select group of advanced students who possess the techniques and voice which are vital to this specialized area of music. This group is flexible and varies in number from 16 to 20 voices, depending upon the compositions to be performed. The literature presented by the ensemble represents some of the finest music ever written for voice. In the spring term of each year the group changes to a Show Choir and presents Broadway music with choreography.

MARCHING BAND. Ranked as one of the finest university bands in Pennsylvania, the 120-member Marching Golden Eagles has continued its traditionally outstanding musicianship and marching finesse.

The ideals of the band are geared first to develop musicianship and marching precision; second, to inspire and encourage academic achievement; third, to develop character; and fourth, to develop outstanding leadership ability.

The band appears at all gridiron events and is host to the annual Band Parents Day and Alumni Band Day events.

A Marching Band Revue culminates the season of performances and travel.

SYMPHONIC BAND is a skilled ensemble of 90 wind and percussion players. Membership is dependent upon the outcome of an audition and particular instrumental needs.

Purposes of the Symphonic Band are to perform literature of the highest aesthetic value, with an emphasis on original works for band; to attain perfection in performance ability through rigid requirements for individual musicianship and advanced playing technique; and to provide a means for artistic expression through participation in a distinctive medium of musical expression.

The repertoire of the band is selected from all periods and styles of composition and is designed to meet a variety of program responsibilities.

The Symphonic Band is featured in two major concerts each year and an annual spring tour.

SYMPHONY ORCHESTRA is a specialized ensemble of approximately 50 players dedicated to the performance of mainstream literature for the medium. Its membership is drawn from students, faculty, and the community at large. The orchestra offers two major concerts each year featuring faculty and student soloists; the ensemble also assists in choral and operatic presentations as well as special projects calling for orchestral instrumentation. The ensemble tours during the Spring Semester each academic year. Membership is open to all qualified players by consultation with the conductor.

STRING ENSEMBLE provides its participants the opportunity to perform chamber music works for (and with) strings, compositions for solo instruments with string accompaniments, and compositions for strings alone. Numbering approximately 20 players, the String Ensemble consists of students from across the campus, laypersons from the community, and selected high school students who intend to matriculate at Clarion University of Pennsylvania. The ensemble presents one scheduled concert each semester on the campus and also offers its services to the community for special programs which may be requested. The String Ensemble sets a tour schedule each Spring Semester.

LABORATORY JAZZ BAND features a comprehensive study of various schools and styles of jazz through performance, utilizing a jazz ensemble of approximately 25 instrumentalists selected on the basis of playing ability. Performance literature includes representative works for large jazz band ranging from styles of the 1930s to the present, with emphasis on recent trends in composition and arranging. The Laboratory Jazz Band presents two formal concerts each year on the university campus and performs for high school and community audiences on tours throughout the Western Pennsylvania area.

BRASS CHOIR/BRASS ENSEMBLES is a highly specialized organization offering outstanding students an opportunity to study and perform chamber music for brass. The repertoire is varied with a concentration on early music and music of the twentieth century. Exactitude of intonation, rhythmic precision, phrasing, and proper methods of attack are stressed. The number of students in the Brass Choir/Brass Ensembles will vary somewhat from semester to semester depending upon the instrumentation of the compositions to be performed. Participation is by audition only.

PERCUSSION ENSEMBLE is a highly specialized organization offering outstanding students an opportunity to study and perform chamber music for percussion instruments. Contemporary works, transcriptions of early music, music of various ethnic groups, and jazz-rock works are studied and performed, with stress placed on the development of musical concepts and skills such as phrasing, balance, intonation, rhythmic precision, improvisation, and conducting. The ensemble presents percussion concerts and clinics throughout the year on campus and on tours. Membership is open to all percussion majors and other students by audition.

WOODWIND ENSEMBLES offers interested students the opportunity to explore and perform the literature for woodwind instruments. Ensembles include duos, trios, quartets, quintets, and larger woodwind groups. The repertoire is varied and dependent upon the instrumentation of the compositions to be performed, as well as the availability of members. Membership is open to all qualified students of the university by consultation with the ensemble director.

Media Program

THE CLARION CALL is the weekly university newspaper. Funded by the Clarion Student Association, it follows regular newspaper style and format. Staff participation is essential for communication majors; however, anyone interested in journalistic writing is welcome. Prior experience in journalism is helpful but certainly not necessary for success. Certain editorial and business positions receive financial remuneration.

DARE, which is published under the guidance of the English Department, presents a channel of creative communication for those students whose interests and talents are in this area. This publication is the culmination of the year's best in creative writing by Clarion University students.

THE SEQUELLE is the university yearbook. The staff is comprised of students from all major fields of study. Working on the book provides students with an opportunity to display their creativity in the area of journalism and photography. Prior experience is helpful but not absolutely necessary. Professional help is available to the staff as they plan and assemble the book.

CHANNEL 5-TV serves the Clarion area via Cable-Channel 5. Weekly programs, both live and tape, present a unique hands-on opportunity to participate in all aspects of the TV productions.

WCCB RADIO is a student-operated radio station providing music and relevant campus, state, and local news and coverage of the Golden Eagle sports. Disc jockeys, newscasters, and sportscasters are chosen at the completion of broadcast training held each

semester. Behind-the-scenes work in public relations, sales, and electronic engineering is available.

WCUC-FM is a student operated radio station serving Clarion County with a power of 1,000 watts. WCUC offers a variety of music, news, sports, and public affairs programming. It is affiliated with the College of Communication, Computer Information Science, and Library Science.

Religious Program

Clarion University welcomes students of all religious backgrounds. The following programs are available:

THE NEWMAN ASSOCIATION is a dynamic student community meeting weekly in the Gemmell Student Complex. Opportunities for spiritual growth, presentations and discussions, community service projects, and monthly socials enable Catholic students and their friends to share faith and have fun. Newman also sponsors a weekly Sunday student mass. Father Monty Sayers, a full-time campus minister, is their advisor and maintains an office at 720 Liberty Street (226-6869).

INTERVARSITY CHRISTIAN FELLOWSHIP is a national organization of Christian students. It is led by students and assisted by trained staff workers. IVCF is not a denomination, nor is it a religion itself, but it is rather a group of Christians from many denominations and backgrounds who hold certain beliefs in common.

JEWISH STUDENT ASSOCIATION. Students of the Jewish faith are welcome at the Tree of Life Synagogue which is located in Oil City—approximately 25 miles from the campus. The Tree of Life Synagogue has an active congregation made up of families who live within about a 40 mile radius, including several families from the Clarion area. The JSA also sponsors an active program on the Clarion Campus.

KOINONIA CHRISTIAN FELLOWSHIP is a student-led Christian group that is active on campus and in the community. Koinonia sponsors an energetic weekly meeting, small group Bible studies in the dorms, a lecture series, a drama team, weekend social activities, and a series of community service projects. Koinonia is interested in developing students with an excellent education, recognizing the spiritual dimension of every aspect of life. The advisor is Reverend Jay Flagg, a full-time campus minister. He provides counseling, leadership development, and other pastoral services (226-6976).

FELLOWSHIP OF CHRISTIAN ATHLETES is a national organization of professional and varsity athletes and coaches. At Clarion the FCA is for all those who desire Christian fellowship and spiritual growth; we serve Christ through numerous activities and ministries.

UNITED CAMPUS MINISTRY spans ecumenical lines to coordinate humanitarian and socially conscionable services; offers referrals to local churches and community agencies; provides pastoral counseling; and provides spiritual, informational, and educational programming to the Clarion University community.

Social Organizations—Greek Life

Membership in a fraternity or sorority provides an opportunity for students to enhance the value of a university education by fostering scholarship, self-discipline, and leadership development through participation in university activities and community philanthropic services. The membership of the ten national sororities, nine national fraternities at Clarion University totals over 1,000 men and women.

The Panhellenic Council (PANHEL) and the Interfraternity Council (IFC) are the governing bodies of the sororities and fraternities respectively. Each council is composed of delegates from each Greek organization. It is their responsibility to promote cooperation

and coordinate the membership drive (RUSH), new-member education (PLEDGING), and provide educational and social programs related to Greek Life.

SORORITIES-Alpha Kappa Alpha, Alpha Sigma Alpha, Alpha Sigma Tau, Delta Phi Epsilon, Delta Sigma Theta, Delta Zeta, Phi Sigma Sigma, Sigma Sigma Sigma, Theta Phi Alpha, and Zeta Tau Alpha.

The Director of Special Activity programs serves as the advisor to the Panhellenic Council, and a resource person to individual sorority chapters and their members with regard to goals, directions, and development.

FRATERNITIES-Alpha Chi Rho, Kappa Alpha Psi, Kappa Delta Rho, Phi Sigma Kappa, Sigma Chi, Sigma Phi Epsilon, Sigma Tau Gamma, Theta Chi, and Theta Xi.

Questions concerning the fraternity system should be directed to the Director of the Alcohol and Drug Awareness Education/Training Office located in Keeling Health Center.

Speech and Dramatic Organizations

PI KAPPA DELTA is a national honorary society in forensics. Active debate and individual events team members earn the right to membership in Pi Kappa Delta.

ALPHA PSI OMEGA is a national honorary dramatics fraternity. This organization attempts to further the student's knowledge of and involvement with theatre. The chapter sponsors the Alpha Psi Omega memorial scholarship fund which grants theatre awards to deserving students.

INDIVIDUAL SPEAKING EVENTS TEAM is open to all students interested in competitive speaking. Members compete in persuasive, informative, humorous, extemporaneous, and impromptu speaking as well as in oral interpretation. Tournaments are held at colleges across the country, and to date the team has traveled to 12 states.

COLLEGE READERS is an organization concerned with literature in performance. The students are involved in the presentation of public programs and participation in interpretation of literature festivals. Performances are presented in all genres of literature and in all performance modes, including Readers Theatre. The organization occasionally arranges for lectures, readings by poets, and other special events.

DEBATE TEAM is open to any student interested in intercollegiate debating. Clarion competes nationally and has attended tournaments in Louisiana, Arizona, Florida, and Washington.

UNIVERSITY THEATRE, the campus dramatic organization, is open to all students interested in gaining experience in performance and technical aspects of theatre. Students are welcome to participate in the four major productions, student-directed plays, and the Summer Drama Workshop.

ZETA PHI ETA, national professional fraternity in communication arts and sciences, provide professional support by the American Alliance for Theatre and Education and the Speech Communication Association.

Academic Information

General

Correspondence Directory

For further information on any of the materials contained in the catalog, contact those officials listed below.

Academic Affairs-Provost or Associate Vice President for Academic Affairs

Admissions—Dean of Enrollment Management and Academic Records

Alumni Affairs-Alumni Secretary

Business Affairs, Fees, Refunds-Comptroller

Courses and Curricula-Appropriate College/School Dean

Educational Opportunities Program/Act 101—Director

Financial Aid—Director

Foreign Students—Advisor

Honors Program-Director

Placement Credentials-Career Services

Readmission and Withdrawals-University Registrar

Special Services Program-Director

Student Affairs, Organizations, Activities-Vice President for Student Affairs

Summer Classes—Associate Vice President for Academic Affairs

Teacher Education Certification-Dean of Education and Human Services

Transcripts and Records—University Registrar

Address for all above named officials:

Clarion University of Pennsylvania

Clarion, PA 16214-1232

Academic Advisement

Purpose

It is the purpose of the academic advisement program at Clarion University to:

1. assist students in their growth and development;
2. promote advisor-advisee relationships characterized by trust, mutual respect, and openness;
3. provide guidance and support for students in their course of academic development through a spirit of shared purposes and freedom of choice in their academic programs;
4. encourage students to take an active role in developing and completing a sound academic program; and
5. establish a climate of purposeful learning which maximizes student growth and minimizes student withdrawal.

Advisor Roles and Responsibilities

In the advisor-advisee relationship, the student is primarily responsible for seeking academic advisement from the advisor. The central roles and responsibilities of the advisor are:

1. To assist students in developing sound academic programs by:
 - a. exploring with students their individual interests, abilities, and goals;
 - b. assisting students in developing an academic plan that satisfies graduation requirements;
 - c. offering advice in the selection and sequencing of courses which meet requirements for general education, major, and electives;
 - d. helping students explore career options that are consistent with their programs of study; and
 - e. monitoring student progress and helping students make desired adaptations in their programs.
2. To make known to students the programs, resources, and services available in the university that may offer information/assistance at the student's particular stage of academic or career development.
3. To establish a relationship of trust and openness which will allow students to become increasingly self-directing.
4. To be a responsive listener to students in areas of personal concern and to assist them by referral to specialized sources of help when needed.
5. To discuss matters of general university adjustment with students.
6. To keep informed about university policies, regulations, programs, and procedures in order to answer accurately student questions and concerns.

Student Roles and Responsibilities

Each student must bear ultimate responsibility for the development of his or her academic program and for meeting all graduation requirements.

In the advisor-advisee relationship, the student responsibilities are:

1. to meet with their advisor as frequently as necessary to keep the advisor informed about changes in progress, course selection, career goals, and pre-registration;
2. to seek sources of information which will assist them in making life/career decisions;
3. to contact the advisor when confronted with major academic problems and to keep the advisor aware of other problems which may affect their academic performance;

4. to be an active participant in the advisor-advisee relationship and to become increasingly self-directing in their development as students;
5. to meet all graduation requirements, following the academic plan established by students in consultation with their advisor;
6. to maintain personal records of academic progress and to resolve any discrepancies on the official grade reports; and
7. to become knowledgeable about university regulations, program requirements, and procedures.

Academic Policies and Opportunities

Academic Renewal

The academic renewal policy permits undergraduate students who return to Clarion University after a minimum four-year absence the one-time option of having up to 18 semester hours of work excluded from their QPA calculation. These semester hours must have been completed at Clarion University prior to readmission. The courses, grades, and probationary actions will remain on the transcript with an appropriate notation of academic renewal approved.

Students may complete a Request for Academic Renewal form which is available at the Office of the Registrar, 122 Carrier Administration, upon completion of 12 semester hours after readmission with a minimum semester QPA of 2.00.

Students who were in academic progress difficulty for financial aid purposes will remain in an academic probation status unless deficient credits are made up prior to the first semester that the student returns to Clarion University. Once 64 semester hours are earned, the student must have a 2.00 GPA. Removal of up to 18 credits of "D" and "E" grades may achieve the required 2.00 GPA. All other current financial aid requirements are in effect each semester that the student enrolls at Clarion University.

Accelerated Program

Students who take three summer terms of 10 weeks each may finish the four-year course in three years.

Advanced Placement-Credit by Examination

1. C.L.E.P.

A maximum of 60 credits may be earned through the College-Level Examination Program (C. L.E.P.). No more than 30 of the 60 credits may be earned after admission. These examinations, administered by the College Entrance Examination Board, may be taken at the Venango Campus of Clarion University on third Fridays. They are designed for adult learners and non-traditional students who have gained college-level knowledge through prior education or training. The College-Level Examination Program includes five general examinations and approximately 31 subject examinations, which if successfully passed, will earn the student three credits per examination. Listed below are the general and subject examinations, minimum acceptable scores, and credits available to earn:

General Exams	Course Equivalent	Minimum	
		Scores	Credits
English Composition	ENG 111	500	3
Humanities	HUM 120	500	3
Mathematics	MATH 112	500	3
Natural Sciences	PHSC 111	500	3
Social Science and History	Social Science Elective	500	3

Subject Exams	Course Equivalent	Minimum	
		Scores	Credits
American Government	Ps 21 I	50	3
American History I: Early Colonization of 1877	HIST 120	50	3
American History II: 1865 to Present	HIST 121	50	3
Educational Psychology	ED 322	50	3
General Psychology	PSY211	50	3
Human Growth and Development	PSY 331	50	3
Introductory Macroeconomics	ECON211	50	3
Introductory Macroeconomics	ECON 212	50	3
Introductory Sociology	Soc211	50	3
Western Civilization I: Ancient and Near East to 1648	HIST 111	50	3
Western Civilization 11: 1648 to Present	HIST 113		3
College French Level 1	FR 151	50	3
College French Level 2	FR 152	50	3
College German 1	GER 151	50	3
College German 2	GER 152	50	3
College Spanish 1	SPAN 151	50	3
American Literature	ENG 225	50	3
Analysis and Interpretation of Literature	ENG 170	50	3
College Composition	ENG 111	50	3
English Literature	ENG 221	50	3
	ENG 222		3
Freshman English	ENG 200	50	3
Calculus with Elementary Functions	MATH 232	50	4
College Algebra	MATH 115	50	3
Trigonometry	MATH 152	50	3
College Algebra-Trigonometry	MATH 171	50	4
General Biology	BIOL 111	50	4
General Chemistry	CHEM 153	50	3
	CHEM 154		3
Computers and Data Processing	CIS 110	50	3
Introductory Accounting	ACTG 251	50	3
Introductory Business Law	BSAD 240	50	3
Introduction to Management	MGMT 120	50	3

For additional information and a CLEP registration form contact: CLEP Test Administrator, Clarion University of PA, Venango Campus, 1801 West First Street, Oil City, PA 16301. To have CLEP scores evaluated for credit, submit an official transcript of scores to: Dean of Enrollment Management and Academic Records, Clarion University of PA, Clarion, PA 16214.

2. Advanced Placement program and Credit by Examination

Students also may earn credit and advanced standing through the Advanced Placement Program of the College Entrance Examination Board. This program is designed for high school students who expect to enter college and who have participated in one or more of the advanced classes while in high school. There are 14 subject areas in this program, and any high school student who earns a score of three or better in a subject area will be granted at least three credits. The National Advanced Placement Examinations are given in May of each year.

3. Transfer of Credits Earned by Examination

For transfer students, credits granted by way of C.L.E.P. or Advanced Placement Examinations at other accredited institutions will be accepted if the minimum scores on such examinations meet the minimum standards of Clarion University.

Advanced Placement Examination	Advanced Placement Grade Required	Number Credits Awarded	Course Typically Waived
American History	4 or 5	6	HIST 120 and 121
American History	3		HIST 120 or 121
Art History	4 or 5	6	ART 211 and 212
Art Studio-Drawing	4 or 5	3	ART 121
Biology			BIOL 153 and 154
Biology	4	4	BIOL 153 or 154
Biology	3	3	A free elective
Calculus AB	3 or 4		MATH 232
Calculus AB	5	4	MATH 260
Calculus BC	3	4	MATH 260
Calculus BC	4	4	MATH 270
Calculus BC	5	8	MATH 270 and 271
Chemistry	3,4, or 5	6	CHEM 153 and 154
Chemistry	Completed AP Lab Reports	2	CHEM 163 and 164
English	4 or 5	3	ENG 130
European History	4 or 5	6	HIST 112 and 113
European History	3	3	HIST 112 or 113
French-Language	5	12	FR 151, 152,251,252
French-Language	4	9	FR 151, 152,251
French-Language			FR 151 and 152
German-Language	5	12	GER 151, 152,251,252
German-Language	4		GER 151, 152,251
German-Language	3	6	GER 151 and 152
Macroeconomics	3,4, or 5	3	ECON211
Macroeconomics	3,4, or 5	3	ECON 212
Music-Theory	3,4, or 5	4	MUS 135
Physics B	4 or 5	8	PH 251 and 252
Physics C-Mechanics	4 or 5	4	PH 258
Physics C-	4 or 5	4	PH 259
*Electricity/Magnetism			
Psychology	3,4, or 5	3	PSY211
Spanish-Language	5	12	SPAN 151, 152,251,252
Spanish-Language	4	9	SPAN 151, 152,251
Spanish-Language	3	6	SPAN 151 and 152

4. Proficiency Examinations

Course credits, not to exceed 38 semester hours, may also be earned by proficiency examination for advanced college work administered by the departments in which the particular proficiency is taught. Currently enrolled degree seeking students who appear to possess a proficiency equal to or greater than that required in a particular course may make application for such an examination in the Office of the Registrar; the chair of the subject area concerned will determine the validity of the application. Minimum qualifications for proficiency examination applications are as follows: first semester freshmen must have scored 550 or above in the verbal on the SAT; students other than first semester freshmen must have a quality-point average of 2.50 or above; and in no case may a student earn credit for a course more than once for any given subject. Proficiency exams are not available to students who are otherwise not enrolled at the university during the semester in which the exam is to be taken. Proficiency exams may not be used to repeat courses in which letter grades have previously been awarded.

5. Credit for Life Experience

Clarion University may grant credit for life experience based upon careful evaluation of such experience. For information, students may contact the Office of the Registrar, the dean of the college in which they are enrolled, or the chair of their major department.

Class Attendance Policy

Clarion University of Pennsylvania regards student participation in class as essential to the learning process. Therefore, regular classroom attendance is required of all students. Faculty members determine the absence policies for their own classes, except that participation in university sanctioned activities will be excused and the student will be given reasonable assistance when class work is missed. It is understood that absence does not excuse the student from course work and the responsibility to complete assignments on time. If a student knows that a class must be missed, the instructor should be notified in advance and arrangements made to complete the work. The instructor is not required to give make-up examinations or accept class work missed as a result of an unexcused absence.

In the event of an unexpected absence such as a serious illness, the Office of the Registrar should be notified as soon as possible so that instructors can be informed of the reason for a student's absence. This information is provided to faculty as a courtesy and does not constitute a valid excuse for the student's absence from class. Upon returning to class, a medical excuse must be presented from the student's physician.

Course Numbering

Courses numbered 100 to 299 inclusive are primarily for freshmen and sophomores; 300 to 499 for juniors and seniors. Some courses numbered between 400 and 499 are acceptable for graduate credit. Courses numbered above 500 carry graduate credit.

The university reserves the right to change the sequence and number of courses.

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 of such parents, as defined in Section 152 of the Internal Revenue Code of 1954."

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

Individualized Instruction/Independent Study

A student seeking individualized instruction/independent study must initiate the request by completing the Petition for Individual Instruction and Independent Study form obtained from the dean of the college in which the course is offered, after preliminary discussions with both the advisor and possible instructor. Justification is required.

Independent Study

It provides the opportunity to a student for a unique academic experience otherwise not available through regular curricular offerings. It should not be confused with cooperative or internship courses which provide job experiences. A project description must be composed by the student and submitted along with the petition form.

Individualized Instruction

Individualized instruction allows a student to take an unscheduled course required for completion of a program of study. The course must not have been offered currently, and will not be offered again prior to the student's intended graduation.

Nondiscrimination on the Basis of Disability

Federal Law (Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990) provides that no qualified disabled person shall, based on a disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity that receives or benefits from federal financial assistance. This provision of law applies to Clarion University, and the effect of this law is to ensure that:

1. no one may be excluded from any course, or course of study, on account of a disability;
2. classes may be rescheduled for students with mobility impairments if they are scheduled for inaccessible classrooms;
3. academic degree or course requirements may be modified in certain instances to ensure full participation by disabled students;
4. alternate methods of testing and evaluation are available in all courses offered by the university for students with documented requirements for such methods;
5. auxiliary aids are made available by the university for students with impaired sensory, manual, or speaking skills;
6. certain campus rules and regulations may be waived if they limit the participation of disabled students; and
7. housing opportunities, employment opportunities, and other opportunities for disabled students are equal to those of non-disabled students.

As part of the university registration process, students are provided with a form on which they may list any special accommodations required due to a documented disability. If a student experiences difficulty in obtaining such special accommodations, the student may submit an appeal or grievance to the director of the Student Support Services Program or other university ADA official responsible for the accommodations and, if necessary, to the Section 504 coordinator.

Senior Citizens

Persons on Social Security or equivalent retirement benefits are given remission of fees for classes where space is available. Courses are recorded as audits with no grades or credits earned.

Student Records

Student academic and personal records are confidential in nature and shall be released only to appropriate faculty and administrative officers and to parents and guardians if the student is a dependent. Release of these records to other persons, institutions, or governmental and legal agencies shall occur only upon approval by the student or graduate, or upon subpoena.

Transcripts of academic work are available to the student or graduate at the Office of the Registrar when requested by him or her in writing. The first transcript is free; thereafter, the charge is \$3 per transcript.

Clarion University uses students' Social Security numbers solely for identification and record-keeping purposes. Disclosure of the SSN is not mandatory, and alternative identification numbers will be issued if requested.

Study Abroad-International Education

Clarion University, as part of its mission to serve the educational needs of the citizens of the Commonwealth of Pennsylvania, is dedicated to strengthening the international and intercultural dimensions of its programs and activities. The leadership of the university recognizes the interdependence of nations and peoples throughout the world.

There are currently about 84 international students from more than 40 countries on the Clarion campus. International students are important members of the Clarion University community. Their presence reflects a deep appreciation for their intellectual capacities and their cultural contributions to this university. The international students on the Clarion campus also present the university with the opportunity to significantly influence future leaders and scholars around the world.

Clarion University is committed to providing a variety of study abroad, exchange, and internship programs for American students. Exchange agreements offer Clarion students the opportunity to pay tuition to Clarion, but attend any of over 100 universities in Australia, Hong Kong, Korea, Sweden, France, Malta, Germany, Great Britain, Tanzania, Brazil, and more than 25 other countries.

In the heart of French Canada and within a reasonable driving distance from Clarion, the University of Quebec, Trois Rivieres, Clarion students can take advantage of summer as well as academic year programs and the opportunity to live with French speaking families.

A wide range of programs is available for students in Germany and Switzerland. A special feature for our students is paid internships in Germany and Switzerland. Year-long programs of study and internship are available at several German universities, including Philipps University in Marburg and the University of Kassel.

Clarion University offers a broad spectrum of programs for students interested in Spanish. Two programs in Mexico are especially designed for students who are not majoring in Spanish but who would like to augment their business, communications, or arts and sciences diploma with Spanish-language proficiency. Clarion students also may take advantage of a seven-week summer session at the University of Valencia on the Mediterranean coast of Spain or a six-week program at the University of the Americas in Puebla, Mexico. Courses in Spanish language and literature are offered at all levels, from first semester Spanish through in-service teacher graduate work.

The Clarion Office of International Programs (OIP) coordinates and administers all international-related activities on campus, including the International Student Office, Study Abroad Programs, Exchange Programs for Faculty and Students, and the dissemination of information on grant and fellowship possibilities. The director of the OIP is the campus coordinator of the ISEP programs. The International Assistantship Program is also coordinated through the OIP. The OIP organizes forum, film, and guest speaker programs on important world issues each semester in conjunction with the Clarion International Association.

Summer Session

The Summer Session is maintained for the benefit of regular Clarion University students, incoming freshmen, students in good academic standing at other institutions, graduates of approved colleges and universities, teachers who wish to meet certification requirements, certain high school students, and any adults who wish to attend classes. In

addition to the regular undergraduate and graduate course offerings, there are also workshops and special programs.

Clarion University and the surrounding area offer numerous opportunities for summer activities. There are normally two consecutive five-week sessions. Interested persons should contact the Office of Academic Affairs for details.

Veterans' Affairs

Clarion offers the regular degree curricula to veterans and children of deceased veterans.

Credit for educational experience in the armed services is allowed on the basis of the recommendations of the American Council on Education.

The university grants a maximum of four credits in health and physical education for active military service of six months or more with honorable discharge or continued reserve status. Credit is normally given for HPE 111, (two credits), and two HPE activity courses of one credit each. To assure that the credit is granted, veterans should bring an honorable discharge document (Form DD214) to the Office of the Registrar, 122 Carrier.

Visiting Student Program

The Visiting Student Program provides students in good academic standing who have completed a minimum of 27 credits in residence the opportunity to take advantage of courses, programs, or experiences offered at the other 13 institutions of the State System of Higher Education.

These experiences require advanced approval of the student's department chairperson and college dean and must not also be offered at Clarion University.

Applications and additional information are available at the Office of the Registrar, 122 Carrier Administration.

Admissions

Admission of Freshmen

In accordance with the principles governing admission adopted by the Commission of Presidents, four general requirements have been established for admission to Clarion University:

1. general scholarship
2. character and personality
3. health and physical vigor
4. College Entrance Examination Board Test or American College Test

Applicants for admission must satisfy the following requirements as outlined in detail below:

1. General scholarship as evidenced by graduation from an approved secondary school or equivalent preparation as determined by the Division of Professional Certification and Credentials Evaluation Division of the Pennsylvania State System of Higher Education. The applicant must submit scores earned on the Scholastic Aptitude Test administered by the College Entrance Examination Board or scores earned in the American College Testing Program. Arrangements for taking these examinations are to be made through the high school guidance counselor.

2. Satisfactory character and personality traits as well as proper attitudes and interests as determined by the high school principal, guidance director, or other school official acquainted with the student.
3. Health and physical vigor: Clarion University subscribes to and supports in letter and spirit Section 504 of the Rehabilitation Act of 1973 (Public Law 93-112), which prohibits discrimination on the basis of handicap. Therefore, the role of the Admissions Office in application of this criterion is to be aware of the institutional obligation under Section 504 and to help applicants understand that the university wishes to support their efforts to meet the requirements of a program they choose. In instances in which a student has a handicap which would render success in a chosen field unlikely, the matter should be brought to the attention of the director, who will alert the appropriate dean so that reasonable counseling may be used. Specific questions related to this criterion should be referred to the dean of enrollment management.
4. Request the College Entrance Examination Board of the American College Testing Program to forward aptitude test scores to Clarion.

All liberal arts applicants and education applicants who intend to major in a foreign language must schedule an achievement test in the language, if that language has been studied in high school. The achievement tests are administered by the College Entrance Examination Board. Arrangements to take the tests may be made through the high school counselor.

Admission of Freshmen in August 1994 and 1995

Applicants for admission to the freshman classes in 1994 and 1995 should read and observe carefully the following procedure:

1. Come in or send to the Admissions Office of the university for the forms necessary in making application for admission. There are two of these: (1) application and personnel record blank and (2) the report from secondary school officials.
2. Send the personnel record to the university along with an application fee of \$25 payable to Clarion University of Pennsylvania. This fee is not refundable. The secondary school record must be sent directly to the university by the principal or other school official. A medical form is to be completed after the applicant has been accepted.
3. A registration deposit of \$50 must be paid when the applicant receives notice of approval of his or her application for admission. This fee is not refundable but is credited toward the student's basic fee upon registration.
4. Clarion University applicants may ask for a decision as early as July 1 following their junior year in high school. This would require the applicant to have taken the Scholastic Aptitude Test or the American College Test in the junior year.

New Student Orientation

All new students are expected to attend one orientation session prior to their matriculation. Usually nine two-day sessions are conducted the second week in June through mid-July. Parents are welcome and encouraged to attend with their sons or daughters.

The primary objectives of the program are to help entering students make the transition from their previous environment to Clarion University and to enhance their success in college. In order to facilitate this adjustment and allow the students to pursue their education in the best possible manner, the curricular and co-curricular aspects of university life are experienced and explored in large and small groups. Students will have an opportunity to meet with faculty members and receive some academic advisement prior to selection of courses for Fall Semester.

Registration forms and instructions for the New Student Orientation Program will be mailed during the Spring Semester prior to enrollment. Students entering in January also may attend orientation during the summer or the preceding December.

Credit Transfer Policy

Transfer Policy and Admission with Advance Standing

Clarion University welcomes applications from students who wish to transfer from another college or university to Clarion. Certain guidelines have been established to provide uniformity of transfer standards.

1. Students may transfer credits from regionally and/or nationally recognized, accredited institutions.
2. Students seeking to transfer must be in good academic and social standing at the transferring institution. It is the applicant's responsibility to submit official transcripts and other necessary materials for evaluation.
3. The initial evaluation of the transcripts takes place in the Admissions Office. Students will be informed, on request, which transferred courses will be accepted by the university. The final evaluation is done by the college dean of the student's major. The college dean will determine whether the course will be considered as part of the major or as an elective.
4. Credits are transferable, but grades and quality points are not.
5. Credits will transfer only if a student has earned a "C" grade or better in a course.
6. All courses transferred must be recognized in content and quality as similar to courses in the appropriate academic curriculum offered by Clarion University. Correspondence and remedial courses are not transferable.
7. Transfer students must fill out the regular application for admission to the university, have high school and college transcripts sent to the Admissions Office, and pay the \$15 non-refundable application fee.
8. Applicants who hold the Associate of Science or Arts degree from a Pennsylvania community college will be accepted by the university and granted two full years of academic credit.
9. Clarion University generally does not accept more than 64 credits from two-year institutions. Applicants from Pennsylvania community colleges without the Associate Degree of Science or Arts will be processed as any other transfer applicant.
10. Students enrolled at Clarion University may request written permission from their college dean to take courses at another institution. Grades and quality points for courses taken elsewhere do not transfer and cannot be used as repeats for grades previously earned at Clarion.

International Students

Students who have been graduated from high school (or equivalent) where the language of instruction is not English will be exempted from any general foreign language requirement at Clarion University. Neither academic credit nor life experience credit will be granted for knowledge of one's native language, except when specific courses offered at Clarion University are taken or challenged by examination.

Part-Time Admissions

Students who wish to participate in the part-time admissions program must obtain a Quick Admit form from the Admissions Office.

A part-time student MAY apply for degree candidacy after the completion of 11 credit hours. A part-time student MUST apply and be approved for degree candidacy by the time he or she has earned 11 credit hours. This process includes the non-refundable application fee, high school transcripts, and college transcripts, if applicable. **STUDENTS WHO HAVE NOT BEEN APPROVED FOR DEGREE CANDIDACY AFTER THE COMPLETION OF 11 CREDIT HOURS OF PART-TIME STUDY WILL NOT BE PERMITTED TO CONTINUE AT THE UNIVERSITY.**

Withdrawals

All class withdrawals must be made through the Office of the Registrar. Classes which a student drops during the period of drop/add will not appear on his or her record. Course withdrawals between the end of the second and ninth weeks may be made without penalty. After the beginning of the tenth week of a semester or the second half of a Summer Session, a course from which a student withdraws shall be finally reported with a grade of "E." Exceptions may be made for withdrawals due to extenuating circumstances such as illness or some other unavoidable occurrence with approval of the instructor, advisor, and college dean. Students may withdraw from the university (all courses) through the last day of classes.

Students on probation at the time of withdrawal from all classes who withdraw after the twelfth week of the semester will not be permitted to return for the following semester unless the withdrawal is based on extenuating circumstances.

If a withdrawal is not made through the Office of the Registrar, a failing grade will be recorded for the affected course(s).

Any student who withdraws from the university either during or at the end of a semester must notify the Office of the Registrar of his or her intention to withdraw and the reason for withdrawal. This is necessary for completion of the student's permanent record. Failure to comply with this regulation will constitute an unofficial withdrawal and may affect the student's chances of future readmission or his or her obtaining an honorable dismissal.

Scholarship Requirements

Student progress is normally reported once each semester. At the end of the first six weeks, each staff member submits to the Office of Academic Affairs a report of all freshman and sophomore students doing unsatisfactory work in their classes. These reports are recorded and then passed on to the students.

General Policies

Scholarship policy at Clarion University is formulated by the Subcommittee on Academic Standards, which is a subcommittee of the Faculty Senate.

Scholastic standing of students is determined on the basis of a quality-point system in which a grade of "A" equals four quality points per semester hour; "B" equals three; "C" equals two; "D" equals one; and "E" equals zero. The number of quality points earned in a single course for one semester is determined by multiplying the quality point value of the course grade by the number of semester hours in the course; thus, a grade of "A" in a three-semester-hour course has a quality-point value of 12. A student's quality-point average at any specific time is determined by dividing the total number of quality points earned in all courses by the total number of quality hours. For example, if a student

earned a total of **30** quality points for 15 quality hours of course work in a single semester, his or her quality-point average for the semester would be 2.00.

At the end of each semester, a student's quality-point average is calculated for that semester and also for all the course work he or she has taken up to and including the semester just completed. The latter is known as the cumulative quality-point average.

Scholarship policy for two-year programs requires that students earn a minimum quality-point average of 1.75 their first semester and a 2.00 their second semester and thereafter in order to be in satisfactory academic standing. The cumulative quality-point average should be 2.00 by the end of the second semester.

In order to remain in the Medical Technology program, students must maintain the following grade-point average: first semester freshmen, 2.0; second semester freshmen and first semester sophomores, 2.5; thereafter 2.5 with a 2.5 in the natural sciences. Exceptions to these requirements must be approved by the coordinator of medical technology.

Admission to the Medical Technology program at the university does not guarantee admission to the year in the hospital laboratory. Hospital spaces are limited, and admissions standards, which are under the control of the individual hospitals, are quite high.

Business students pursuing the B. S.B.A. must meet the requirements for admission to the college's upper division. In addition, business administration students must meet graduation standards beyond general university requirements. These academic standards are fully described under the College of Business entry later in this catalog.

Students who are readmitted to the College of Business Administration after an absence of one year or more must meet all requirements of the college as of the date of readmission.

Students transferring into the College of Business Administration from other accredited colleges and universities must have earned a cumulative quality-point average of 2.50 on a 4.00 scale. This applies to all course work taken at all universities prior to attending Clarion University. Clarion University students transferring from majors outside the College of Business Administration must have earned a minimum of 12 credits with a quality-point average of 2.50 while at Clarion University. Students transferring to Clarion University must take a minimum of 50% of their business credits at Clarion.

Credits for courses completed at other universities or colleges are transferable to Clarion University, but the grades and quality points are not. Therefore, grades earned in courses accepted by the College of Business Administration to satisfy requirements of the lower or upper division core will not be used in the computation of the quality-point averages required by the academic standards of the College of Business Administration.

Clarion University students whose major is outside of the College of Business Administration may take no more than 2570 of their total credits in courses offered by the College of Business Administration. This would amount to a maximum of 32 credits in a 128-credit program. Economics courses taken by majors in the economics Bachelor of Arts degree are excluded from this restriction.

College of Education and Human Services Selection, Retention, and Graduation Standards

I. Student Responsibilities in any program of the college

- A. Complete all application forms in a timely fashion:
 1. Admission
 2. Student teaching/internship/extemship
 3. Graduation from the university
 4. Certification where appropriate from the Commonwealth of Pennsylvania

- B. Meet with advisors on a regular basis for career and program counseling as well as at each of the appropriate checkpoints in the program to obtain the appropriate forms.
- C. Arrange for any tests needed to comply with the Public School Code of 1949, as amended, Article XII, Section 1209, which in part provides that teaching certification may not be issued if the “applicant is either mentally or physically disqualified, by reason of tuberculosis or any other communicable disease or by reason of mental disorder from successful performance of the duties of a teacher.”

II. Admission to a program

- A. Completion of 30 semester hours, including six semester hours of introductory professional courses to be determined by the appropriate department in the College of Education and Human Services. All courses are to be completed with a grade of “C” or higher.

Elementary Education	ED 110, ED 121
Early Childhood Education	ED 110, ED 121
Library Science	LS 255 and ED 110, ED 121 or ED 122
Secondary Education (all majors)	ED 110, ED 122
Special Education	SPED 110,220 (courses are sequential)
Rehabilitative Sciences	REHB 110,240
Speech Pathology and Audiology	SPA 125, SPA 450, SPA 456 (SPA 450 is a required prerequisite for SPA 456)
Dual Certifications:	
Elementary/Special Education	ED 110 or ED 121 and SPED 110
Elementary/Library Science	ED 110 or ED 121 and LS 255
Elementary/Early Childhood	ED 110 and ED 121
Early Childhood/Special Education	ED 100 or ED 121 and SPED 110

- B. Completion of a speech and hearing screening.
- c. Removal of any academic, physical, or mental deficiencies noted at any point in the student’s program that would prevent the candidate from fulfilling the responsibilities of the professional area.
- D. Completion of ENG 110 and ENG 111 plus three hours in either SCT 113 or MATH (as follows):

Elementary and Early Childhood	MATH 111
Secondary Mathematics	CIS 151 or 163
Secondary biology, earth and space, and general science	MATH 171 or higher
Secondary chemistry	MATH 171 or 270
Secondary physics	MATH 270 or higher
All others	MATH 110, 112, or higher; MATH 112 strongly encouraged

NOTE: All students must complete both SCT 113 and the appropriate math requirement with at least a grade of “C” prior to student teaching or intern/externship. Elementary and early childhood majors must meet the math requirement before taking ED 324. Proficiency examinations may be substituted for courses as specified in catalog.

- E. Possession of a cumulative quality-point average of 2.50 or higher at the time of application.

NOTE: Transfers and readmits must meet these requirements as well but will be treated on a case by case basis.

111. Retention in a program

- A. Maintenance of a 2.50 cumulative quality-point average.
- B. Attainment of a grade of “C” or higher in all required professional courses and all required major courses in area.

- C. Removal of any academic, physical, or mental deficiencies identified after admission to a program before being permitted to continue in the program.
- D. Completion of all program requirements.

IV. Qualification for student teaching/internship/externship

- A. Completion of 90 semester hours of university credit in professional program, including all teaching methods or clinical courses.
- B. A grade of “C” or higher in all required professional courses and all required major courses in an area.
- C. An overall cumulative quality-point average of 2.50.
- D. Satisfactory completion of all tests and clearances necessary for field placement, including verification of a negative tuberculin skin test.

V. Graduation requirements

- A. Fulfill all university standards for graduation.
- B. Earn an overall cumulative quality-point average of 2.50.
- C. Maintain a grade of “C” or higher in all required professional courses and all required major courses in an area.

VI. Pennsylvania certification requirements at Clarion University

- A. Complete all program requirements and meet the standards of the Teacher Certification Program at Clarion University.
- B. Pass the appropriate examinations required by the Pennsylvania Department of Education in the following:
 - 1. Communication skills (reading, writing, computation)
 - 2. General knowledge
 - 3. Professional knowledge
 - 4. Content area(s) of certification
- C. Complete application for certification.
- D. Certify U.S. citizenship or hold an immigrant visa which permits employment within the United States and declares intent to become a United States citizen.
- E. Certify no habitual use of narcotic drugs in any form or excessive amounts of intoxicating beverages (School Code 1209) and not under indictment nor conviction of a criminal offense.

Grading System

A	excellent
B	good
c	satisfactory
D	poor
	failure
CR:	credit
Cx	credit by examination
Inc	indicates incomplete work
P	passing
w	indicates withdrawal from a course
Wx	indicates withdrawal from the university
z	grade not submitted (Temporary)
Au	audit

Inc (incomplete) is not used unless a student has been in attendance throughout a semester or session. It indicates that the work of a student is incomplete and that the final grade is being withheld until the student fulfills all the requirements of the course. It is used only when conditions and circumstances warrant and when evidence is presented to justify its being given.

Students receiving incomplete grades are required to make arrangements with the instructor who submitted the incomplete grade to fulfill the requirements of the course by

the end of the following semester, or the incomplete becomes a failing grade. Incomplete are not removed by repeating the course.

Students receiving incomplete grades are subject to academic probation temporarily until the final grade or grades have been submitted to the Office of the Registrar. The probationary action will be removed from the student's academic record upon receipt of the grades, provided both semester and cumulative QPAs are 2.00 or above.

Auditing of Courses

With the permission of the instructor, interested persons may audit courses if there is space available in the course from the first day of class and up until the end of the drop/add period. Students must declare their intentions in writing to the Office of the Registrar prior to the end of the drop/add period. Laboratory course may not be taken as an audit. Students who enroll in a course for credit may change to an audit grade only during the drop/add period. Likewise, students who enroll in a course to audit may only change to credit during this same period.

Credit—No Record Courses

After students have earned a minimum of 30 semester hours of credit and are in good academic standing, they may schedule a maximum of six courses or 18 semester hours for credit—no record. One such course may be taken each semester or summer session. This regulation does not apply to MATH 100 or internships in the cooperative education program. All such internships are automatically credit—no record. Courses in one's major field may not be taken for credit—no record. The option for taking a course for credit—no record is limited to the first five weeks of each semester and the first four days of any five-week Summer Session. Satisfactory work in a credit-no record course shall be shown on the grade report as "CR," with no record and no credit for less than satisfactory work. Satisfactory work is defined as the equivalent of "C" grade or better under the letter grading system currently in use by the university. Students who desire to have a credit—no record course changed from "CR" to a letter grade must retake the course. Credit—no record courses are counted in determining the course load for a semester.

Graduation Requirements

Graduation from Clarion University with a baccalaureate or associate degree requires successful completion of all specified major, degree, and university requirements outlined by the College of Arts and Sciences; the College of Business Administration; the College of Communication, Computer Information Science, and Library Science; the College of Education and Human Services; the School of Nursing; or the Venango Campus.

Undergraduate students must successfully complete a minimum of 128 credits (62 credits for the associate degree) with both a major and cumulative quality-point average of at least 2.00 except where the requirements of a particular program or college is higher.

All credits including transfer credits must be approved by the appropriate college dean or director, and the department chairperson of the academic area in which the degree is to be granted.

Unless exempt, candidates for baccalaureate and associate degrees must successfully complete ENG 110 and 111 with a passing grade (education and nursing majors must earn a grade of "C" or better).

All students are responsible for knowing the major, degree, and university requirements of their respective programs. Students are advised to meet with their academic advisor on a regular basis throughout their undergraduate career.

Residence Requirements

A minimum of 45 of the last 64 credits required for graduation with a baccalaureate degree must be taken in residence at Clarion University.

Candidates for graduation with an associate degree must complete a minimum of 30 credit hours in residence at the Venango Campus in Oil City, Pennsylvania.

Second Baccalaureate Degree

Students who have earned their first baccalaureate degree from Clarion University may earn a second baccalaureate degree from a different college of the university or different degree (B. S., B. A., or B. F. A.) within the same college. This can be accomplished by completing a minimum of 30 credits, excluding physical education activities, beyond the requirements of the first degree and by completing all of the requirements of the second degree. In this case, the student will receive two diplomas.

Students who have earned their first baccalaureate degree from another institution are responsible for satisfying Clarion University's residence requirement.

Second Major

A student at Clarion University may earn a second major within the same college of the university and within the same degree category (B. S., B. A., or B. F. A.) by completing all requirements of both major programs. In this case, it is not necessary to meet the requirements for the baccalaureate degree nor is a second baccalaureate degree granted.

Class Standings

Class standings (freshman, sophomore, etc.) are determined by credits earned rather than by semesters of residence: freshmen, 1-31 credits; sophomores, 32-63 credits; juniors, 64-95 credits; seniors, 96- 128+ credits.

Good Academic Standing

To be in good academic standing at Clarion, undergraduate students must maintain a minimum quality-point average of 2.00 for both semester and cumulative averages. Individual programs may have higher requirements.

Academic Probation

To be in good academic standing, undergraduate students must maintain a minimum quality-point average of 2.00 for both semester and cumulative averages.

Students falling below the 2.00 standard in either the semester or cumulative average will be placed on academic probation effective the next semester of attendance.

Sophomore, junior, and senior students with a cumulative average lower than 2.00 who fail to achieve at least a 2.00 semester average while on probation will be suspended.

Second semester freshmen on probation who fail to achieve at least a 1.75 **cumulative** or a **2.00 semester** average will be suspended.

Academic Suspension

1. Students on probation who fail to achieve either a 2.00 semester or 2.00 cumulative average will be suspended. Students who are placed on probation or suspension will be notified by mail at the end of a Fall or Spring Semester. A copy will be sent to the

student's parent or guardian if the student is a dependent as defined elsewhere in this catalog.

2. Students notified of academic suspension have the following alternatives:
 - a. The student may apply for readmission to Clarion after an absence of one or more semesters, provided the suspension was the student's first.
 - b. The student may attend summer sessions at Clarion. If the student earns the required **cumulative** average by the end of the summer, the suspension will be rescinded **and the student will be continued on probationary status for the Fall Semester.**
 - c. The student may appeal the suspension, in writing, to the Academic Standards Committee if the poor academic performance was caused by unusual circumstances beyond the student's control or if for other reasons it is not indicative of future performance. Such petitions should be filed with the committee through the Office of Academic Affairs by the designated due date specified in the notification of academic suspension. The format of the appeal should follow the guidelines given under READMISSION below.
3. Suspended students are permitted to take six credits at another accredited institution after consulting with their dean. Clarion permits transfer of these credits provided the credits are applicable to the student's program and a grade of "C" or better is earned. Clarion accepts credits from accredited institutions, but grades and quality points do not transfer.

Readmission

Students appealing an academic suspension or applying for readmission after an academic suspension must apply in writing to the Office of the Registrar. Deadline is one week before the beginning of classes for both the Spring and Fall Semesters. Students readmitted following academic suspension are on probationary status for at least the semester of their readmission regardless of their academic performance during any interim summer periods.

Use the following guidelines when writing the petition. If possible, include independent documentation and/or references in the petition.

1. A statement indicating why the academic performance was so poor.
2. A statement indicating how the student expects to improve his or her academic performance and how he or she intends to correct the problem as stated in item 1.
3. If possible, a statement concerning the projected course of study, if a change of majors is planned.
4. Students returning to school after a suspension should indicate what they have been doing since last attending Clarion.
5. Any other statements and supporting evidence thought helpful to the committee in deciding the petition.

Maximum Credit Hour Load

The normal credit hour load for undergraduate students in good academic standing is 15 to 18 credit hours per semester and six to seven credit hours per five-week summer session. Students on academic probation may not attempt more than 12 to 15 credit hours per semester.

Students wishing to register for 19 to 21 credit hours during any one semester or more than seven credit hours for a five-week summer session must have a cumulative quality-point average of 3.00 or better and the written permission of the appropriate college dean. Students are required to pay for each credit over 18.

All scholastic standards noted above are subject to change by the university.

Repeat Grade Policy

Students shall be permitted to repeat any and all courses as often as they choose; however, once they have graduated from the university, a course cannot be repeated for the purpose of improving one's cumulative undergraduate or graduate quality-point average.

The latest repeat grade shall be the counting grade in the quality-point average prior to graduation. The quality points, quality hours, and earned hours of the original grade received will be subtracted from the student's cumulative statistics.

Grades earned at another institution cannot be used to replace grades previously earned at Clarion.

Honors

Academic honors are recognized with a semester Dean's List and with the traditional honors designations of Cum Laude, Magna Cum Laude, and Summa Cum Laude at graduation.

To be included on the semester Dean's List, students must be enrolled for a minimum of 12 credits, not including credits by proficiency examinations, and achieve a semester QPA of at least a 3.50. Cum Laude honors are awarded for a cumulative quality-point average of 3.40-3.59; Magna Cum Laude for 3.60-3.79; and Summa Cum Laude for 3.80 to 4.00 rounded to the nearest thousandths. In order to earn graduation honors, students must have earned at least 32 credits at Clarion.

For information concerning honorary kinds of recognition that may be accorded by various colleges and departments, students should inquire at the office of their major department and/or the office of the dean of the college in which they are enrolled.

Honors Program

The Honors Program is an academic opportunity for students whose intellectual and creative interests and abilities extend beyond conventional university offerings. The program gives students the opportunity to enrich their education through specially designed courses and extracurricular involvement.

In honors courses students pursue subjects in depth and across disciplines. They interact closely with faculty members in informal settings as well as in the classroom. Honors Program special events contribute to an enhanced academic and social environment.

The Honors Program is available to qualified students enrolled in a baccalaureate degree program of studies. Entering freshmen may apply for admission to the program and may be accepted on the basis of academic performance, aptitude, a written statement, and recommendations. Students already enrolled may also apply to the Honors Program.

Honors courses may replace certain general studies courses required for any major. To earn an honors degree, a student must complete a minimum of 21 honors credits and maintain the academic standards of the program. Three of the 21 honors credits must be earned in the student's major area of study. These hours are taken as part of the student's degree program and do not represent credits beyond normal graduation requirements.

Honors graduates receive special recognition at the annual Honors Convocation and at commencement ceremonies. Their transcripts indicate that they completed the Honors Program.

Excellent scholarships and financial aid provisions are available for students enrolled in the Honors Program. Clarion University is a member of the National Collegiate Honors Council, placing it in contact with honors programs nationwide.

Additional information may be obtained by contacting the Honors Program director.

Academic Support Services

Gregory K. Clary, Chair
Office: 216 Davis Hall
Telephone: 2347

The university is committed to the academic growth and development of all students. In order to assure these goals, the university has established the Department of Academic Support Services which incorporates students and faculty development, academic advisement, and academic support for students. There are five programs within the Department of Academic Support Services.

Academic Support Center

Dr. Lou Tripodi, Director
212 Davis Hall

The Academic Support Center provides services to students who may encounter some form of difficulty with their courses and/or need instruction in basic skills development. The Academic Support Center is comprised of two distinctive components, the Tutoring Center and the Learning Skills Lab. These two components offer students a comprehensive approach to the development of skills necessary at the collegiate level to ensure academic success. All services are free of charge. Services are available by either appointment and/or by walk in.

Content tutoring is offered for most lower level subject areas providing students with the understanding of basic concepts, ideas, and mechanical processes. Tutoring sessions give students the opportunity to secure in-depth clarification and to identify and apply specific reading and study skills required in their academic programs. Most tutoring sessions are one-to-one or small group instruction.

Learning skills instruction provides students with instruction in basic skill development to become independent learners. The Learning Skills Lab staff instructs students in practical study techniques. Students' reading and study skills are diagnosed to identify individual strengths and weaknesses. Once skill areas are diagnosed, a planned program of instruction is implemented using a variety of instructional aids as well as one-to-one instruction. Students can receive academic assistance in the following areas: time management, note taking, reading comprehension, test taking, vocabulary development, and critical thinking skills.

Educational Opportunities Program—Act 101

Dr. Isaiah Sessoms, Director
212 Davis Hall

Students enrolled in the Educational Opportunities-Act 101 program participate in a six-week Pre-College Summer Experience. Participants can earn up to six academic credits for courses in English and math, and also complete seminars in reading/study skills, career exploration, and personal development. In addition, participants receive an extensive orientation to university life. During both the summer and the academic year, support services offered include financial aid counseling, individual analysis of study habits and supervised study sessions, and assistance in career planning and decision making. Finally, the program sponsors extracurricular activities intended to enrich the student's total

experience. Students accepted into this program must meet eligibility requirements as established by the institution and the Pennsylvania State System of Higher Education.

Educational Talent Search Program

Ms. Barbara J. Dillman, Director

B-4 Carrier Hall

The Talent Search Program is part of Clarion University's mission to serve community residents of Clarion and Venango Counties. Designed to serve 900 participants annually, the Talent Search Program will work with an eligible resident who is above age 12 and has not completed secondary or postsecondary education.

The Talent Search Program provides such services as learning skill instruction, SAT preparation, information on financial aid resources, postsecondary program and application information, and career planning. Participants are selected based upon eligibility criteria established by the U.S. Department of Education.

Project Upward Bound

Ms. Cynthia Pellock, Director

216 Davis Hall

As part of the university's commitment to serve the community, Clarion's Upward Bound Program is designed to generate in selected area high school students the academic skills and motivation necessary for success in college. The program operates in two segments—the Academic Year Component and the Summer Residential Program. Support services such as tutoring, visits to post-secondary educational institutions, and career and personal counseling are provided year-round. The five-week Summer Residential Program offers program participants an opportunity to experience college life while residing on campus. Students receive intensive basic skills instruction and exposure to a variety of cultural and social activities on and off campus. Students are chosen for the program based on eligibility criteria as established by the program and the U.S. Department of Education.

Student Support Services Program

Mr. Gregory K. Clary, Director

216 Davis Hall

Students admitted to the Student Support Services Program are provided developmental services which include tutoring, academic advising, and career and financial aid counseling. During the academic year, workshops and on-going services which focus on academic survival and learning-to-learn activities are offered. A reserved section of English 110 as well as reserved slots in General Studies IOO-Reading/Study Skills are also offered to program students.

The program seeks to provide students with disabilities enrolled at the university with the support services which they may need to realize academic success. Students accepted in the program must meet eligibility requirements established by the institution and the U.S. Department of Education.

Undergraduate Degree Programs

Clarion University offers combined academic and professional curricula leading to the undergraduate degrees of Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Science, Bachelor of Science in Business Administration, and Bachelor of Science in Education, as well as certification for teaching in the public elementary, middle, and secondary schools of the Commonwealth of Pennsylvania.

Additionally, it offers associate degree programs and a Bachelor of Science in Nursing at its Venango Campus in Oil City. See Venango Campus, page 128.

Program Listing

Key:	*Concentration only
	**Certification only
	***"Minor" program
	#Post-Master's Certificate of Advanced Studies
	+Concentration only, degree earned in Arts and Sciences program of choice
Accountancy	B.S.B.A.
Anthropology	B.A.
Art	B.F.A.
2-D Studio	***
3-D Studio	***
Audiology	*
Biology	B. A., B. S., M.S.
Business Administration	A. S., M.B.A.
Accountancy	*
Computer Information Process	*
General Management	*
Office Management	*
Paralegal Business Studies	A.S.
Legal Assistant	*
Chemistry	B. A., B.S.
Chemistry/Business	*
Chemistry/MBA	*
Chemistry/Polymer Science	*
Chemistry/Engineering Co-op	
Coaching Curriculum	Endorsement
Communication	B. S., M.S.
Computer Application and Information Systems	B.S.
Computer Application and Info. Systems	***
Computer Science	B.S.
Computer Science	***
Early Childhood Education	B. S. Ed.
Early Childhood Education/Special Education	**
Earth Science	B. A., B.S.
Economics	B. A., B. S. B.A., ***
Elementary Education	B. S.Ed., M. Ed.
Elementary Education/Early Childhood	B. S. Ed.
Elementary Education/Library Science	B. S. Ed.
Elementary Education/Special Education	B. S.Ed.

Elementary Health	*
Engineering Co-op Program	*
English	B. A., M.A.
Literature	***
Writing	***
Environmental Education	**
Finance	B. S.B.A.
French	B.A.
French	***
General Studies: Arts and Sciences	A. A., B.S.
Geography	B. A., B.S.
Geology	B.S.
German	B.A.
German	***
Gerontology	***
Graphic Arts	*
History	B.A.
Humanities	B.A.
Industrial Relations	B.S.B.A.
International Business	***
Legal Business Studies	A.S.
Legal Assistant	*
Library Science	B.S.Ed., M.S.L.S.
Certificate of Advanced Studies	#
Library Science/Arts and Sciences	+
Management	B.S.B.A.
Management/Library Science	B.S.B.A.
Marketing	B.S.B.A.
Mathematics	B. A., B. S., M. Ed.
Mathematics/Actuarial Science and Statistics	*
Mathematics/Applied	*
Mathematics/Computer Science	*
Mathematics/Engineering Co-op	*
Medical Technology	B.S.
Molecular Biology/Biotechnology	B.S.
Music Education	B.S.Ed.
Music—Marketing	B.M.
Music—Performance	B.M.
Music	***
Natural Sciences	B.A.
Nursing	B. S. N., A.S.N.
Public School Nursing	**
Philosophy	B.A.
Physics	B. A., B.S.
Physics/Engineering Co-op	*
Political Science	B.A.
Psychology	B. A., B.S.
Reading	M. Ed.
Reading Specialist	**
Real Estate	B.S.B.A.

Rehabilitative Sciences	B.S.
Rehabilitative Science/Developmentally Disabled	*
Rehabilitative Science/Gerontology	*
Rehabilitative Science/Substance Abuse	*
Rehabilitative Sciences	A.S.
Science Education	M.Ed.
Secondary Education, Biology	B. S. Ed.
Environmental Education	**
Secondary Education, Chemistry	B.S.Ed.
Secondary Education, Communication Arts	B.S.Ed.
Secondary Education, Earth and Space Science	B.S.Ed.
Secondary Education, English	B. S. Ed.
Secondary Education, French	B.S.Ed.
Secondary Education, General Science	B.S.Ed.
Secondary Education, German	B.S.Ed.
Secondary Education, Mathematics	B.S.Ed., M. Ed.
Secondary Education, Physics	B.S.Ed.
Secondary Education, Social Studies	B. S. Ed.
Secondary Education, Spanish	B. S. Ed.
Social Sciences	B.A.
Sociology	B.A.
Sociology/Psychology	B.A.
Spanish	B.A.
Spanish	***
Special Education	B.S.Ed., M.S.
Special Education/Early Childhood	**
Special Education/Rehabilitative Science	B.S.Ed.
Speech Communication	B. A., ***
Speech Communication and Theatre	B.A., B.S.
Speech Pathology and Audiology: Speech Science	B.S.
Speech Pathology and Audiology	M.S.
Audiology	*
Speech Pathology	*
Theatre	B.F.A.
Acting	* ***
Design-Technical Direction	*†
Technical	***
Women's Studies	***

Financial Information

General Information

Tuition and fees must be paid in full prior to the first day of the term or semester or paid in accordance with the university's monthly payment plan. No deferments are permitted except for approved student financial aid. A \$25 late fee will be assessed if payment is not received by the required due date. All accounts are carried in the name of the student. Bills and statements are mailed to the student, not the parent.

The university expects students to be financially responsible. Students with delinquent accounts will not be allowed to register for courses, and academic records will be withheld until all financial obligations to the university have been satisfied.

The tuition and fees listed below are subject to change. The financial requirements of the university make it necessary to adjust these charges from time to time. The university reserves the right to make such adjustments up to the date of final registration for a given academic term. The applicant acknowledges this reservation by the submission of an application for admission or by registration.

Invoices and Statements

Semester bills are normally mailed to the student's home address approximately 30 days before the start of a semester if the student has registered for classes prior to that time period. Tuition and fees are payable in full by the first day of term or semester, whether or not a bill has been sent. Registered students who do not receive a bill before the start of the term should contact the Accounts Receivable Office at (814) 226-2253. Checks in the required amount should be made payable to Clarion University of Pennsylvania.

Schedule of Charges

Application Fee

A non-refundable application fee of \$25 must accompany each application for admission.

Acceptance Deposit

A \$50 acceptance deposit must be paid upon receipt of notice of approval of application for admission. This \$50 fee is not refundable but is deducted from the student's first semester charges.

Tuition

Tuition is set by the Board of Governors of the State System of Higher Education and is subject to change, at any time, by the Board.

Undergraduate Tuition

(1993-94 Academic Year)

PA resident:

Full-time (12-18 credits)	\$1,477/semester
For each credit over 18 credits	\$123/credit
Part-time (fewer than 12 credits)	\$123/credit

Non-PA resident:

Full-time (12-18 credits)	\$3,676/semester
For each credit over 18 credits	\$306/credit
Part-time (fewer than 12 credits)	\$306/credit

Room and Board Charges

For double occupancy of a furnished room, the charge is \$805 per student per semester. A limited number of single rooms are available at an additional cost of \$200 per semester.

Students are responsible for damages, breakage, loss, or delayed return of university property. Students are also collectively responsible for damages in common areas of residence halls.

The rental agreement for university residence halls is for one academic year, All dormitory residents must participate in one of the following board plans.

Standard Plans

Full-Board Plan	\$596/semester
Fifteen-Meal Plan	\$562/semester

Flex Plans

\$74 I/semester
\$684/semester

The following board plans are available to students who do not live in university residence halls.

Standard Plans

Full-Board Plan	\$596/semester
Fifteen-Meal Plan	\$562/semester
Ten-Meal Plan	\$428/semester
Five-Meal Plan	\$274/semester

Flex Plans

\$74 I/semester
\$684/semester
\$548/semester
\$425/semester

The summer room and board charge is determined on the basis of university costs and is estimated per five-week session to be \$470.

Room Deposits

Residence hall students are required to make a non-refundable deposit of \$75 to reserve a room for the Fall Semester. The deposit is credited to the Spring Semester room charges.

Books and Supplies

The cost of books and supplies depends on the courses in which a student is enrolled. Books and supplies are not billed on the semester invoice. Payment must be made to the University Bookstore at the time of purchase.

Instructional Support Fee

An instructional support fee in the amount of 10% of tuition for PA residents and 4.02% of tuition for non-PA residents is assessed each semester to every student. The fee is computed by multiplying the tuition charge by the proper percentage. The revenue from this fee is used to upgrade instructional equipment, improve library holdings, and for other instructional support purposes.

Auxiliary Support Fee

This fee is also a percentage of the tuition charge. It incorporates the Student Center Fee and the Health Center Fee.

	PA resident	Non-PA resident
Clarion Campus students	10.5%	4.22%
Venango Campus students	4.06%	1.63%

Students who are assigned to an internship, student teaching, or similar program outside a 50-mile radius of Clarion Campus are exempt from this fee.

Student Activity Fee

All students with six or more credits are required to pay a student activity fee prorated on the following basis:

12 or more credits	\$75/semester (full-time fee)
9-11 credits	\$37.50/semester (50% of full-time fee)
6-8 credits	\$18.75/semester (25% of full-time fee)

This fee is administered by the Clarion Students Association, which is a student organization approved by the Council of Trustees. The activity fee covers the cost of athletic, social, musical, theatre, and recreational activities. Student teachers and internship students practicing outside a 50-mile radius of Clarion are assessed one-half the activity fee per semester.

Other Fees and Charges

Career Services Fees

Credential Registration Fee

Graduating students: \$10 to establish a credential file and have it maintained in the Office of Career Services for six years.

Alumni: \$10 per year to continue maintaining a credential file in the Office of Career Services after the sixth year.

There is also a \$3 charge for copying and mailing credential files.

Job Bulletin Subscription Fee

\$15 for a six-month subscription to the weekly Education Bulletin.

\$15 for a six-month subscription to the weekly Business, Industry, and Government Bulletin.

Both Services

Students/alumni may take advantage of both credential and job bulletin services for a fee of \$20.

Clinical Appraisal Fee

A \$20 fee is charged for each clinical appraisal conducted by the Speech and Hearing Clinic.

Graduation Fee

A graduation fee of \$15 is charged to each graduating student.

Late Fee

A late fee of \$25 is charged to all students not registered for classes by the registration deadline. The late fee is also assessed of students who are late paying their semester bills.

Parking Permits

Students must obtain a permit from the Department of Public Safety to park their motor vehicles on university property. Venango Campus students must obtain a permit at the Frame Administration Building. Cost:

- \$15 if permit is obtained during the Fall Semester
- \$10 if permit is obtained during the Spring Semester
- \$5 if permit is obtained during the summer sessions

The permit must be renewed each Fall Semester.

Transcript Fee

One copy of a transcript of credits earned at Clarion University is issued free of charge. A charge of \$3 is made for each subsequent transcript. Transcripts will not be issued for anyone who has unpaid charges on his or her account.

Refunds

Students leaving the university before the end of the semester must officially withdraw through the Office of the Registrar to be eligible for a refund. For refund purposes, each week ends at the close of business on Friday.

Tuition, Instructional Support Fee, Activity Fee, Auxiliary Support Fee, and Room Charges will be refunded in accordance with the following schedules:

Fall and Spring Semesters

<i>Withdrawal Date</i>	<i>Percentage Refunded</i>
Prior to first day of semester.	100%
1st and 2nd week	80%
3rd week	70%
4th week	60%
5th week	50%
After the 5th week	refund

Board charges will be refunded on a weekly prorated basis determined by the date the Accounts Receivable Office is notified of the meal ticket cancellation.

All other fees are not refundable.

Rules Governing Residency

Original Classification

A student is classified as a resident or non-resident for tuition purposes at the time of admission to the university. The decision, made by the dean of enrollment management and academic records, is based upon information furnished by the student's application and other relevant information. No student, once having registered as an out-of-state student, is eligible for resident classification in the university unless he or she has been a bona fide domiciliary of the state for at least a year immediately prior to registration for the term for which resident status is claimed. This requirement does not prejudice the right of a student admitted as a non-resident to be placed thereafter on a resident basis provided he or she has acquired a bona fide domicile of a year's duration within the state.

Change of Classification

For university purposes, a student does not acquire a domicile in Pennsylvania until he or she has been here for at least one year primarily as a permanent resident and not merely as a student. If the student is enrolled for a full academic program as defined by the university, it will be presumed that the student is in Pennsylvania for educational purposes, and the burden will be on the student to prove otherwise. In general, members of the armed forces and their dependents are normally granted in-state tuition rate during the period when they are on active duty within the Commonwealth of Pennsylvania. Members of the armed forces who were domiciled in Pennsylvania immediately preceding entry into government service and who have continuously maintained Pennsylvania as a legal residence will be presumed to have a Pennsylvania domicile.

Subject to the provisions of the preceding paragraph, the domicile of an unmarried minor, or of a student who is claimed as a dependent on the parent's (or legally appointed guardian's) federal income tax return, follows that of the parent or guardian.

Students receiving financial assistance dependent upon domicile in a state other than Pennsylvania are not domiciled in Pennsylvania.

To change residency status the student must fill out a "Residency Classification Data Collection Form" and additionally furnish convincing documentary evidence to support a claim of Pennsylvania domicile. Factors which will be considered in the determination of residence include but are not limited to: the holding of a Pennsylvania driver's license; purchase or lease of a permanent independent residence; marriage to a Pennsylvania resident; automobile and other property registered in Pennsylvania; agreement for, or permanent full-time employment in Pennsylvania; and voter registration.

Residency Classification Data Collection Forms may be obtained from, and the completed document and supporting materials returned to, the vice president for finance and administration in 218 Carrier Administration Building.

Financial Assistance

Mr. Kenneth Grugel, M. A., Director

Financial assistance is available to students in the form of scholarships, grants, loans, and employment. Detailed information and necessary application forms may be secured from the Office of Financial Aid. Since the determination of eligibility is based on an analysis of a current Needs Analysis Application, students are encouraged to file a Free Application for Federal Student Aid application and designate Clarion University to receive a copy of that form. These applications are available from Pennsylvania high

schools or directly from the Office of Financial Aid at Clarion University of Pennsylvania.

Grants, Loans, and Employment

Pennsylvania and Federal Grants

PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY GRANTS—The determination of recipients of these grants is made by the agency. The grants vary in amount and are based on the financial need of Pennsylvania students. Application forms may be secured from the agency, high school guidance counselors, or Clarion University of Pennsylvania. A listing of non-Pennsylvania state grants is available upon request from the Office of Financial Aid.

PELL GRANTS—Federal grants available to undergraduate students for a maximum of five academic years. Recipients are determined by the U.S. Department of Education based on financial need. The FAFSA application form is your PELL grant application form.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS—Federal grants available to students with financial need as defined by the U.S. Department of Education and awarded by the Office of Financial Aid. These awards are determined on an individual basis by the Office of Financial Aid at Clarion University of Pennsylvania.

Federal Family Education Loan Programs

FEDERAL PERKINS LOAN PROGRAM—This program provides for loans to students who have a demonstrated need for financial assistance and who are in good academic standing.

To be eligible, students must complete an application form, have a current FAFSA form on file in the Office of Financial Aid, be a citizen of the United States or have declared an intention to obtain citizenship, and be enrolled or accepted for enrollment as a student.

These loans, which are non-interest bearing while a student is enrolled, are available to a maximum of \$3,000 per year for undergraduates and \$5,000 for graduate students, with a \$15,000 aggregate limit for undergraduate and \$30,000 for graduate students.

Repayment of the loan may extend over a 10-year period beginning nine months after graduation from Clarion. Repayments are to be made on a quarterly basis with interest accruing at the rate of five percent per year.

In specified teaching situations, as much as 1570 of the loan may be canceled for each year of teaching. The borrower's obligation to repay the loan is canceled in the event of death or permanent and total disability.

FEDERAL STAFFORD LOAN PROGRAM—Loans to a maximum of \$2,625 per academic year for first year students, \$3,500 for second year students, and \$5,500 for third, fourth, and fifth year students to a limit of \$23,000. Graduate students may apply for up to \$8,500 per academic year. Loan applications are available from local banks and savings and loan associations. Stafford Student Loans are based on need which must be demonstrated through an approved need analysis system. Our approved form is the FAFSA application. Applications and detailed information may be secured from the financial institution from which a loan will be requested. A 9% capped rate of interest for new borrowers begins accruing six months after graduation or withdrawal, and repayment may extend over a 10-year period.

PARENT LOAN FOR UNDERGRADUATE STUDENTS (PLUS)—PLUS loans, which are not based on financial need, are available to parents up to the cost of education

minus other aid. The loan has an adjustable rate of interest to a maximum of 10%, and repayment begins 60 days after receipt of the loan.

SUPPLEMENTAL LOANS TO INDEPENDENT STUDENTS (SLS)—This loan has an adjustable annual interest rate with an 119Z0 cap. Repayment begins 60 days after receipt of the loan. Four thousand dollars per year for first and second year students, and \$5,000 per year for third and fourth year students. Graduate students may borrow up to \$10,000 per year, or less depending on Clarion University's current budget figure.

CLARION UNIVERSITY FOUNDATION REVOLVING LOAN FUND—The Foundation has established a loan fund, for educational purposes only, which is available to full-time undergraduate students in good standing. Loans may be granted to a maximum of \$200. The loans are interest-free for 60 days. Thereafter, a \$10 late fee is imposed. Application forms may be secured from the Foundation Office.

ALEXANDER HREACHMACK REVOLVING LOAN FUND—EMERGENCY LOAN—Similar in purpose and administration to the Foundation Loan, Hreachmack Loans have a maximum value of \$100, are interest-free for 60 days, and have a \$25 late fee. Loans are due and payable prior to graduation or the end of each semester. Applications are available in the Office of Financial Aid.

Loan Repayment Chart (payback period=10 ears)		
<i>Amount Borrowed</i>	<i>Approximate Monthly Repayment for:</i>	
	<i>NDSL (5% interest)</i>	<i>GSL (8% interest)</i>
\$5,000	\$53.03	\$60.67
7,000	74.25	84.93
10,000	106.07	121.33
11,000	116.67	—
12,000	127.28	—
15,000	—	182.(X)

Employment

Employment on a part-time basis is available to the extent that funds are provided by the federal government and the Commonwealth of Pennsylvania. The assignment of students to part-time campus positions is generally based on financial need; however, it should be recognized that such employment will not be sufficient to meet the total expenses of attending Clarion. The current federal maximum wage is paid to on-campus student employees.

FEDERAL WORK-STUDY PROGRAM—The university participates in the Federal Work-Study Program, which permits eligible students to work a maximum of 10 hours per week while classes are in session. Eligibility requirements for employment include United States citizenship, demonstrated financial need as determined by a current Needs Analysis Form, and satisfactory academic progress.

STATE EMPLOYMENT PROGRAM—Part-time positions are available under this program to students who are maintaining satisfactory academic progress. Most student positions are limited to 10 hours of employment per week.

JOB LOCATION and DEVELOPMENT PROGRAM (JLD)—Funding for the JLD program is received from the federal government under the College Work-Study Program and is designed to encourage the development of part-time, off-campus, employment opportunities for all Clarion students regardless of financial need.

Students employed under the Federal Work-Study Program and the State Employment Program must be enrolled at least half-time, i.e., six semester hours each semester, to remain eligible for the work program.

Conditions Which Accompany Financial Aid

In order to continue receiving financial aid following initial enrollment at Clarion University of Pennsylvania, students must meet certain conditions each year. They must be enrolled at least part-time and must reapply for it each year. Baccalaureate students may receive assistance from most federal, Title IV, and state aid programs for each of their undergraduate years, providing that they maintain "normal academic progress." This means that undergraduate students must successfully complete a minimum of 24 new semester hours by the end of each academic year, including the summer, before they can be awarded grant assistance for their next school year.

Part-time undergraduate students must successfully complete a minimum of 12 semester hours during each academic year, including the summer, to continue receiving any financial assistance.

Graduate students must successfully complete 18 semester hours by the end of each academic year, including the summer, before they can be granted assistance for their next school year.

Part-time graduate students must successfully complete nine semester hours during each academic year, including the summer, to continue receiving any financial aid. They must also earn the number of credits they attempt each semester. For example, if a graduate student registers for nine credits, the student must complete those nine credits in order to make satisfactory academic progress.

For Title IV grant purposes, an undergraduate student becomes a sophomore after completing 24 semester hours, a junior with 48, and a senior with 72. Freshmen and sophomores that have a 2.0 QPA or are officially permitted to attend Clarion may continue to receive grant assistance as long as the 24 new semester hour progress requirement is being met. Once a student earns 64 semester hours, the student must maintain a 2.0 cumulative QPA to continue to receive any Title IV financial assistance in addition to completing the mandatory 24 new semester hours for grant assistance.

Appeal Procedure

Students denied financial aid for any reason may appeal the denial as follows:

1. Write to the Office of Financial Aid, Clarion University of Pennsylvania, Clarion, PA 16214, noting the denial and stating the reasons why financial aid should not be denied. Example: A student may be denied aid because it appears he or she has fewer than 24 credits for the year. Perhaps during the summer at another institution the student has earned, for transfer to Clarion, credits which will fulfill the normal progress requirement but about which the university has not been informed. The student may present the appeal in person at the Office of Financial Aid in Egbert Hall instead of writing.
2. The Office of Financial Aid will review the denial in terms of information provided by the student.
3. Following the review, the Office of Financial Aid will report back to the student concerning the appeal.
4. If the student questions the decision of the Office of Financial Aid, an appeal may be made to the vice president for student affairs for a final determination.

Refund Policy

Students receiving financial assistance from Clarion University are subject to the same refund policies as those who are not aid recipients. It should be noted that using any part of a student's financial assistance for a portion of a semester is considered as using that

entire semester award for eligibility purposes, i.e., withdrawing after two weeks of classes will entitle the student to an 8090 refund and will utilize 20% of assistance; however, one semester of eligibility in those aid programs has been used. This may affect a student's academic progress eligibility for the following semester.

Scholarships-General University

The following information illustrates the many scholarship opportunities available to students at Clarion University. Throughout the past year endowed scholarships, annual scholarships, and athletic scholarships provided support to more than 540 students.

Scholarship opportunities are made available from sources outside the university and from those within. The vast majority of the Clarion-administered scholarships are managed by the Advancement Office at Clarion. Additional information on scholarships administered by external sources can be obtained at the Office of Financial Aid.

Art, Music, Athletics

Clarence and Janet Lesser Scholarships: This trust fund provides 25 to 30 awards varying in amount from \$200 to \$500. Awards may be renewed subject to the availability of funds at the discretion of the selection committee. Talented candidates, both men and women, will receive preferential consideration for awards to be made in the areas of art, music, and intercollegiate athletics. High school students who have exhibited high interest and achievement are urged to apply. Criteria for selection are talent, academic promise, and leadership potential. Application should be made in the spring. The awards are paid each semester as a tuition credit. Contact the director of financial aid for additional information.

Arts and Sciences

Nancy Shaw McKee Scholarship: This endowed scholarship will provide one \$700 annual scholarship to an undergraduate student (of junior standing or higher) majoring in any area of the arts and sciences. The recipient will be selected on basis of academic performance and financial need. Contact the dean of arts and sciences for more information.

Athletics

Ernest W. Johnson Memorial Baseball Scholarship: This \$700 scholarship is available to a member of the Clarion University baseball team who is a resident of Pennsylvania. In addition, the individual must have completed at least three academic semesters, must be in good academic standing, and must be eligible for participation in NCAA events the following year. For further information contact the athletic director.

Fran Shope Scholarship: A \$300 scholarship to be awarded to a junior or senior woman who has made outstanding contributions to Clarion University athletics. Contact the foundation for additional information.

W. S. Tippin Scholarships: The athletic scholarship fund at Clarion is administered by the athletic director. Scholarships are available to both men and women who compete on intercollegiate teams at Clarion. Interested students should have their high school coach contact the respective coach at Clarion for additional information.

George W. Williams Memorial Wrestling Scholarship: This scholarship was established by Mrs. Nancy Williams in memory of her husband, the voice of Clarion wrestling for many years. The award is made annually to a member of the University's wrestling team or a graduate student associated with the program. The recipient will be selected based upon the following requirements: academic proficiency, wrestling performance, character, moral standards, and eligibility under NCAA rules. For additional information contact the Wrestling Office.

International Programs

International Student Award for Outstanding Achievement: An annual award of up to \$500 will be presented to the outstanding foreign student of the year based on services and activities performed for the university, the Clarion International Association, civic and professional groups, and other activities of academic and/or cultural enrichment. Students receiving this award are selected by a faculty committee. Contact the Office of International Programs for more information.

Music/Band

Band Scholarships: Scholarships are available to students who participate in the Marching and Symphonic Bands. Criteria for selection are musicianship, instrumentation needs, academic promise, and leadership potential. Students are selected by the conductor of bands. The annual awards may be renewed subject to the availability of funds. The number and amount may vary each year. For additional information, contact the conductor of bands.

Theatre

Theatre Scholarships: Awards are available to students who participate in the University Theatre. Criteria for selection are attitude, dependability, dedication to theatre, talent, and performance promise. Students are selected by the theatre staff. The number and the amount may vary from year to year. For additional information, contact Dr. Mary R. Hardwick, director of theatre.

University Wide

APSCUF: One \$400 scholarship is awarded each spring by the Association of Pennsylvania State College and University Faculties at Clarion University. Eligible candidate must have completed 60 credits at Clarion. Other selection criteria include academic record, contribution to the university, and participation in extracurricular activities. The award is paid directly to the student but must be used to cover educational expenses. Contact the APSCUF office for further information.

Clarion University Alumni Association Scholarships: Ten \$300 tuition credit awards made annually by the Alumni Association through the foundation. Eligible candidates should have completed at least 16 credits at Clarion. Two scholarships are awarded to children of university graduates; however, any student may apply for the other eight scholarships. Applications are available in September, and awards are made during October. Recipients are selected by a committee of the Alumni Association. Contact the director of alumni relations for additional information.

Clarion University Women's Club scholarship: A \$300 annual scholarship has been established by the Clarion University Women's Club. In order to meet eligibility requirements the candidates must be of sophomore or higher standing, must have a minimum quality-point average of 3.0, and must demonstrate financial need. Preference will be given to women who are single parents. The scholarship will be applied to the recipient's tuition and fees. For additional information contact the Foundation Office.

Mary/Martha Colegrove Educational Scholarship: The Foundation offers the Colegrove Educational Fund scholarships. The awards are made to two women from McKean County attending Clarion University, in the amount of \$3,500 each, and payable at the rate of \$875 per person per year. The recipient will continue to receive the award during the second, third, and fourth years if she is enrolled as a full-time student and maintains a QPA of 3.0. For additional information, contact the dean of enrollment management and academic records or McKean County High Schools guidance counselors.

Commodore Corporation/Richard Boyle Scholarship: This scholarship, made possible from the Commodore Corporation, is available to natural or adopted children of full-time employees at the Commodore Corporation or Colony Factory Crafted Homes plants. For applications contact the Personnel Office of the respective plant.

Minnie D. Croyle Scholarships: A endowment fund established by the estate of Miss Mary Croyle provides scholarships for tuition and fees for eligible undergraduate students residing in eastern Redbank Township, Clarion County, PA. Scholarships are renewable for sophomore, junior and senior years if required academic criteria are met. Contact the Foundation Office for additional information.

Derrick Scholarship: This endowed scholarship has been established by The Derrick Publishing Company in order to encourage an interest in journalism and reward a promising Clarion University student. The scholarship is available to a sophomore, junior, or senior enrolled in the College of Arts and Sciences. An interest in journalism will be taken into consideration when awarding this scholarship. Preference will be given to students who have been carriers of the Derrick. his possible the scholarship maybe renewed in subsequent years. Contact the dean of the College of Arts and Sciences for further information.

Eberly Family Scholarship Fund: An endowed scholarship fund was established by the Eberly Family Trust to provide scholarships for students residing in Fayette, Greene, Washington, and Wesmoreland Counties. Contact the Foundation Office for additional information.

Edith Davis Eve Foundation Scholarship: The Fund for the Advancement of the State System of Higher Education provides a \$1,000 scholarship to incoming freshmen who reside in Blair County but not in Altoona. Candidates must demonstrate financial need and must be accepted to the university in good standing. In addition, they must be full-time students and degree candidates. Renewal of the \$1,000 scholarship for the sophomore year is possible providing the student maintains a 2.0 quality-point average from the previous year of study. For additional information contact the director of financial aid.

Foundation Departmental Scholarships: Annually, the Clarion University Foundation makes available 28 \$500 scholarships: one to each academic department (26), two to Venango Campus. Eligible students must be of sophomore or junior standing, as award is a tuition credit during the following semester. Criteria for selection include academic excellence and service to the respective department. Application is made during the Spring Semester to individual department committees. Contact department chair for further information.

Foundation Honors Scholarships: Academically talented students at Clarion University who participate in the Honors Program are eligible for four-year Honors Scholarships. Students are selected on the basis of academic achievement and evidence of leadership and motivation. The \$650 annual scholarships are available for four years providing students maintain the academic standards required by the program. Contact the director of the Honors Program for additional information.

Foundation Leadership Scholarships: Scholarships in amounts up to \$1,500 are available to freshmen on a one time basis. Applicants must have a minimum SAT score of 1100 and be in the upper 2/5 of his/her high school graduating class. Further information can be obtained from the office of enrollment management and academic records.

Foundation Non-Instructional Staff Scholarship: Annually the Foundation makes available 6-\$500 scholarships to be awarded to university staff members and their dependents. Contact the Foundation Office for additional information.

Lois Borland Fulmer Endowed Scholarship: This scholarship fund was established by the family and friends of Mrs. Fulmer through the Clarion University Foundation. The awards will be made to an entering full-time or

continuing part-time adult student of any major. Additional information can be obtained from the office of admissions and enrollment management.

Walter L. Hart Scholarships: The Admissions Office, through the foundation, awards multi-year scholarships annually to incoming freshmen. Applicants must have applied and been accepted to the university for the upcoming academic year. Consideration will be given to those students ranked in the top 10% of their graduating class with SAT scores in excess of 1,000 who have made outstanding accomplishments and significant contributions through involvement in extracurricular activities. Each award will be made in four installments providing the student maintains a QPA of 3.0. All new students are considered for these awards. Winners will be notified by the dean of enrollment management and academic records.

Clara Louise Kiser Memorial Fund Scholarship: Scholarships, not limited in number or amount, for students graduating from the Clarion Area School District. The scholarships are awarded according to financial need to students planning to attend vocational school or college. Instructions for completing the application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

Margaret and Irvin Leshar Foundation Scholarships: Scholarships, not limited in number and not specified in amount, granted only to graduates of Union Joint High School. Eligible students may receive the award for up to four years providing they maintain a QPA of 2.5 or above. Recipients are selected on the basis of financial need and academic record. Instructions for complete application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

Dean James D. Moore Scholarship: Scholarships in memory of Mr. Moore, dean of academic affairs at Clarion from 1943-1972, are available to members of the university's Student Senate. Candidates are evaluated on the basis of academic achievement by a committee of the Student Affairs Division. For further information contact the Foundation Office.

Dr. Donald A. Nair—Phi Eta Sigma National Honor Society Scholarship (Freshmen): The Clarion University chapter of Phi Sigma, a member of the Association of College Honor Societies, offers one \$300 cash award each year. Candidates must be a member of the Honor Society, which requires a minimum 3.5 QPA after one or two semesters. Selection is based on academic record and participation in extracurricular activities. Contact Dr. Donald A. Nair, Phi Eta Sigma faculty advisor.

Dr. and Mrs. Arthur William Phillips Scholarship Fund: These scholarships are made possible by a donation from the Dr. and Mrs. Arthur William Phillips Charitable Trust of Oil City. They will be available to students enrolled or planning to enroll for full-time undergraduate work in the nursing program at Venango Campus or other programs at Clarion University or Venango Campus. They must have attended high school or been a permanent resident for at least the past five years in Butler, Clarion, Forest, Mercer, or Venango Counties; have achieved positive academic records or manifest promise of academic success; and have good moral character. Financial need shall be considered secondarily. Further information can be obtained at the Foundation Office.

Presidential Scholarships: Four \$1,000 awards are made annually to incoming freshmen and transfer students. Special emphasis is placed on outstanding academic achievement, demonstrated leadership qualities, and involvement in extracurricular activities. Recipients of the Presidential Scholarships will be reviewed annually for consideration of renewal of the award. The scholarships are paid as a tuition credit each semester by the foundation. All new students are considered for these awards. Winners will be notified by the dean of enrollment management and academic records.

Richard Redick Memorial Scholarship: This scholarship was established in memory of Clarion student Richard A. Redick. The awards are available to full-time students who are active in the returning adult and commuting students organization. Selection criteria include financial need, academic performance, and community service. Additional information may be obtained from the RACS organization advisor, Dr. Donna Poljanec.

Franks H. Sessions Scholarship: This \$225 scholarship was established in honor of Dr. Frank H. Sessions, retired dean of graduate studies and continuing education. The award will be utilized as a recruitment scholarship for learning disabled or handicapped students. Contact the dean of enrollment management and academic records for further information.

State Board of Governors Scholarships: Awards are made each semester to minority students. Candidates must possess a minimum 3.0 QPA. This tuition-based scholarship may vary in amount, depending upon the student's need. Selection criteria include academic record, contribution to the university, and participation in extracurricular activities. Applications can be obtained in the Admissions Office. Payment is made as a tuition credit by the State Board of Governors.

Minnie Patton Stayman Foundation Scholarship: The Fund for the Advancement of the State System of Higher Education provides a \$1,000 scholarship to incoming freshmen who reside in Altoona. Candidates must demonstrate financial need and must be accepted to the university in good standing. In addition, they must be full-time students and degree candidates. Renewal of the \$1,000 scholarship for the sophomore year is possible providing the student maintains a 2.0 quality-point average from the previous year of study. For additional information contact the director of financial aid.

Dana S. Still Scholarships: Several scholarships, in honor of the former provost, will be awarded annually to incoming students. Eligibility will be based upon financial need. This is a one-year award. All new students are considered for these awards. Winners will be notified by the dean of enrollment management and academic records.

Trout Unlimited Conservation Scholarship: This scholarship has been established with the foundation through the sponsorship of the Iron Furnace, the Oil Creek and the Caldwell Creek Chapters of Trout Unlimited. It provides a \$1,000 annual award to support the education of a senior student who displays a keen interest in conservation of natural aquatic resources, especially cold-water. The award will be based first on a written statement of the student's conservation goals and secondly their academic record. For additional information contact Dr. Terry Morrow, Department of Biology.

Frank and Clara Williams Scholarship: Scholarships, not limited in number and not specified in amount, granted to Venango County residents. Eligible students must be full-time freshmen or sophomores. Selection is made based upon financial need and academic record. Instructions for completing the application process may be

obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

Wein Scholarship: This scholarship awarded on the basis of academic achievement to graduating seniors of Clarion Area High School. Further information as well as instructions for completing the application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301.

Scholarships-Departmental

College of Arts and Sciences

Biology

Biology Department Fund Scholarships: Two \$500 scholarships awarded to biology or medical technology students who are currently freshmen or sophomores. Students should apply in the spring to the Biology Department Scholarship Committee. The Scholarship Committee makes a recommendation to the department based upon academic record, contribution to the department and/or university, and participation in **extracurricular** activities. Scholarships are paid direct as tuition credit by the Biology Scholarship and Research Fund of the foundation.

Outstanding Biology Scholars Award: Three tuition scholarships valued at \$1,000 each will be awarded annually to B.S. or B.A. biology majors, secondary education biology majors, or medical technology majors. Recipients are selected on the following criteria: SAT scores greater than 1,200, high school ranking in the 20%, and a statement of career goals. Continuance of the award is dependent upon a quality-point average of 3.0 or higher and continued participation in the biology program. Applicants must be in their senior year of high school or have completed their senior year and have submitted their application to Clarion University or have been admitted for their freshman year. Applications must be received no later than December 10. Contact the Biology Department office for additional information.

Kim Rutherford Memoriat Scholarship: A tuition credit scholarship is in memory of a former faculty member awarded each year to a biology major of freshman or sophomore standing. Recipient is selected upon the following criteria: academic excellence, participation in extracurricular activities, service to the Biology Department and Clarion University, financial need, and the student's goals in biology. Application should be made in the spring to the Biology Department. Final selection is made by the department upon recommendation of the department's academic committee. Payment is made through the Kim Rutherford Scholarship Fund of the foundation.

Scholars in Education Award: PHEAA (Pennsylvania Higher Education Assistance Agency) offers over 100 scholarships each year to students in math or science who are committed to teaching secondary math or science in a Pennsylvania school. Undergraduates must have a QPA of at least 3.0 in math or science. High school seniors must have SAT scores above 1,000, a 3.0 average in math and science, and rank in the top fifth of their high school class. Available only to Pennsylvania residents, this scholarship ranges in amount from \$1,500 up to one-half of tuition at eligible schools (including Clarion University). Contact Dr. Ken Mechling, Biology Department, for further information. Application should be made prior to April 1. Payment is made by PHEAA each semester to the university as credit towards tuition and fees.

Trout Unlimited Conservation Scholarship: This scholarship has been established with the foundation through the sponsorship of the Iron Furnace, the Oil Creek and the Caldwell Creek Chapters of Trout Unlimited. It provides a \$1,000 annual award to support the education of a senior student who displays a keen interest in conservation of natural aquatic resources, especially cold-water. The award will be based first on a written statement of the student's conservation goals and secondly their academic record. For additional information contact Dr. Terry Morrow, Department of Biology.

Chemistry

Heagy Memorial Scholarship: This \$200 scholarship is awarded annually to a chemistry major of at least sophomore standing. The candidate is selected by the Chemistry Department on the basis of academic record. The scholarship is paid by the foundation as a tuition credit. For more details, contact the Chemistry Department chair.

Pennsylvania-American Water Company: Scholarships up to \$1,000 are made available by the Western Pennsylvania Water Company through the Clarion University Foundation. The recipient must be a chemistry major of at least junior standing and is selected by the department on the basis of academic record. For further details, contact the Chemistry Department chair.

George F. and Twila M. Wollaston Award in Chemistry and Science Education: This award is funded by an endowment established by Dr. George F. ('57) and Twila M. Hedegor ('58) Wollaston. Dr. Wollaston, a professor of chemistry and science education at Clarion, established the award as a means of providing financial support to encourage pre-service science teachers to participate in professional science association conferences as a part of their undergraduate training for their profession. Contact the Department of Chemistry for further information.

English

Joseph F. and Susannah Centorelli Scholashrahip: This scholarship fund was established by Mr. Joseph F. Centorelli in memory of his wife, through the Clarion University Foundation. Two recipients are selected each year, one in English and one in speech/communication/theatre, to receive a \$350 scholarship. Applicants must be of at least sophomore standing and have a 3.0 QPA. English candidates must submit a narrative in which they discuss academic interests and future goals. Also they are urged to submit samples of critical or creative writing. Application should be made in the Spring Semester to the chair, English Department.

Gilbert Neiman Scholarships: These scholarships were established in memory of Dr. Gilbert Neiman, former professor of English at Clarion University. Three scholarships will be awarded annually, one to a second semester

sophomore, one to a second semester junior, and a third to an incoming freshman. To be eligible, the students must be English, liberal arts, or secondary education English majors. The sophomore and junior applicants should be in good academic standing and must submit a creative writing, expository essay, or a critical essay on a literary selection specified by the English Department each year. The freshman applicants must submit a creative or critical writing, a recommendation from their senior English teacher, and a high school transcript. Application should be made after the student has been accepted at Clarion.

Geography/Earth Science

Tracy V. Buckwalter Memorial: The endowed scholarship was established in memory of former faculty member, Dr. Tracy V. Buckwalter. This \$700 award will be given annually to a senior student who best displays a vital interest and outstanding scholarship in the field of geology. For additional information, contact Dr. John Emissee, Department of Geography and Earth Science.

Sabina Mooney Seifert Scholarship: This annual scholarship was established for geography/earth science majors of at least sophomore standing. The award criteria is based primarily on academic achievement and secondarily upon financial need. The recipient would be eligible to receive the scholarship in succeeding years based upon maintenance of a 3.00 quality-point average in their major field of study. Contact the chair of the Geography/Earth Science Department for additional information.

Mathematics

Calculus Scholarship: This scholarship is for a declared math major who achieves the highest score on a standardized calculus test. Students must be recommended by faculty members to take the test. The award is available annually through the Mathematics Department Endowment Fund. For further information contact the chairperson of the Mathematics Department.

Tom A. Carnahan and Mel A. Mitchell Secondary Education/Mathematics Scholarship: This endowed scholarship was established to benefit Clarion students enrolled in the secondary education/mathematics degree program. The award, in the amount of \$750, will be made to full-time students who have been admitted to the Teacher's Certification Program and who have achieved a minimum 3.0 quality-point average in completed math courses. The office of the dean of education will be responsible for mailing applications to all eligible students. In addition to submitting an application, students are required to provide two letters of recommendation. Students would be eligible to apply for the scholarships for a second year.

Mathematics Freshman Scholarship: This scholarship is for an incoming freshman math major. The student must be one of the top ten scorers in the department's annual High School Mathematics Competition. The award is made during the fall of the student's first year from the Mathematics Department Endowment Fund. For further information contact the chairperson of the Mathematics Department.

Helen and Lawrence Smith Scholarship: These scholarships made possible by a gift from Mrs. Helen Smith in memory of her husband. Applicants must be full time students at the junior or senior level majoring in Library Science or Mathematics, must have completed at least 64 credits, and have a QPA of 3.0 or higher. The scholarships are available for a second year providing student maintain the academic standards required. Contact the foundation office for further information.

Modern Languages

Rafael Diaz y Diaz Scholarship: This \$300 award is presented annually to the most outstanding junior or senior who is majoring in Spanish and plans to study either in Spain and/or an Hispanic country. It is based upon academic excellence and contribution to the Spanish section of the Modern Languages Department. Selection is made by the Scholarship Committee. For further details contact Dr. Tu or Mr. Diaz y Diaz.

Irmgard Hegewald Scholarship Fund: The Hegewald scholarship fund was established through a gift from the estate of her mother, Gertrud Schulz, to honor the former German faculty member. The purpose of the fund is to provide scholarships for students majoring in German. All levels of students are eligible and the award may be renewed in subsequent years providing minimum academic requirements are maintained. Contact the Department of Modern Languages for additional information.

Music

Band Scholarships: Scholarships are available to students who participate in the Marching and Symphonic Bands. Criteria for selection are musicianship, instrumentation needs, academic promise, and leadership potential. Students are selected by the conductor of bands. The annual awards may be renewed subject to the availability of funds. The number and amount may vary each year. For additional information, contact the conductor of bands.

Dr. John A. Mooney Scholarship: This award is presented to a music major of at least sophomore standing. Criteria for selection are based primarily upon musical talent and secondarily upon financial need. Candidates will be required to demonstrate musical talent via a live audition. This \$700 scholarship will be applied to the recipient's educational fees. Contact the chair of the Music Department for additional information.

Linda Marie Trunzo Memorial Scholarship: These awards, in memory of Ms. Trunzo, a Clarion student, have been designated for incoming freshman music majors. The recipients are selected by the department chair on the basis of academic achievement, interview/audition to demonstrate talent, and achievement in music. The recipients will be named the "Trunzo Scholars." Contact the chairperson of the Music Department for additional information.

Physics

Paul Shank Award for Excellence in Physics: Two awards at-e made annually in honor of Dr. Shank, former physics professor. The scholarships are awarded based on grades in physics, math, and computer science and are presented to junior physics majors. In addition, recipients' names are inscribed on a plaque in the department of office. See the Physics Department chairperson for further details.

Psychology

Eric S. Knotick Memorial Scholarship: This endowed scholarship, in memory of Mr. Knotick, a Clarion student, is given annually to a psychology student. The award is based on academic accomplishment, service to the university, Psychology Department, and community. See the Psychology Department chairperson for additional information.

Speech Communication and Theatre

Cheri Aharrah Reid Memorial Scholarship: This endowed scholarship was established by Dr. Ernest ('49) and Mrs. Peggy (Berringer '49) Aharrah in memory of their daughter. Its purpose is to assist freshman students beginning study in the Department of Speech Communication and Theatre. The recipient will be selected on the basis of demonstrated high school and or community activities deemed worthy of merit. Additional information can be obtained from Dr. Mary Hardwick, Department of Speech Communication and Theatre.

Joseph F. and Susannah Centorcelli Scholarship: This scholarship fund was established by Mr. Joseph F. Centorcelli in memory of his wife, through the Clarion University Foundation. Two recipients are selected each year, one in English and one in speech/communication/theatre, to receive a \$350 scholarship. Applicants must be of at least sophomore standing and have a 3.0 QPA SCT candidates will be invited to appear for an interview and are required to demonstrate their awareness of citizenship responsibilities and hope for their career. Application should be made in the Spring Semester to the chair, SCT Department.

Mathematics, Physics, Chemistry, Geography, Earth Science, Biology

William and Elizabeth Hart Scholarship: This scholarship was established to honor former chemistry professor Dr. William Hart. Currently, two scholarships are awarded in the amount of current expenses for tuition, room, board, and some miscellaneous fees, including books. Applicants must major in mathematics, physics, chemistry, geography/earth science, or biology and have completed 45 credits. They must have a QPA of 3.0 overall and 3.3 in math and science course work. Selection shall be made by competitive examination, testing the student's ability in mathematics and English. Application deadline is late February. Contact a member of the Scholarship Committee for additional information. Dr. Wollaston (chemistry); Dr. Zamzow (earth science); Dr. Jedciewicz (biology); Dr. McGowan (physics); and Dr. Freed (mathematics).

College of Business Administration

E. Wilson Amsler Endowed Scholarship: An endowed scholarship has been established in recognition of E. Wilson Amsler and his many contributions to the community and the university. The scholarship will permit the College of Business Administration to recruit and/or support art outstanding business major. The award is valued at this time at \$500. Contact the chairperson of the College of Business Administration Scholarship Committee for additional information.

Charles P. Leach, Sr. Scholarship: This endowed scholarship is awarded annually to an outstanding business student. Eligible students must be of at least sophomore standing and are selected on the basis of academic record, contribution to the College of Business Administration and the university, and participation in extracurricular activities such as professional organizations. Application is made to the chairperson of the College of Business Administration Scholarship Committee during the Spring Semester. Payment is made by the foundation.

Accountancy

Accountancy Department Endowed Scholarship: Annually, two \$500 scholarships are awarded by the Accountancy Department's endowment fund established through the Clarion University Foundation. Criteria used in selecting the recipients include academic record, classroom performance and participation in university activities. For additional information, contact the Accountancy Department chairperson.

American Accounting Association-Arthur H. Carter scholarship: A \$2,500 tuition credit scholarship presented by American Accounting Association. Junior accounting majors in the top of their class should make application during the Spring Semester through the department. Committee selection of the recipient is based on academic record, leadership qualities, and participation in extracurricular activities.

American College Scholarship: Outstanding accounting students are eligible to apply for this award of \$500, \$1,000 or \$2,000. Application should be made in the Spring Semester before March 1 to the Accountancy Department Scholarship Committee. Selection is based on academic excellence, creativity, motivation, and leadership. Letters of recommendation are required. Contact the Accountancy Department chairperson for further information.

National Association of Accountants Senior Scholarship: Two \$300 awards made by the Board of Directors of the Northwest Keystone Chapter of the NAA to senior accounting majors. Students must maintain a 3.5 overall QPA as well as a 3.5 in accounting. Candidates should apply to the Accountancy Department chairperson by May 1. Recipients are selected on the basis of scholastic achievement, involvement in extracurricular activities, and statement of goals.

National Society of Public Accountants Scholarship: A tuition credit scholarship awarded to a junior accounting major by the scholarship committee of the National Society of Public Accountants. Candidate must have a 2.0 QPA overall in addition to a 3.0 in accounting. Selection is based on qualities of academic excellence, participation in extracurricular activities, leadership abilities, and financial need. Candidates must also submit letters of recommendation. Application should be made to the Accountancy Department chairperson in February.

Pennsylvania Institute of Certified Public Accountants Scholarship: Over 30 cash awards varying in amounts of \$100, \$700, and \$1,400 are presented to junior accounting majors by the Pennsylvania Institute of Certified Public Accountants. Application should be made before March 1 through the Accountancy Department. Eligible applicants must be full-time students and have completed 12 semester credits in accounting. Applicants are required to submit letters of recommendation. Selection is based upon scholastic achievement and qualities of leadership and is made by the trustees of the PICPA scholarship fund.

American Accounting Association Fellowship Program in Accounting (Graduate Students): A \$1,000 fellowship for second year graduate students in business administration or accountancy sponsored by the American Accounting Association. Students should apply prior to February 1 to the Accountancy Department. Candidates must be interested in teaching accounting and must show promise for such a career. Payment is made as a tuition credit each semester.

American Institute of Certified Public Accountants Scholarship for Minority Graduate Students in Business: Scholarship(s) made each year to an accounting student in need of financial assistance. A maximum of \$1,000 per year will be awarded by the AICPA Scholarship Committee as a tuition credit. Application should be made to the Accountancy Department by July 1 for the academic year and December 1 for the Spring Semester. Applicant must be in good academic standing and must submit a statement signed by the university financial aid officer.

Finance

Burns and Burns Scholarship: This endowed scholarship is available to students majoring in finance, real estate, and insurance. The award process is initiated by faculty nominations. Nominees are required to submit a resume and are evaluated on academic achievement, contributions to the department, the College of Business Administration, Clarion University, and the local community.

Entrepreneurial Scholarship: A scholarship established to benefit a returning finance major, coupled with an assistantship (part-time employment) within the university's Entrepreneurial Center. Recipients are nominated by faculty of the Finance Department, and selection is based upon academic excellence as well as contributions to the department. Value of the scholarship at the present time is \$250.

Gray Real Estate Scholarship: This endowed fund will provide scholarships for high achieving students majoring in real estate. Additional information can be obtained at the foundation office.

Marketing

Marketing Management Scholarship: An endowed scholarship was established through contributions from alumni, friends, and faculty of Clarion University Marketing Department for the marketing major who plans for a career in marketing management. Contact the chairperson, Department of Marketing, for application guidelines and additional information.

Marketing Research Scholarship: As part of class projects, teams of marketing research students entered the Arrc dust Research Project Competition in 1988 and 1989. The Clarion University teams, coordinated by faculty advisor Dr. Paul Kim, won first prize two years in a row. An endowed scholarship was established to honor the recipients of the awards and to preserve the department heritage of excellence in marketing research. The scholarship is awarded annually to an outstanding marketing major who plans a career in marketing research. Contact the chairperson, Department of Marketing, for application guidelines and additional information.

Retail Management Scholarship: An endowed scholarship was established through contributions from alumni, friends, and faculty of Clarion University Marketing Department for the marketing major who plans for a career in retail management. Contact the chairperson, Department of Marketing, for application guidelines and additional information.

College of Communication, Computer Information Science, and Library Science

James Cole Scholarship: An endowed scholarship has been established through the foundation to honor Dr. James Cole, former dean of the College of Communication and Computer Information Science. Award criteria have not yet been published; however, additional information can be obtained from the College of Communication, Computer Information Science and Library Science.

Communication

James J. Canelos Scholarship: Annually a scholarship, in memory of alumnus, J.J. Canelos, is offered to a junior communications major. Eligibility requires a minimum QPA of 3.4. Final selection is made by department members on the basis of academic record, contribution to the Communication Department and the university, participation in extracurricular activities, and financial need. Additional information can be obtained from the Communication Department chairperson.

Computer Information Science

Computer Information Science Scholarship: A \$500 scholarship offered under the same conditions and procedures as the Foundation Departmental Scholarship and is awarded by the Scholarship Committee of the CIS Department. The purpose is to guarantee that students from both majors in the CIS Department (CS, Computer Science, and CAIS, Computer Application and Information Systems) are awarded a scholarship each year. For additional information, contact the CIS Department chair.

Data Processing Management Association Elizabeth Ross Scholarship: Annual scholarships are awarded to DPMA members majoring in CAIS. Selection is based on academic record and contribution to DPMA. Additional information can be obtained from the CIS Department.

George R. Lewis Scholarship: This scholarship award is made available to deserving students in computer science. This is a tuition-based scholarship and is renewable annually throughout four year, providing that the student maintains QPA standards. Contact the dean of the College of Communication, Computer Information Science, and Library Science for more information.

Library Science

Charles R. Flack Scholarship in Library Science: This endowed scholarship was established in memory of Charles R. Flack, the head of the Department of Library Science at Clarion State College from 1941 until his retirement in 1955. This scholarship is offered to a sophomore or junior enrolled in the Bachelor of Science in Education degree at Clarion for full-time, continuous study or a student enrolled in the Master of Science in Library science degree program for full-time continuous study. Further criteria include evidence of professional potential in librarianship based upon earned grades and a written statement of personal and professional goals; significant contributions to the purposes and activities of the Department of Library Science; and preference shall be given to a physically disabled student who meets the above criteria.

Eleanor DeWald Moore Scholarship: This scholarship recognizes Mrs. Eleanor DeWald Moore, an alumna of Clarion ('42), an associate professor 1956-1972, serving first as assistant librarian in Carlson Library and later as a faculty member of the College of Library Science. Mrs. Moore also served as school librarian in several Pennsylvania school districts. This scholarship fund provides a \$250 award to an undergraduate student of junior or senior standing who is preparing for a career in school librarianship. Selection criteria include professional potential in librarianship based upon earned grades and a written statement of personal and professional goals. Contact the chairperson of the Department of Library Science for information.

Elizabeth A. Rupert Graduate Scholarship in Library Science: This endowed scholarship was established in honor of Dr. Elizabeth A. Rupert, an alumna of Clarion ('59) who also served as dean of the College of Library Science from 1971 until her retirement. The purpose of the scholarship is to give personal encouragement and financial support to a promising graduate student seeking a career in librarianship by completing the M.S. in Library Science degree at Clarion. For additional information contact the Department of Library Science.

Helen and Lawrence Smith Scholarship: The scholarships made in memory of her husband from Mrs. Helen Smith. Applicants must be full time students at the junior or senior level majoring in Library Science or Mathematics, must have completed at least 64 credits, and have a QPA of 3.0 or higher. The scholarships are available for a second year providing students maintain the academic standards required. Contact the foundation office for further information.

H.W. Wilson Scholarship (Graduate Students): Awards totaling \$5,000 are made every five years to graduate students majoring in library science. Recipients are chosen on the basis of academic excellence and financial need. Selection is made by the departmental scholarship committee, and payment is made by the H.W. Wilson Foundation. For further information, contact the chair, Department of Library Science.

College of Education and Human Services

Education

Clarion County Chapter of the PA Association of School Retirees Scholarship: One \$200 scholarship awarded each year. Candidate must have graduated from a Clarion County high school or have been a resident of Clarion County at the time of high school graduation. Apply in the spring to the Education Department chair. Selection is based on academic record, contribution to department and university, participation in extracurricular activities and leadership skills. Letters of recommendation are required. Payment is made by the foundation as a credit toward tuition.

Paul Douglas Teacher Scholarship: scholarships administered by PHEAA to encourage academically talented students to enter elementary or secondary teaching fields. Recipients are selected on the basis of academic achievement and the recommendation of a high school official. The \$5,000 award is made based upon a signed agreement to teach in an elementary or secondary school for at least two years. Contact the Financial Aid Office for additional information.

Wilma Best Logue Education Scholarship: The W.B. Logue scholarship for prospective teachers is awarded to graduates of Keystone High School (Clarion County) who major in Education. The award is based upon academic achievement and experiences with children. Contact the Department of Education for further information.

George F. and Twila M. Wlaaton Award in Chemistry and Science Education: This award is funded by an endowment established by Dr. George F. ('57) and Twila M. Hedegor ('58) Wollaston. Dr. Wollaston, a professor of chemistry and science education at Clarion, established the award as a means of providing financial support to encourage pre-service science teachers to participate in professional science association conferences as a part of their undergraduate training for their profession. Contact the Department of Chemistry for further information.

Elementary Education

Parma Dixon Mooney Scholarship: Scholarships are awarded each year to a freshman or transfer student majoring in elementary education. Candidates must be residents of Clarion County. Apply in the spring to Education Department chairperson. Selection is based upon academic record, participation in extracurricular activities, and leadership skills. Letters of recommendation are required. Payment is made by the foundation as a credit toward tuition.

Earl R. Siler Memorial scholarship: This scholarship was recently established in memory of Dr. Earl Siler to recognize graduate/undergraduate students in the areas of elementary education or early childhood in their professional development activities. For additional information contact the chair of the Education Department.

Secondary Education-English

Gilbert Neiman Scholarships: These scholarships were established in memory of Dr. Gilbert Neiman, former professor of English at Clarion University. Three scholarships will be awarded annually, one to a second semester sophomore, one to a second semester junior, and a third to an incoming freshman. To be eligible, the students must be English, liberal arts, or secondary education English majors. The sophomore and junior applicants should be in good academic standing and must submit a creative writing, expository essay, or a critical essay on a literary selection specified by the English Department each year. The freshman applicant must submit a creative or critical writing, a recommendation from their senior English teacher, and a high school transcript. Application should be made after the student has been accepted at Clarion.

Secondary Education—Mathematics

Tom A. Carnahan and Mel A. Mitchell Secondary Education/Mathematics Scholarship: This endowed scholarship was established to benefit Clarion students enrolled in the secondary education/mathematics degree program. The award, in the amount of \$750, will be made to full-time students who have been admitted to the Teacher's Certification Program and who have achieved a minimum of 3.0 quality-point average in completed math courses. The office of the dean of education will be responsible for mailing applications to all eligible students. In addition to submitting an application, students are required to provide two letters of recommendation. Students are eligible to apply for the scholarship for a second year.

Secondary Education—Mathematics and Science

Scholars in Education Award: PHEAA (Pennsylvania Higher Education Assistance Agency) offers over 100 scholarships each year to students in math or science who are committed to teaching secondary math or science in a Pennsylvania school. Undergraduates must have a QPA of at least 3.0 in math or science. High school seniors must have SAT scores above 1,000, a 3.0 average in math and science, and rank in the top fifth of their high school class. Available only to Pennsylvania residents, this scholarship ranges in amount from \$1,500 up to one-half of tuition at eligible schools. Contact Dr. Ken Mechling, Biology Department, for further information. Application should be made prior to April 1. Payment is made by PHEAA each semester to the university as credit towards tuition and fees.

George F. and Twila M. Wollaston Award in Chemistry and Science Education: This award is funded by an endowment established by Dr. George F. ('57) and Twila M. Hedegor ('58) Wollaston. Dr. Wollaston, a professor of chemistry and science education at Clarion, established the award as a means of providing financial support to encourage pre-service science teachers to participate in professional science association conferences as a part of their undergraduate training for their profession. Contact the Department of Chemistry for further information.

Special Education

Kenneth and Marjorie Vayda Frontiers in Human Resources Scholarship: An annual scholarship award will be available to an upperclass student majoring in special education or rehabilitative sciences. Minimum requirements include achieving a 3.5 QPA and active involvement with persons who have handicaps.

Ginny Thornburgh Recognition Scholarship: One \$750 scholarship awarded each year to an outstanding junior or senior majoring in special education. Selection is based upon academic record (minimum QPA 3.5) and service to exceptional individuals. Contact the Special Education Department chairperson.

Special Education/Rehabilitative Science Freshman Scholarship: This endowed scholarship has been established by the Department of Special Education and will be offered to an incoming freshman majoring in special education or rehabilitative science. The recipient of the \$500 award will be selected based upon academic achievement, leadership, and community service. Contact the chair of the Department of Special Education for additional information.

Speech Pathology and Audiology

Marian Renn Marshall Graduate Fellowship (Graduate Students): This award fund was established through the Clarion University Foundation in memory of Mariart Renn Marshall. This award offers assistance to graduate students who have been admitted to the speech pathology and audiology (SPA) graduate program. Selection is made by the SPA Department on the basis of academic record. Contact the SPA Department chair for further information.

Scholarships-Venango Campus

General

Ronald E. Black Endowed Scholarship: This scholarship fund provides an award to a student at the Venango Campus. Preference is given to adult students who are residents of Venango County. For further information contact the chairperson of the Venango Campus Scholarship Committee.

Cranberry Mall/Metropolitan Life Insurance Company Scholarship: One \$500 scholarship is provided annually by the above named sponsors to a math, science, or computer science major at the Venango Campus. For further information contact the chair of the Venango Campus Scholarship Committee.

GTE Scholarships: Three \$500 scholarships awarded by General Telephone (GTE) through the Clarion University Foundation. Applicants must be a resident of the GTE service area (Oil City, Franklin, Titusville) who are enrolled at Venango Campus. Contact the chair of the Venango Campus Scholarship Committee for additional information.

Dr. Glenn R. McElhattan Scholarship: This fund was established to honor Dr. McElhattan, a Clarion alumnus and chemistry department faculty member at the Venango Campus. Eligible candidates must be high school seniors enrolled at the Venango Campus for their freshman year. Awards are granted based upon academic achievement. For additional information contact the Venango Campus Scholarship Committee.

Oil City Lions Club Scholarship: One \$500 scholarship awarded annually to a senior at Oil City or Venango Christian High School to attend Venango Campus. Contact the respective guidance office for additional information.

Oil City Rotary Club Scholarship: One \$500 scholarship awarded by the Oil City Rotary Club through the Clarion University Foundation. The recipient must be a graduate of either Oil City, Cranberry, or Venango Christian High Schools. The recipient is selected on the basis of academic record, financial need, and participation in extracurricular activities. Contact the chair of the Venango Campus Scholarship Committee for additional information.

Penelec Scholarship: One \$500 scholarship awarded by the Pennsylvania Electric Company through the Venango Campus Scholarship Committee. Penelec employee dependents will receive priority. Contact the chairperson of the Venango Campus Scholarship Committee for additional information.

Pennzoil Scholarship Endowment: One scholarship of \$500 is made available by the foundation through an endowment account established by Pennzoil. Award criteria are based on academic achievement and financial need. Contact the chairperson of the Venango Campus Scholarship Committee for additional information.

Laura A. Smedley Scholarships: Scholarships, not limited in number and not specified in amount, granted to Venango Campus students who are graduates of secondary schools serving Venango County. Eligible students must be full-time students enrolled in any associate degree program. Selection is made based upon financial need and academic record. Instructions for complete application process can be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

Venango Campus Scholarship: Eight or more \$500 scholarships awarded annually from the Venango Campus fund of the foundation. These scholarships are provided by current faculty contributions and by an endowment established by the faculty at Venango Campus. In selecting the recipient, the scholarship committee considers academic record, participation in extracurricular activities, and financial need. For further information, contact the Administrative Office, Venango Campus.

Frank and Clara Williams Scholarship: Scholarships, not limited in number, and not specified in amount, granted to Venango County residents. Eligible students must be a full-time freshman or sophomore and be enrolled in a four-year degree program. Selection is made based upon financial need and academic record. Applications may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301.

Zonta Club Scholarship: Two \$400 awards made available by the Zonta Club of Oil City-Franklin. The awardee must be a female student who resides in Venango County. Consideration is based upon the student's academic record, financial need, and participation in extracurricular activities. Contact the chairperson of the Venango Campus Scholarship Committee for additional information.

Nursing

Brookville Hospital Scholarship: This \$1,000 Scholarship is made available by the foundation through a donation received from the Brookville Hospital. The scholarship will be awarded to a second year nursing student living in Clarion, Jefferson, or Forest County who is enrolled at Venango Campus. Award criteria are based on academic achievement and financial need. Contact the chairperson of the Venango Campus Scholarship Committee for additional information.

Nursing scholarship: Six \$500 scholarships provided to the Venango Campus Scholarship Committee by an anonymous Oil City organization. Priority is given to Venango County residents with financial need. May be renewed. For further information contact the chairperson of the Venango Campus Scholarship Committee.

Oil City Area Health Center Women's Auxiliary Health Career Fund scholarship: Three \$1,000 scholarships contributed by the Health Career Fund to be awarded by the Venango Campus Scholarship Committee to Venango, Forest, and Clarion County residents attending Venango Campus for educational purposes in the health career fields.

Dr. and Mrs. Arthur William Phillips Scholarship Fund: These scholarships are made possible by a donation from the Dr. and Mrs. Arthur William Phillips Charitable Trust of Oil City. They will be available to students enrolled or planning to enroll for full-time undergraduate work in the nursing program at Venango Campus or other programs at Clarion University or Venango Campus. They must have attended high school or been a permanent resident for at least the past five years in Butler, Clarion, Forest, Mercer, or Venango Counties; have achieved positive academic records or manifest promise of academic success; and have good moral character. Financial need shall be considered secondarily. Further information can be obtained at the Foundation Office.

Dolores Sherman Scholarship: This fund provides an annual award for full-time students pursuing a B.S. degree in nursing. Candidate selection criteria include grades in nursing course work, overall academic record, financial need, recommendation of nursing instructors, and service to the university and/or the nursing profession. Payment is made to the university as a tuition credit by the foundation. For further information contact the chairperson of the Venango Campus Scholarship Committee.

Quaker State Scholarships: Two \$650 awards given annually to students in nursing by the Quaker State Corporation. Candidates must have successfully completed the first year of the nursing program. Eligibility criteria include nursing skills, **scholastic** achievement, and financial need. Scholarships are paid to the university as a tuition credit. For further information contact the chairperson of the Venango Campus Scholarship Committee.

Awards

In addition to the many available scholarships, the university is also very proud of its academic achievement, leadership, and service awards, such as:

College of Arts and Sciences

Biology

Association of Pennsylvania State College and University
Biologists Award

Chemistry

American Institute of Chemists Award
CRC Press-Freshman Achievement Award
Chemistry Department Competitive Award
Outstanding Senior Award

English

English Association of Pennsylvania State Universities Award
Max Nemmer Award

Geography/Earth Science

Norman Humphrey Geography/Earth Science Award

History

Gilbert Hill Award

History/Social Science

Frank Campbell Award

Humanities

Eileen M. Thornton Humanities Award

Mathematics

Mathematical Association of America Award
Pi Mu Epsilon Honorary Award

Modern Languages

Canadian Consul Award in French
Consul General's Award for Achievement in German
Award for Excellence in Spanish

Psychology

Psychology Department Awards

Speech Communication and Theatre

Alpha Psi Omega/Allan Kroh Memorial
Copland Fellowship Award
Daniel Preuh's Memorial for Musical Comedy
Daniel Preuh's Memorial for Talent in Theatre
Silver Fox Award for Comedy
Mary Sterrett and Elben R. Moses, Jr., Award

College of Business Administration

All Majors

Phi Beta Alpha Outstanding Senior Award
Wall Street Journal Student Achievement Award

Accountancy

Becker CPA Review Award
National Association of Accountants Senior Award
Pennsylvania Institute of Certified Public Accountants Senior Award

Economics

Omicron Delta Epsilon Award for Distinguished Service
Omicron Delta Epsilon Award of Honor for Academic Achievement and Leadership
Omicron Delta Epsilon Award for Outstanding Achievement in Economics

Marketing

Outstanding Marketing Student of the Year

College of Communication, Computer Information Science, and Library Science

CommunicationOutstanding **Communication** Senior Award**Computer Information science**

Data Processing Management Association Outstanding Student Award

College of Education and Human Services

Education

Kappa Delta Pi Award

Outstanding Student Teacher Award

Speech Pathology and Audiology

National Student Speech-Language-Hearing Association Honor Award

Speech Pathology and Audiology **Honor** Award

University-Wide Awards

Leadership

James Gemmill Leadership Award

University Curricula

All undergraduate curricula, with the exception of the two-year Associate of Science curriculum in nursing, the Associate of Arts, and Associate of Science degrees, lead to a bachelor's degree and have a common area of 48 semester hours in general education. Students should select their general education programs carefully in consultation with their faculty advisors.

Undergraduate Education

Undergraduate education at Clarion University is in large measure the product of the immediate opportunities provided by course offerings. But it should be shaped too by the opportunities provided for extra and co-curricular activities, by student living arrangements, by cultural opportunities provided by the university and the larger community, and by opportunities for relevant work through participation in assistantships, internships, and student and community organizations.

What the student will find here is not a set of inflexible requirements but rather a set of guidelines which should shape and inform the university's curriculum generally and thus enable the student to acquire skills, knowledge, and attitudes necessary to attain the goals the student sets for life. Regardless of the student's curriculum, however, the university believes that the student should graduate with a distinguished level of abilities and with attitudes necessary to the continued development and refinement of those abilities. Thus the graduate of Clarion University should

1. be able to read and listen, speak and write with a degree of sophistication;
2. be able to think critically and analytically;
3. possess a broad awareness of human heritage;
4. possess a significant sense of the influence of global affairs on personal and national life;
5. comprehend an academic discipline;
6. formulate, examine, and be guided by conscious personal and social values;
7. be able to recognize and exercise wise choices in life;
8. possess the skills and attitudes necessary to continue to learn throughout life; and
9. be able to participate effectively and usefully in society.

These nine goals for undergraduate education at the university are applicable to the lives of all students regardless of major. The first five are tied directly to the acquisition of academic skills and knowledge. The other four speak to the kind of life which the university desires for its graduates. All nine of them, taken together, represent the definition of an education which guides Clarion University.

Goal I: The student will develop the ability to read and listen, speak and write with a degree of sophistication.

Communication is a fundamental human activity. Through communication, whether in reading or listening or in speaking and writing, individual human experience touches collective experience. The result is learning. Clarion University is committed to learning and, consequently, to excellence in communication as a way of learning.

As vehicles for communication, reading, listening, speaking, and writing enable us both to discover and to create new knowledge. Reading, including the viewing of non-print media, and listening are important vehicles for discovering what others think. They put us in touch with the best in traditional and modern human thought. But reading and listening are not essentially passive experiences. They are in fact encouragements to criti-

cal thinking, to the active inquiry and reasoning so vital for the creation of new knowledge in the individual and in the society.

In the university, therefore, we ask students to read and to listen analytically—with their minds and not merely with their eyes and ears. We expect students to read widely and critically in the literature and other media appropriate to the subjects they study, whether in general education or in their majors. We also expect students to listen analytically in the classroom: to assess what they hear and to integrate what they hear with what they read and with what they themselves think.

Speaking and writing enable us to discover, create, and communicate new knowledge. They are dependent on the quality of our reading and listening, and they are fundamentally active forms of learning. Effective speaking assumes active reading and listening. Without something worthwhile to say, speech is mere form. But without statement that is clear, simple, and direct, speech is ineffective. In this sense, the form and content of speech are clearly related. Developing and refining that relationship encourages us to think critically and, in the process, to learn well. It also leads us to discover, create, and ultimately convey to others the new knowledge we have learned.

Through writing, we first discover what we know and what we think about it. Writing, in this sense, puts us in touch with our own thinking. It encourages us to be our own teachers and, in fact, to be independent learners. It also encourages us to integrate into our own thinking what we know from reading and listening. Thus, writing is a basic means of inquiry and analysis appropriate to all studies, to sciences and applied disciplines as well as to the arts and humanities. Writing is a vehicle for critical thinking.

Beyond this, of course, writing is communication with others. Through writing, we create something to convey our own thinking to others, something to be read by others, something in fact to encourage critical thinking and new knowledge in others. We do so by relating the content of our thinking to the forms of written language. Developing and refining this relationship again encourages us to think critically and to learn well. Further, it leads us to express our thinking in clear, simple, and direct statement.

In the university, therefore, we ask students to speak and to write frequently, whether in general education courses or in courses in their majors. We expect that by speaking and writing often, they will perfect both their analytical and their communication skills.

Goal II: The student will develop the ability to think analytically, critically, and abstractly.

As well as developing the language skills discussed in Goal I, the student should be able to gather information and communicate through other symbols, particularly those of mathematics. The student should be able to think logically, be able to move from the specific to the abstract and discern the specifics which undergird the abstract, able to think inductively and deductively, able to analyze materials by reducing them to their significant parts, able to discover their organizing principles, and be able to reorganize them if desirable. The student also should be able to distinguish fact from inference and opinion and be willing to speculate and able to think abstractly. The student should have moved well beyond the notion that education consists only in the mastery of fact and be able, if only modestly, to contribute to the creation of new knowledge.

The student should be aware of the sources of information available in the various areas of study, have a working knowledge of the resources of our libraries, and have a grasp of the distinctive methods of research and inquiry. The student should also have an understanding of the increasing importance of numerical data in obtaining kinds of information never before accessible. At the same time, the student should be exposed to concepts which allow the student a sophisticated response to positions based on numerical data and statistics. Finally, the student should develop, without cynicism, the scholar's healthy skepticism.

Emphasis on the skills and attitudes of thought and inquiry enables individuals to deal more intelligently with their academic work and their lives in a rapidly changing world. Thus the processes of logical thought and inquiry should be a major emphasis in virtually every course which the student takes and the university offers.

Goal III: The student will acquire a broad awareness of various accounts of human heritage by developing an understanding of the roles of language, literature, arts, technology, mathematics, science, social sciences, history, and philosophy.

An understanding of our shared human heritage is central to the development of an educated person. Knowledge of the development of this heritage helps the student to see the present in perspective and to appreciate the development of human cultures and of their own civilization. That knowledge provides the materials for much of the student's thought, provides the basis for their ability to grasp the inter-connectedness of knowledge, and provides many of the skills, the tools of thought, by which the student continues to learn and communicates what the student has learned.

The goal itself does not speak to specific courses. Rather it speaks to the spirit in which all courses in the curriculum ought to be taught as vital elements in an ongoing human enterprise to make sense of a vast universe and of the world in which we find ourselves. Education at the university provides students with an opportunity, then, to consider the questions which may be posed from the principal vantage points of the curriculum so that they may see further. Among those questions are the following:

1. Language: What is human language? How did it evolve? How does it influence what we see, how we reason, what we value, and what we are? What is it like to view a culture from within the framework of its dominant language? What qualities do all languages have in common, and what are some striking differences? What are the distinctive qualities of English? How did English and its American dialects evolve? What are the methods by which languages are commonly described?
2. Literature: What makes literature distinctive among arts? What constitutes literature? What accounts for the antiquity and persistence of poetry? What purposes are served by literature, and to what extent does its development parallel the patterns of development in human societies? How have distinctive cultures viewed literature over time, and how has it contributed to the shaping of those cultures even as it has reflected them? What are the historical contexts which have shaped literature in English? What are the principal methods of literary study?
3. The Fine Arts: What essential human qualities or needs find their expression in the arts? What do the arts have in common? What are the distinctive qualities of the various arts? How do the arts reflect their cultural contexts over time? What accounts for the tendency within a given culture for the arts to become less accessible over time, and is the tendency an inevitable one? What knowledge and skills does a non-specialist in the arts need to appreciate them intelligently?
4. Technology: What has been the role of technology in the rise of human societies and in their continuing development? What technological innovations made possible the rise of early civilization? What European borrowings from the technologies of North Africa, the Near East, and Asia contributed to the European Renaissance, and how did they contribute? What technological innovations are tied to the rise of early modern science? How have warfare and technology been historically linked, and what are the benefits and what the costs of the linkage? What are the most significant technologies for our own time? How may we benefit from them? What threats are posed by them? What moral and ethical implications do they pose? What implications does technology hold for the future?

5. Mathematics: What is the essential nature of mathematics, and what aspects of reality does it attempt to describe? What are the early advances in mathematics, and what historical conditions prompted those advances? What is the present state of mathematics, and what are its principal modern forms or domains? What advances in science and technology have been made possible by mathematics? What kinds of questions do not lend themselves well to mathematical description? What responses are available to misleading uses of numerical data? What are the principal applications of mathematics to other disciplines?
6. Science: What is the essential nature of science, and how has it developed? How does the scientific viewpoint differ from other approaches to understanding the world? What shifts in attitude towards inquiry occurred during the Renaissance, what prompted them, and how did they contribute to the rise of modern science? What are the strengths of scientific methods of inquiry, and what are their limitations? How do these methods affect the kinds of questions asked about reality? What are the principal fields of the natural sciences, what distinguishes them from one another, and to what degree do they overlap? To what extent have the methods of the natural sciences been incorporated into other disciplines, and what are the implications for those disciplines of that incorporation? What are the moral and ethical implications of science for its practitioners and for citizens and officials who must make public policy decisions regarding the applications of science?
7. Social Sciences: What are the distinctive methods of the social sciences, and how are they distinguished from the natural sciences? What are their underlying conceptions of reality and of the knowable? To what extent are these conceptions consistent with the conceptions of the natural sciences? What are the limitations of the social sciences? What are the principal divisions within the social sciences? What is distinctive about each? What do they have in common? Where do they overlap, and why is it likely that their tendency should be to overlap? How has each of them developed, and what particular aspect of humankind has each attempted to describe? What important contributions to understanding ourselves have each made? What do they enable us to understand about the development of cultures, of interaction and behavior in social units, of the world as a marketplace and ourselves as consumers, of ourselves as makers of governments and of various systems of government; and what do we know of the essential causes of human behavior, of basic needs and common wants and their satisfaction, and of the ways in which human growth and development characteristically take place?

What are the purposes of history, and why is an understanding of historical contexts and perspectives vital? What are the tools of inquiry commonly used by historians? To what extent are historians synthesizers of knowledge? What are the historical contexts of major cultures, and how can we better understand the sciences and arts by grasping those contexts? What are common historical biases and their causes?
8. Philosophy: What is knowable, and what constitutes knowing? How may knowledge be validated? In what ways do the realities postulated by the social and natural sciences limit or define knowing, and what are the implications of those limitations? From whence are values derived? Do they have their bases in the social and natural sciences, or must they be derived elsewhere? What is logic, and what are its purposes, forms, and limitations? What is beauty? How do we assess it? On what basis is beauty judged in the various arts?

Goal IV: The student should understand the influence of global affairs upon the student's life and upon the welfare of the United States.

The world intrudes increasingly upon the lives of individual citizens. People everywhere are becoming so interdependent—even in such vital concerns as distributing food,

maintaining health, finding and keeping jobs, and being secure from violence—that an educated person must understand the complex ways in which world conditions and events affect daily life.

That understanding should be further enriched by knowledge of the ways in which the rapid development of science and technology has influenced population, travel and communication, the physical environment, world health, trade and industry, and the development of interdependent economies, and of the manner in which disputes arise, irrupt into covert or open conflict, or are resolved. Thus the graduate of Clarion University will have a basis of knowledge upon which to begin to make those informed decisions about national policy which are the responsibility of the citizen of a participatory democracy and make decisions which affect the student's own life.

Goal V: The student will comprehend an academic discipline by developing an understanding of the ways in which the body of knowledge which constitutes it is organized and used and by coming to know its essential facts and principles.

Although the various arts and sciences have traditionally supplied meaning to the term "academic discipline," we extend the term to applied and professional fields as well, fields which characteristically draw on the arts and sciences for much of their underlying substance. Thus we expect the student to engage in a coherent program of specialized study which will lead to a significant grasp of a field and be able to view the world from the perspective characteristic of scholars or practitioners of the field.

The baccalaureate degree program, then, should provide the student with a thorough grasp of a discipline's way of doing things, of its methods and principles, and of its characteristic definition of problems and approaches to them. The student should be aware of the expectation that will be shaped to some degree by the practice of the discipline and should develop a firm sense of the ethical implications of the discipline. Thus the student will begin to think like a biologist or educator or literary scholar or nurse. But yet the student should have such breadth of education and interest that the student is always more than just a practitioner of a specialty, more than only a biologist, only an educator, only a literary scholar, only a nurse.

Goal VI: The student will be given the opportunity to participate in a systematic examination of major value systems so that the student may consciously formulate, examine, and be guided by personal and social values.

The baccalaureate degree must expose the undergraduate student to a variety of value systems in order to stimulate an appreciation of the differences and parallels in the values of various cultures. Understanding the ways in which various systems of values have developed and understanding the bases for the student's own values is intended to foster both a tolerance for differences and a willingness to examine and clarify personal values.

Because Americans are increasingly affected by world events and because the United States is itself a land of cultural diversity, educated Americans must be sensitive to the significance of differences in values. Indeed, most people in the world subscribe to beliefs and values rooted not in the Judeo-Christian tradition but in other religions and historical experiences. Thus the educated citizen of the United States must understand the influence of traditions and values different than the citizen's own upon the people with whom the citizen must deal and must be able to take those differences into account in personal and professional situations. So too, the citizen must have a clear sense of their own values, must understand potential areas of conflict among them and conflict with the values of others, must have a sense of where compromise is possible and where it is not, and should understand and be tolerant of the values of others.

Goal VII: The student's undergraduate education should help prepare the student to make wise decisions in life, decisions about career choices and ways of living.

As the university asks students to explore the potential dimensions and directions of their lives—values, life styles, aesthetic preferences, friendship patterns, aspiration levels, and careers—it not only seeks to lead them to a sense of possibility but to give them a basis for making conscious choices among possibilities. For many students—and perhaps even more for their parents—a university education is seen primarily as a necessary preparation for a job; and since most students will indeed seek employment after graduation and will continue to work for most of the remainder of their lives, that vision of university education has some accuracy. And the university offers several programs geared closely to students' short-run career aspirations and others which prepare students for admission to graduate work preparatory to careers. But the overriding aim of the university is to provide the student with knowledge, skills, and attitudes which will give the student the flexibility to make opportunities and to take advantage of opportunities in the future which scarcely can be imagined in the present. It is a future which will see most graduates make more than one career change, a future in which broad knowledge, the skills of inquiry and logical thought, dedication to the work at hand, substantial mastery of the tools of communication, and a sure sense of values will be more serviceable than narrow training.

Goal VIII: The student will gain the skills and attitudes necessary to continue to learn throughout life.

Implicit to Goal VII is the need for the graduate to continue to learn throughout life in the pursuit of a career, but indeed life itself should be viewed as a career which not only embraces but extends beyond the narrower scope of work for financial gain. Thus continuing personal and, where applicable, professional growth is the overriding outcome of baccalaureate education. It is the product of interactions among attitudes and aspirations, skills, and knowledge. The educated person is committed to the value of knowledge both to themselves and (o society at large. Learning is hard work, sometimes drudgery, but its rewards are immeasurable. When the student leaves the university with the sense that now learning is done and now life can begin, the university has failed. It succeeds when the student leaves with a self-sustaining love of learning.

Goal IX: The graduate will have acquired the skills and attitudes necessary to participate effectively and usefully in society.

The graduate of Clarion University is the beneficiary of a significant opportunity, much of it funded by the state; and the graduate should take their place in the world beyond the university with a significant sense of obligation, the obligation to put to productive use the knowledge and skills that the graduate has gained. Good citizenship requires much of the graduate: a willingness to keep abreast of issues affecting the public welfare, a willingness to exercise free and independent informed judgment, a generosity of spirit which prompts a liberal use of their talents for the common good, and a sure sense of the principles and history which have shaped this nation and its institutions. If the graduate is called upon to lead, the graduate should be able to demonstrate the values, skills, and attitudes which make leadership effective. When the graduate is asked to participate within a group, the graduate should have demonstrated the values, skills, and attitudes that ensure effective contribution. Good citizenship finally consists of a commitment to making the contributions that one is capable of. For some, that may mean devotion to an art, for others a high level of participation in the political process, for others a dedication to the creation of a business firm whose operation benefits the community and its employees, and for yet others dedication to service through one's profession. Finally, the contributions to society of its graduates will provide the standard by which the university is judged.

General Education Distribution

Goals and Purposes

A university education as conceived by the faculty at Clarion University of Pennsylvania consists of both professional and general education. Professional education is the specialized education and training which aims to prepare a student to earn a living in a particular vocation, profession, discipline, or area of study.

General education is an essential complement to professional education and aims to assist the student's general development as a person and as a citizen through what is generally a liberal arts curriculum. The general education program seeks to avoid the narrowness resulting from highly structured professional programs by assuring that all students have the opportunity to develop an understanding and appreciation of the intellectual, cultural, and moral forces which have shaped our world, and to provide the basic knowledge and skills that will allow them to enjoy a fuller life.

The breadth of the general education concept requires a broad, coordinated program for its implementation. Students should be free to select, in consultation with their academic advisors, a general education program which meets their personal needs in attaining the general education goals. Students should recognize that certain courses may be more complementary to given professional programs than others. The sum of the general education program selected should be directed toward the student's understanding and **appreciation** of, and ability to respond articulately to, the following general education areas and area goals:

- I. Modes of Communication: To develop the academic knowledge and ability to communicate personal ideas and philosophy.
- II. The Natural World in Scientific Perspective: To show the use of and to provide an appreciation of the scientific method for inquiry and measurement so that the student may impart scientific facts and principles pertaining to the physical and biological world.
- III. The Human World in Scientific Perspective: To provide a broad understanding of social institutions, enabling the student to make intelligent decisions and develop programs in matters of social policy.
- IV. Interpreting Human Existence: To expand the student's understanding and appreciation of the arts; to aid the student in developing a perspective on the past; and to help the student formulate a satisfying personal philosophy.
- V. Personal Development and Life Skills: To learn and develop those personal activities and life skills that will lead to a full and self-satisfying life.

Credit Hour Distribution

The distribution below became applicable on August 25, 1975. Students enrolled before that date should follow the general education distribution in effect at the time of their admission, unless changing to the present structure will expedite their degree work.

The minimum credit hour requirement in general education is 48 semester hours distributed, in most programs, as follows:

I. Modes of Communication	(minimum) 12 s.h.
English Composition'	3-6 s.h.
Courses to be selected from two of the following:	
computer information science, elementary foreign language, logic, mathematics',	
speech communication'	6-9 s.h.

*Unless exempt, all students are required to pass ENG 110 and ENG 111. Students may enroll in ENG 110 only if they are assigned to that course. Additional composition courses are restricted to the following: ENG 200, 202, 207, 301, 303, 304, 306, 307.

²May not be used to meet foreign language requirement for the B.A. degree.

³Credit cannot be granted for MATH 100 if it is taken after successful completion of, or concurrently with, any other course in mathematics.

⁴Selection is limited to the following courses: SCT 113, 115, 155, 213, 214, 251, 256, 264.

H. Natural Sciences and Mathematics	(minimum) 9s.h.
Courses to be chosen from at least two of the following fields: biology, chemistry, earth science, mathematics, physical science, physics	
111. Social Sciences.....	(minimum) 9 s.h.
Courses to be selected from at least two of the following fields: anthropology, economics, geography, history, political science, psychology, sociology	
IV. Humanities.....	(minimum) 9 s.h.
Courses to be selected from at least two of the following fields: art, English, intermediate foreign language, literature, music, philosophy, speech communication, theatre	
V. Personal Development and Life Skills	(minimum) 9 s.h.
health	2 s.h.
physical education activity chums.....	2 s.h.
(Maximum of two credits in physical education activity courses may be counted toward graduation.)	
Courses chosen from general studies or other disciplinary areas or approved student activities for credit.....	
	(minimum) 5 s.h.

* ENG 110, 111, 207, 263, 301, 306, 307, 480, and SCT 113 may not be used to meet the humanities requirement.

College of Arts and Sciences

J. David Arnold, Ph.D., Interim Dean

Office: 204 Founders Hall

Telephone: 226-2225

Degree Listing

Anthropology (B. A.)	Medical Technology (B. S.)
Art (B. F. A.)	Modern Language (Minor)
2-D Studio (Minor)	Molecular Biology/Biotechnology (B. S.)
3-D Studio (Minor)	Music Marketing (B. M.)
Biology (B. A., B.S.)	Music Performance (B. M.)
Chemistry (B. A., B. S.)	Music (Minor)
Chemistry/Business*	Natural Sciences (B. A.)
Chemistry/Pre-M. B.A.*	Philosophy (B. A.)
Chemistry/Polymer Science*	Physics (B.A., B.S.)
Earth Science (B.A., B. S.)	Political Science (B. A.)
Economics (B. A.)	Psychology (B. A., B. S.)
Engineering Coop. Programs	Social Sciences (B. A.)
Engineering/Chemistry*	Sociology (B. A.)
Engineering/Mathematics*	Sociology/Psychology (B. A.)
Engineering/Physics*	Spanish (B.A.)
English (B. A.)	Spanish (Minor)
Literature (Minor)	Speech Communication (B. A.)
Writing (Minor)	Speech Communication (Minor)
French (B. A.)	Speech Communication and
French (Minor)	Theatre (B.A., B. S.)
General Studies (B. S.)	Theatre (B.F.A.)
Geography (B. A., B. S.)	Theatre/Acting* (Minor)
Geology (B. S.)	Theatre/Design-Technical
German (B. A.)	Direction*
German (Minor)	Theatre/Technical (Minor)
Gerontology (Minor)	Women's Studies (Minor)
History (B. A.)	
History (Minor)	Arts and Sciences (A. A.)
Humanities (B.A.)	(See Venango Campus)
Mathematics (B. A., B. S.)	
Mathematics/Actuarial	
Science and Statistics*	
Mathematics/Applied*	
Mathematics/Computer Science*	

*academic concentrations

The College of Arts and Sciences offers a wide variety of programs in the arts, the humanities, the social and behavioral sciences, the natural sciences, and mathematics.

In the arts, the college offers:

- the B.F.A. degree with majors in art and theatre;
- the B.M. degree with majors in music performance and music marketing;
- the B.A. degree with a major in speech communication and theatre;
- the B.S. in speech communication and theatre.

In the humanities, the following programs are available:

- the B.A. degree with majors in English, French, German, philosophy, Spanish, and speech communication as well as a general major in the humanities.

In the social and behavioral sciences, students may select:

- the B.A. degree with majors in anthropology, economics, geography, history, political science, psychology, sociology, and sociology/psychology, as well as a general major in the social sciences;
- the B.S. degree with majors in geography and psychology.

In the natural sciences, options include:

- the B.A. degree with majors in biology, chemistry, earth science, and physics, as well as a general major in the natural sciences;
- the B.S. degree with majors in biology, chemistry, chemistry/engineering, chemistry/business, earth science, medical technology, physics, and physics/engineering.

In mathematics, the College of Arts and Sciences provides several programs:

- the B.A. degree with a major in mathematics;
- the B.S. degree with majors in mathematics, (with options in applied mathematics, mathematics/computer science, and mathematics/actuarial science and statistics) and mathematics/engineering.

The College of Arts and Sciences offers pre-professional advisement programs in the fields of business (pre-M.B.A.), engineering, law, medicine, dentistry, pharmacy, and theology. The college cooperates in its engineering program with the Schools of Engineering at the University of Pittsburgh and Case-Western Reserve University in Cleveland.

The College of Arts and Sciences also cooperates with the Department of Library Science and the College of Education and Human Services to provide certification programs in library science and in secondary education which may be earned concurrently with a B.A. or B.S. degree.

Finally, the college offers an interdepartmental Language and Area Studies Program.

The specific requirements of each of these programs are listed in the pages that follow. Additional information may be obtained from the dean, department chair, or other individual in charge. All B.A. programs require second year proficiency in a foreign language.

Liberal Arts Degree Plus Teacher Certification

Liberal arts students can gain teacher certification in secondary education by taking required education courses and meeting the requirements for a teaching major. Course requirements leading to a B.A. or B. S., however, do not automatically satisfy the requirements for a teaching major and certification. Details are available in the office of the dean of the College of Education and Human Services.

Anthropology

ANTHROPOLOGY, B.A. See Department of Anthropology, Philosophy, Political Science, and Sociology.

Anthropology, Philosophy, Political Science, and Sociology

Department of APPS, Robert A. Rath, Ph.D., Chair

Professors: Konitzky, Rath, Straffin, Takei, Tu; **Associate Professors:** Girvan, Graybill, Rumsey; **Assistant Professors:** Bartkowiak, Reef, Winn

- ANTHROPOLOGY, B.A. 51 credits
 Required: ANTH 211, 213, 362, and 21 additional credits in anthropology chosen in consultation with a departmental advisor. In addition to 30 credits in anthropology, the following courses are required: HIST 111, 112, 120, PS 210,211,PSY211 andSOC211.
- PHILOSOPHY, B.A. 42 credits
 Required: PHIL 111 or211, 212, 300 305, and 15 credits of philosophy electives chosen in consultation with a departmental advisor, with PHIL 352 and 353 recommended. In addition to these 27 credits of philosophy, 15 credits are to be selected from among courses on the 300 level or above in the Arts and Sciences.
- PHILOSOPHY, Minor 18 credits
 Required: PHIL 111 or211, 212, 300 or 305 and nine additional credits to be selected on the 300 level in consultation with a departmental advisor.
- POLITICAL SCIENCE, B.A. 51 credits
 Required: PS 210, 211, 365, or 366 and 18 credits of political science electives. In addition to these 30 credits in political science, the following courses are required: ECON 211, 212; SOC 211; and 12 credits from history, anthropology, or psychology.
- SOCIOLOGY, B.A. 53 credits
 Required: SOC 211, 300, 310, and 27 additional credits in sociology chosen in consultation with a departmental advisor. In addition, the following courses are required: PSY 211, 230, PS 211, SW 311 and either ECON 211 or 212. Students may elect to demonstrate competence in either a foreign language or computer science.

Art

Department of Art, Catherine Joslyn, M.F.A., Chair

Professor: Joslyn; **Assistant Professors:** Dugan, Flahaven, Greenberg, Katz, Lamb, Thomas

- ART, B.F.A. 72-75 credits
 Required: ART 121, 122, 125, 126: 12 credits in art history; 18 credits in art foundation courses; 18 credits in an art concentration (ceramics, drawing, fiber/fabric, graphic arts, painting, printmaking, or sculpture); 12-15 credits in art electives; and the senior art show. Seventy-five credits are required only for majors seeking a dual drawing concentration.
- ART, Minor in 2-D Studio 21 credits
 Required: ART 121 or ART 122; ART 125; three credits in art history or ART 110; nine credits in one two-dimensional studio area; three credits in one other studio area; and the capstone exhibit project.
- ART, Minor in 3-D Studio 21 credits
 Required: ART 121 or ART 122; ART 126; three credits in art history or ART 110; nine credits in one three-dimensional studio area; three credits in one other studio area; and the capstone exhibit project.

Biology

Department of Biology, John E. Williams, Ph.D., Chair

Professors: Barnes, Belzer, Dalby, McPherson, Mechling, Morrow, Twiest, J. Williams; **Associate Professors:** Eggleton, Ritter, Zielinski; **Assistant Professors:** Harris, Jetkiewicz, Martin, D. Smith, C. Williams

BIOLOGY, B.A.

53 credits

Required: BIOL 153, 154, 201, 202, 203 and 12 credits from approved biology electives. In addition to these 29 credits in biology, the following courses are required: MATH 171; CHEM 153, 163, 154, 164, 254, 264; PH 251 and 252. CHEM 453/463 and GEOG 115 are acceptable electives. Applicants for the B.A. degree must complete either a foreign language or computer science competency.

BIOLOGY, B.S.

63-69 credits

Required: BIOL 153, 154, 201, 202, 203, and 15 to 20 credits from approved biology electives. In addition to these 32 to 37 credits in biology, the following courses are required: MATH 260; CHEM 153, 163, 154, 164; PH 251 and 252. Students will also be required to elect, after consultation with their advisor, either chemistry sequence # 1 which includes CHEM 251, 261, 252, 262, plus one CHEM elective of three or four credits or chemistry sequence #2 which includes CHEM 254, 264, 351, 361,453, and 463.

MOLECULAR BIOLOGY AND BIOTECHNOLOGY, B.S.

68 credits

Required: BIOL 153, 154, 201, 203, 341, 450,481,483,485, and six credits from approved biology electives. In addition to these 41 credits in biology, the following courses are required: MATH 260 or 270, CHEM 153, 163, 154, 164,251, 261, 252,262,453,463, PH 251 and 252.

MEDICAL TECHNOLOGY, B.S.

78 credits

The Medical Technology Program includes an academic preparation of three years (96 semester hours including general education) at Clarion and a 12-month course of clinical study in a hospital-based school of Medical Technology accredited by the Committee on Allied Health Education and Accreditation (32 semester hours). Upon successful completion of two years of prescribed courses at Clarion, the student is eligible to apply for admission to the hospital school. Although application is made through the office of the coordinator of medical technology at Clarion, acceptance is at the discretion of the staff of the clinical school. Clinical school spaces are limited, standards for admission are high, and admission to the Medical Technology Program at Clarion does not guarantee admission to the clinical school year. Clarion University maintains affiliations with ten clinical schools, and students may apply to accredited, non-affiliated schools, also. After graduation from Clarion University the student is eligible to take any of several licensing examinations. Successful completion of the exam permits practice of the profession in most states in the United States. A few states require a state examination for licensure. Further information on the exams can be obtained from the coordinator of medical technology.

The following courses are required during the three years at Clarion: BIOL 153, 154, 341, 444; CHEM 153, 163, 154, 164,254,264,351, 361; either BIOL 203 or CHEM 453; PH 251, 252; and a mathematics course by advisement. Substitutions for the above courses must be approved in writing by the coordinator of medical technology. Students in the program must maintain the following grade-point averages: first semester freshmen, 2.0; second semester freshmen and first semester sophomores, 2.5; thereafter 2.5 with a 2.5 in the natural sciences. Exceptions to these requirements must be approved by the coordinator of medical technology. Specific information about courses, standards, and requirements established by the affiliate hospital schools are provided to enrolled students by the coordinator of medical technology. Students wishing to transfer into the program must be approved by the coordinator of medical technology and must plan to spend two years on the Clarion campus. Hospital affiliates are The Altoona Hospital, Altoona, PA; The Benedum School of Medical Technology, Western Pennsylvania Hospital, Pittsburgh, PA; Conamaugh Valley Memorial Hospital, Johnstown, PA; Divine Providence Hospital, Williamsport, PA; Harrisburg Hospital, Harrisburg, PA; Saint Vincent Health Center, Erie, PA; Latrobe Area Hospital, Latrobe, PA; Bryn Mawr Hospital, Bryn Mawr, PA; Women's Christian Association Hospital, Jamestown, NY; and The Polyclinic Medical Center, Harrisburg, PA.

The Biology Department also offers a program in secondary education (see page 116), a library science track or a computer science track with the B.A. in biology and a pre-professional program in business within the B.S. in biology.

Pymatuning Laboratory of Ecology

Because of a unique cooperative program with the University of Pittsburgh, Clarion University is able to offer an outstanding program of studies in ecology. Courses are taken at Clarion Campus during the academic year. In the summer, an excellent academic program is offered at the Pymatuning Laboratory of Ecology, a unit of the University of Pittsburgh. Classes are taught and research is directed by members of both institutions. The laboratory is located approximately one and one-half hours northwest of Clarion on the shores of the Pymatuning Reservoir.

The teaching and research facilities of the field laboratory are on a site within a wildlife sanctuary and propagation area managed by the Pennsylvania Game Commission. A hatchery of the Pennsylvania Fish Commission is adjacent to these facilities. The housing and dining area for the laboratory is located three miles away, on the public portion of the Pennsylvania Reservoir. A waterfront area is available for recreational use by students and staff.

Chemistry

Department of Chemistry, William Krugh, Ph.D., Chair

Professors: Beck, Brent, Krugh, Laswick, McElhattan, Sharpe, Wollaston; **Associate Professor:** Bering; **Assistant Professor:** Keen

CHEMISTRY, B.A. 65 credits

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, 353, 354, 355, 358, 363, 364, 365, 368, 456, 461, and 470. In addition to these 44 credits of chemistry, the following courses are required: MATH 270, 271, 272; PH 251 or 258, and 252 or 259.

Graduates who have met these requirements and one advanced chemistry course will be certified as having completed an approved program as determined by the Committee on Professional Training of the American Chemical Society. German is the recommended foreign language.

CHEMISTRY, B.S. 77 credits

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, 353, 354, 355, 358, 363, 364, 365, 368, 456, 461, and 470. In addition to these 44 credits of chemistry, the following courses are required: MATH 270, 271, 272; PH 251 or 258, and 252 or 259 plus 12 credits of approved science/mathematics electives.

Graduates who have met these requirements and one advanced chemistry course will be certified as having completed an approved program as determined by the Committee on Professional Training of the American Chemical Society.

CHEMISTRY major with BUSINESS concentration 74 credits

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, and eight credits of chemistry electives numbered 300 or above; **ACTG** 251; **MKTG** 360; **MGMT** 320; **CIS** 110; **ECON** 221; **MATH** 232 or **MATH** 422; and nine credits chosen from **ACTG** 252, 350, 353; **FIN** 370, 471; **MKTG** 361, 460, 461, 465; **MGMT** 321, 324, 420, 425; **ECON** 310, 340, 351, 361.

CHEMISTRY, B. S., Concentration in Polymer Science Cooperative Program with the College of Polymer Science, University of Akron. Students take three years of chemistry and general education at Clarion; senior year at Akron.

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, 353, 354, 355, 363, 364, and 365. In addition to these 38 credits in chemistry, the following courses are required: MATH 270, 271, 272; PH 251 or 258 and 252 or 259. Required at University of Akron: Introduction to Plastic Molecular Structure and Physical Properties Laboratory; Introduction to Polymers; Introduction to Elastomers; Special Projects in Polymer Science; Seminar on Polymer Science; and Advanced Inorganic Chemistry.

The Chemistry Department also offers a program in secondary education; see page 116.

Five-Year Curricular Sequence, B.S. in Chemistry and the M.B.A.

The Department of Chemistry of the College of Arts and Sciences and the College of Business Administration offer a five-year curricular sequence leading to a B.S. in chemistry and the M.B.A. degree. Students electing this sequence must meet the entrance requirements of the graduate business program. The undergraduate portion of the program has the following components.

B.S. IN CHEMISTRY

I. General education	48 credits
II. Requirements in the major	76 credits
1. Required courses in chemistry (45 credits)	
2. Required supplemental courses (20 credits)	
3. Additional required courses (12 credits)	
III. Free electives-business courses	12 credits
TOTAL	136 credits

An undergraduate student in this chemistry M.B.A. Curricular sequence is required to show competency or course equivalents in:

1. finite mathematics, statistical processes, and quantitative methods
2. economic theory
3. financial and managerial accounting
4. financial management

5. marketing, distribution, and production
6. management organization, policy, human behavior, and interpersonal communication
7. legal and social environment
8. information systems

These competencies can be met by the normal course sequence of a chemistry major with proper advisement with certain specialized courses being taken as free electives. The graduate portion of the program has the following components:

MASTER OF BUSINESS ADMINISTRATION

ACTG	552: Management Accounting	3 credits
ECON	510: Advanced Managerial Economics	3 credits
FIN	570: Managerial Finance	3 credits
MGMT	521: Organization Structure and Behavior	3 credits
BSAD	690: Business Policy	3 credits
MGMT	626: Production Management	3 credits
MKTG	560: Marketing Decision Making	3 credits
ECON	603: Quantitative Analysis	3 credits
Electives approved by graduate advisor		9 credits
TOTAL		33 credits

Cooperative Engineering Program

Coordinator: Albert R. Exton, Ph.D.

Committee members: Professors: Exton, Beck, Gendler

Clarion University has cooperative engineering agreements with the School of Engineering at the University of Pittsburgh and with the Case Institute of Technology of Case-Western Reserve University. Students in this program attend Clarion for three years and one of the engineering schools for two years earning a B.S. degree in physics, chemistry, or mathematics from Clarion and an engineering degree from the engineering school. Students with a cumulative grade-point average of 3.0 are virtually guaranteed admission to the engineering school. Students with a cumulative grade-point average between 2.75 and 3.0 are considered for admission to the engineering school.

Earth Science

EARTH SCIENCE, B.A. and B.S. See Department of Geography and Earth Science.

Economics

Instruction for this program is provided by the Department of Economics in the College of Business Administration, but the program is administered in the office of the dean of the College of Arts and Sciences.

ECONOMICS, B.A. 45 credits

Required: ECON 211, 212, 310, 311, 490 and 18 credits of 300 and 400 level economics courses chosen in consultation with a department advisor. In addition to these 33 credits, the following are required:

a. PS 210, PS 211

b. One course from HIST 120 or 121

c. One course from ANTH 211, SOC 211, PSY 211

In addition, the B.A. degree requires a competency in either foreign language [the student must pass the final exam for the second year (Intermediate 11) or an equivalent there of] or quantitative skills (the student must take ECON 221, ECON 222, and demonstrate math competency on the level of MATH 232 or MATH 270.)

Engineering

See Cooperative Engineering Program, above, and Pre-professional Studies in Engineering, page 81.

English

Department of English, Larry R. Dennis, Ph.D., Chair

Professors: Caesar, Dennis, Fink, Graham, Grejda, Sheraw, Shumaker, Wilson; **Associate Professors:** Green, Huber, Leary, Newman; **Assistant Professors:** Bodziock, Campbell, Ferry, Luthin, MacDaniel, K. Smith, Terman, Xu

ENGLISH, B.A. 48 credits
 Required: ENG 200 221, 222, 225, 226; 262 *or* 263; 353, 457, 458 *or* 459; one American literature course; one course in English literature before 1800; one course in English literature after 1800; ENG 499. In addition to these 33 credits, 15 hours of English electives must be taken in either (A) OR (B). (A) Writing concentration—Five courses from among 202, 207, 301, 303, 304, 306, 307, 356, 480 *or* 482; (B) Five courses of which three must be at the 300-400 level.

In addition, the English Department offers two minors, one in English: Literature and one in English: Writing.

English: Literature

- A. ENG 200: Composition and Literature
 This course is *required* of all students pursuing the minor in English: Literature. Ideally, it should be taken as the initial course in the program.
- B. ENG 221: English Literature: Beginnings to 1800
 ENG 222: English Literature: 1800 to Present
 ENG 225: American Literature: Beginnings to 1860
 ENG 226: American Literature: 1860 to the Present
 ENG 227: World Literature: Backgrounds and Traditions
 ENG 228: Modern and Contemporary World Literature
 ENG 230: Introduction to African-American Literature

Students pursuing the minor in English: Literature must successfully complete two of the 200 level survey courses listed above.

C. Students must also successfully complete any *three* 300 and/or 400 level *literature* courses.

English: Writing

- A. ENG 207: Research Methodology and Writing
 This course is *required* of all students pursuing the minor in English: Writing. Ideally, it should be taken as the initial course in the sequence.
- B. ENG 202: Beginning Creative Writing
 ENG 301: Writing Non-Fiction Prose
 ENG 303: The Craft of Fiction
 ENG 304: The Craft of Poetry
 ENG 306: Scientific and Technical Writing
 ENG 307: Business Writing
 ENG 356: Rhetorical Theory for Writers
 ENG 480: Writing for the Professions
 ENG 482: Composition: Theory and Practice

Students pursuing the minor in English: Writing must successfully complete five of the courses listed above. ENG 480 is viewed as a capstone course, but it is not required.

The English Department also offers a program in secondary education; see page 117.

French

FRENCH, B.A. See Department of Modern Languages and Cultures.

General Studies

Administered by the College of Arts and Sciences, the B.S. in general studies is a separate program designed to provide for students who have not decided upon a specific school or major and may, therefore, benefit from enrolling in a structured program through which they can explore a number of disciplines. The program is also intended for

students who wish to develop a highly individualized program and follow it through to graduation because their interests are not accommodated by the established curricula and majors. However, it is not necessary for students who enter the university undecided about a major to continue in general studies through graduation. Many students who come to the university and enter this program will develop interests that will lead them to declare a specific major.

General Requirements

Admission requirements for the B.S. in general studies are the same as those for admission to the university.

The degree is based upon the standard eight-semester sequence of courses and requires a minimum of 128 semester hours of credit for graduation.

A candidate for the B.S. in general studies may not declare a specific major field. Students who decide upon a major field may not remain in the program but must transfer to the college and department offering a program encompassing the major.

Students may transfer from other areas into the general studies program, but those who wish to transfer in must have at least two semesters of full-time study remaining prior to graduation.

Academic standards for good standing in the program are the same as the university standards for good standing.

To earn the B.S. in general studies the student must have a minimum cumulative quality-point average of 2.00 for all course work.

Specific Requirements

General education is as required by the university (48 s.h.).

A sufficient number of arts and sciences courses in addition to general education courses are required for the program (51 s.h.).

Maximum course work in a single discipline (in addition to general education above) is limited (39 s.h.).

A sufficient number of upper division courses in arts and sciences, normally at the 300 level or above, are required for the program (39 s.h.).

All courses must be selected in consultation with an advisor.

Geography and Earth Science

Department of Geography and Earth Science, Frank Vento, Ph. D., Chair

Professors: Howes, Shirey, Vento, Zamzow; **Associate Professors:** Emissee, McKay; **Assistant Professors:** McGreevy, Ryberg, Shulik

EARTH SCIENCE, B.A. 52 credits
Required: ES 150, 200, 250, 255, 280; GEOG/ES 225, 385; GEOG 125; and six credits from approved earth science/geography electives. In addition to these 33 credits of earth science/geography, the following are required: MATH 171, 232, and 12 credits from the following fields: biology, chemistry, mathematics, and physics.

EARTH SCIENCE, B.S. 46 credits
Required: ES 150, 200, 270, 280; and 21 credits among the following earth science/geography electives, ES 201, 250, 255, 330, 350, 355, 360, 370, 375, 380, 390; GEOGIS 225, 345, 385, 400, 404, 425, 450, 480; GEOG 125; SCED 485. In addition to these 34 credits of earth science/geography, 12 credits from among the following courses are required: BIOL 153, 154; CHEM 153, 154, 163, 164; MATH 171, 221, 232, 270 and PH 251, 252.

GEOLOGY, B.S. 66 credits
Required: ES 150, 250, 255, 350, 355, 360, 390; 15 additional hours must be elected from the following courses, GEOG/ES 225, 345, 385, 400, 425, 450, 480; ES 260, 270, 280, 300, 330, 375, 404; GEOG 125;

BIOL 111, 154, 202; CHEM 351 or Field Camp.* In addition to these 46 credits, the following courses are required: CHEM 153, 154, 163, 164; PH 251, 252; MATH 260.

*In cooperation with another college or university.

GEOGRAPHY, B.A. 57 credits
Required: ES 111 and 255; GEOG 100 125,250,257,260, and nine credits from among the following: GEOG 115, 258, 265, 300, 325, 345, 385, 400, and 450. In addition to these 30 credits of geography, the following courses are required: ECON 211, 212; HIST 111, 112; PS 210, 211; ANTH, PSY or SOC 211 and one additional course in anthropology, psychology, or sociology.

GEOGRAPHY, B.S. 42 credits
Required: ES 111; GEOG 100, 260; GEOG/ES 225, (400 or 425); and 15 credits from among the following geography/earth science electives, GEOG 125, 250, 252, 257, 258, 265; GEOG/ES 325, 345, 385, 425, 450; ES 150,255. In addition to these 30 credits in geography/earth science 12 credits from the following fields are required: anthropology, economics, history, political science, psychology, sociology, computer science and mathematics with CIS 110, 151 and MATH 221 recommended.

The Geography and Earth Science Department also offers a program in secondary education; see page 117.

German

GERMAN, B.A. See Department of Modern Languages and Cultures.

Gerontology

The minor in gerontology increases educational opportunity at Clarion University by teaching students from a wide variety of academic programs about the process of aging and the needs of the elderly. Pennsylvania is second only to Florida in number of residents over the age of 60. This minor will train people to meet the needs of this increasing segment of our population and sharpen their ability to collaborate in decisions affecting this group.

The minor in gerontology is interdisciplinary as evidenced by the nature of the courses, the sponsorship by four different departments, the administration of the minor by a coordinator, an Interdisciplinary Gerontology Advisory Committee, and the establishment of an outside five-member Advisory Board whose members represent various segments of society at large.

Objectives of the program:

- to educate students from a variety of degree programs about the multifaceted changes and needs of the elderly;
- to prepare students from a variety of degree programs to work with the elderly;
- to provide structure and integration for existing courses in gerontology;
- to give formal and marketable recognition to students who have developed expertise in gerontology;
- to give students an interdisciplinary view of aging;
- to meet the needs and interests of nontraditional students;
- to promote faculty scholarship in an interdisciplinary field.

To enhance the development of gerontological instruction, the Association for Gerontology in Higher Education (AGHE) published its second edition of *Standards and Guidelines for Gerontology Programs* in 1990. These are the recognized standards and guidelines for gerontological education in the United States. Clarion's minor in gerontology adheres to these standards. The Clarion curriculum is based on a required core and elective courses.

Students wishing to explore the possibility of the minor in gerontology may receive information from the coordinator or a member of the Gerontology Advisory Committee: Dr. Iseli Krauss, coordinator (Psychology), Dr. Raymond Feroz (Special Education), Dr.

Bryan Huwar (Special Education), Dr. Janina Jolley (Psychology), Dr. Robert Rath (APPS), Dr. Mary Jo Reef (APPS), Mrs. Jane Fox Tarr (Nursing), and Dr. Linda Benson (Nursing).

GERONTOLOGY, Minor

Students will complete 21-24 credits. Core courses include: SOC/PSY/GERO 253; SOC 353; PSY 467; BIOL 257; GERO 499; and a field experience in either REHB 495 or SOC 499 or NURS 450. In addition, one of the following ECON 150 or NURS 365.

History

Department of History, Robert M. Frakes, Ph.D., Chair

Professors: Day, Duffy, Khan, Piott; **Associate Professor:** Dunn; **Assistant Professors:** Abate, Frakes, LaRue, Smaby, Towers

HISTORY, B.A.

39 credits

Required: U.S. history-nine credits; European history-six credits; history of other geographical areas-six credits; and 12 credits of history electives. HIST 410 and 420 are required. Students must complete either a foreign language or the quantitative skills option.

HISTORY, Minor

18 credits

Required: 18 credits (nine of which must be at 300 or 400 level).

Humanities

The interdisciplinary Humanities Program is administered in the office of the dean.

HUMANITIES, B.A.

54 credits

54 credits are required from among the following fields: art, English (not including 110 or 111), foreign language (beyond the first year), music, philosophy, speech communication, and theatre. Each of the fields must be represented by at least one course and a sufficient number of courses at the 300 or 400 levels must be elected to promote a scholarly interest in at least one field.

Language and Area Studies Program

The Language and Area Studies Program is jointly offered by the Departments of Modern Languages and Cultures, Economics, History, and Anthropology, Philosophy, Political Science, and Sociology. It is not a degree program but a combination of courses that accompanies a major in any one of the participating departments. Completion of the program is noted on the student's official record. The requirements are as follows: proficiency in a foreign language at the second-year level; 24 credits (not including first and second year language) in the following departments with each department represented: Modern Languages and Cultures, Economics, Geography, History, Anthropology, Philosophy, Political Science, and Sociology.

Library Science

Liberal arts students, regardless of their major, may qualify as provisional librarians under the Pennsylvania Public Library Code by taking four courses in library science: LS 257, 258, 260, 357. Additional credits may be elected in consultation with the director of the Department of Library Science,

Making Connections Program

The Making Connections Program is an optional part of the general education program at Clarion. Students enroll concurrently in linked-pairs or three-course-clusters focused on a common theme. Examples of themes from previous years include: "Beliefs, the

Brain, and the Body,” and “Approaching the Year 2000.” First-year students have the opportunity to live in the same residence hall to create a ‘living-learning’ experience. Students enrolled in the *Making Connections* Program find it helps them to get to know professors better and it is a beneficial academic experience compared to other classes. The *Making Connections* courses meet graduation requirements in general education applicable to all students no matter what their major.

Mathematics

Department of Mathematics, Benjamin M. Freed, Ph.D., Chair

Professors: Bezak, Bhattacharya, Freed, Gendler, Singh; **Associate Professors:** Engle, Henry, Linnan, Reynolds, Ringland, Rock, Wimer; **Assistant Professor:** Hipfel

MATHEMATICS, B.A. 40 credits
Required: MATH 270, 271, 272, 300, 451,452,471,472, **seminar**, and 12 credits of mathematics electives in courses numbered 300 or above.

MATHEMATICS, B.S. (Applied Mathematics Concentration) 46 credits
Required: MATH 270,271, 272, 300, Seminar and 24 credits in mathematics electives from courses numbered 300 and above. In addition to these 40 credits of mathematics, two second-level courses containing applications of mathematics from a list approved by the Mathematics Department are required. Proficiency in computer programming must also be demonstrated, either by course work or by examination.

MATHEMATICS, B.S. (Computer Science Concentration) 58 credits
Required: MATH 270, 271, 272, 300, 451, 452, 360, 370, seminar, and 12 credits in mathematics electives numbered 300 or above. In addition to these 40 credits of mathematics, the following courses are required: CIS 163, 164, 253, 254, 340 and one computer science elective numbered 300 or above.

MATHEMATICS, B.S. (Actuarial Science/Statistics Concentration) 57 credits
Required: MATH 225,270,271,272,290, 300,321,322,360,370, 421,422, seminar, and six credits in mathematics electives. In addition to these 45 credits in mathematics, the following courses are required: CIS 164; FIN 373, 374; ENG 306 or 307. Students must also earn a “C” or better in MATH 270-2 and ENG 110.

MATHEMATICS (Cooperative Engineering Program) 68 credits
Required: MATH 270, 271, 272, 300, 360, 370, and 18 credits in mathematics or approved **engineering electives**. In addition to these 39 credits, the following courses are required: PH 258, 268, 259, 269, 350, 351; CHEM 151, 161, 152, 162; CIS 151. See also the Cooperative Engineering Program description on page 71.

A program in secondary education with a major in mathematics is described on page 120.

Modern Languages and Cultures

Department of Modern Languages and Cultures, Erika Kluesener, Ph.D., Chair

Associate Professors: Fortis, Kluesener; **Assistant Professors:** Diaz, McCrary, Spina

FRENCH, B.A. 42 credits
Required: FR 251, 252 (or 250*), 255, 256, 260, 265, 351, 354 and six additional credits from courses numbered above 252. In addition to these 30 credits of French, ENG 262; and nine additional credits in French, **geography**, and history, and/or ENG 457 and 458, and/or other courses by advisement are required.

GERMAN, B.A. 42 credits
Required: GER 251, 252 (or 250*), 255, 256, 351, 352, 353, 358, and six additional credits from courses numbered above 252. In addition to these 30 credits of German, ENG 262 and nine additional credits in German, geography, and history and/or ENG 457 and 458, and/or other courses by advisement are required.

SPANISH, B.A. 42 credits
Required: SPAN 251, 252 (or 250*), 255, 256, 265, 351, 352, 360, and six additional credits from courses numbered above 252. In addition to these 30 credits of Spanish, ENG 262 and nine additional credits in Iberian and/or Latin American geography and history, and/or ENG 457 and 458 and/or other courses by advisement are required.

MODERN LANGUAGE, Minor

21 credits

Required in either French, German, or Spanish: Credits to be divided among nine required credits, nine credits on the 200 level, and three credits on the 300 level.

**As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.*

The Department of Modern Languages and Cultures also offers several programs in secondary education; see pages 118, 119, and 121.

See statement on Study Abroad—International Education, page 22.

Music**Department of Music, Lawrence J. Wells, D.M.A., Chair**

Professors: Black, Famham; **Associate Professors:** Amrod, Berberian, Hall, Lassowsky, Lazich, McLean, Urrico; **Assistant Professors:** L. Johnson, S. Johnson, Register, Wells

Bachelor of Music in Performance

The primary emphasis of the Bachelor of Music degree in performance is on the development of the skills, concepts, and sensitivity essential to the professional life of a performing musician.

As a performer, composer, scholar, or teacher the professional musician must exhibit technical competence, a broad knowledge of music and music literature, sensitivity to musical style, and insight regarding the role of music in the life of man. Evidence of these musical aspects and their continuing development is the objective of the Bachelor of Music degree program.

Program Requirements**GENERAL EDUCATION**

The general education distribution for all students in the college is presented on pages 65-66.

SUPPORTING STUDIES IN MUSIC

69-71 credits

Required: 32 credits of applied music, MUS 135, 136, 235, 236, 151, 152, 251, 252, 300:01, 365 or 366, techniques and/or pedagogy; music literature and senior recital requirements applicable to each performance area; and secondary piano and voice requirements. In addition, participation in a performing organization is required for a minimum of eight semesters.

PIANO COMPETENCY TEST

All majors in music performance must pass the Piano Competency Test by the end of the sophomore year.

JURY EXAMINATIONS

A jury examination in the major applied area is required of each music performance major at the end of every semester. The jury examination at the end of the sophomore year is the Upper Division Jury, which may determine the student's retention in the music performance program. Therefore, it requires a substantial presentation of repertoire and technique. The successful performance of the Upper Division Jury may serve as a permission for an optional junior recital provided that the prepared repertoire reflects the potential recital program.

JUNIOR RECITAL OPTION (MUS 300:02)

A student may perform a solo recital during the junior year upon the permission of the applied teacher and upon passing the requisite audition (see Upper Division Jury above). Must be enrolled in applied music.

SENIOR DEGREE RECITAL (MUS 300:03)

A full-length degree recital is required of every music performance major during the senior year. In order to qualify for this recital, the student must pass an audition at the end of the junior year (the program committee may consider a successful junior recital in place of the audition). The recital must include representative literature for the medium from contrasting style periods. Must be enrolled in applied music.

SENIOR DEGREE RECITAL PAPER

All majors in music performance must prepare a paper pertaining to the compositions presented at the senior degree recital. The paper must contain historical, stylistic, and analytical information about the works on the program, and must be successfully completed during the semester in which the senior degree recital takes

place. Specific guidelines for the preparation, review, and completion of the senior degree recital paper are provided by the program committee.

APPLIED CREDIT

All matriculated music majors must elect applied music credits on **instrument/voice** each semester in residence. For more information see Music Department chair.

PARTICIPATION AND ATTENDANCE IN BI-WEEKLY

STUDENT RECITAL SERIES

Students pursuing degree programs are required to elect MUS 300-Section 01 and to attend the bi-weekly student recital series for eight semesters as part of their curricular and performance requirements. Every major in music performance is required to perform at least once a semester at these recitals. Additional performances are encouraged at the discretion of the student and the applied teacher.

SOLO APPEARANCES WITH PERFORMING ORGANIZATIONS

A solo appearance with the appropriate performance organization is recommended in the junior and senior year; a freshman or a sophomore may give a similar solo performance upon the permission and recommendation of the applied teacher and the director of the pertinent organization.

RETENTION STANDARDS

All majors in music performance must maintain the following standards in order to remain in the program:

- A semester average of at least 2.00 quality points in all general education studies.
- A semester average of at least 2.50 quality points in all supporting studies in music, and no grade lower than "C" in this category.
- No more than two semesters with a grade of "C" or lower in the eight semesters of applied area of performance required for graduation (MUS 264-273).

Bachelor of Music Marketing

70-71 credits

The Bachelor of Music degree in music marketing is an interdisciplinary major between the College of Arts and Sciences and the College of Business Administration. The program provides thorough training and a variety of experiences in music, business, and management. Graduates from Clarion University of Pennsylvania with a B.M. in music marketing will be able to function competently and compete successfully in the rapidly expanding and diverse music industry (music retailing, management, sales, manufacturing, publishing, and private teaching).

The curriculum includes required studies in music, business, and general education and offers the student opportunities for free electives and for an internship in the music industry. Professional preparation in the curriculum is dependent upon mastery of subject matter in the areas of music, business, general education, and elective areas, combined with field experience in the industry.

Program Requirements

GENERAL EDUCATION

The general education distribution for all students in the college is presented on pages 65-66.

REQUIREMENTS IN MAJOR

Required: MUS 135, 136, 235, 236, 300:01, 151, 152, 251, 252, 274, 367, seven credits of applied music (eight without optional internship), four credits from MUS 280-288, secondary piano and voice requirements, and participation in a performing organization each semester the student is on campus. ACTG 151, MGMT 320, ECON 211 and 212, MKTG 360, 362, 363, 460, or 468. Internship optional.

ATTENDANCE AT RECITALS

Students pursuing degree programs are required to elect MUS 300-Section 01 and to attend the bi-weekly student recital series for seven to eight semesters as part of their curricular and performance requirements. Performance participation is strongly encouraged.

SENIOR RECITAL

A senior recital is an option for the music marketing major. Students who wish to perform a senior recital must audition in the Spring Semester preceding the academic year in which the recital is to be scheduled. Students who successfully complete the audition process should elect MUS 3f(X), Section 01 and 03 for this optional elective. Must be enrolled in applied music.

PIANO COMPETENCY TEST

The Piano Competency Test is required of all B.M. music marketing majors in order to qualify either for senior recital or an internship. Students are expected to complete the requirements and take the competency test by the end of the sophomore year.

POLICY ON APPLIED MUSIC CREDIT

All matriculated music majors must elect applied music credits on instrument/voice each semester in residence. For more information see Music Department chair.

RETENTION STANDARDS

All majors in music marketing must maintain the following standards in order to remain in the program:

- A semester average of at least 2.00 quality points in all general education studies.
- A semester average of at least 2.50 quality points in required courses in music, and no grade lower than a "C" in this category.
- A semester average of at least 2.50 quality points in all required courses in the College of Business Administration and in required electives.

MUSIC, Minor

21 credits

Required: Taken from existing courses.

Natural Sciences

An interdisciplinary program.

NATURAL SCIENCES, B.A.

57-59 credits

Required: MATH 270, 271; PH 251 or 258 and 268, PH 252 or 259 and 269; CHEM 153, 154, 163, and 164 or CHEM 151, 152, 161, and 162; BIOL 153, 154; ES 150, 250. In addition to these 44-46 credits, the student must take five courses totaling not less than 15 credits; three of these courses must be in one science (excluding mathematics) and the other two in a different science or in mathematics. All five must be from approved electives.

Philosophy

PHILOSOPHY, B.A. See Department of Anthropology, Philosophy, Political Science, and Sociology.

Physics**Department of Physics, William C. McGowan, Ph. D., Chair**

Professors: Exton, McGowan; **Associate Professors:** Blaine, Rhode; **Assistant Professor:** Glander

PHYSICS, B.A.

59 credits

Required: PH 258, 268, 259, 269, 351, 352, 353, 354, 371, 372, 461 and four courses from the following: PH 350, 355, 356, 357, 400, 453, 455, 456, and 460. In addition to these courses in physics, the following are required: MATH 270, 271, 272, 350; CHEM 153, 163.

PHYSICS, B.S.

68 credits

Required: PH 258, 268, 259, 269, 351, 352, 353, 354, 371, 372, 461 and four courses from the following: PH 350, 355, 356, 357, 400, 453, 455, 456, and 460. In addition to these courses in physics, the following are required: MATH 270, 271, 272, 350; CHEM 153, 163; and three other courses selected from the sciences, mathematics, or computer science, not including physics.

The Physics Department also offers a program in secondary teacher preparation, page 120. The cooperative engineering programs in various fields of engineering other than chemical and petroleum engineering are also administered by the Physics Department, pages 71 and 81.

Political Science

POLITICAL SCIENCE, B.A. See Department of Anthropology, Philosophy, Political Science, and Sociology.

Pre-Professional Studies

Clarion University will grant a baccalaureate degree to a student who has successfully completed the first year of studies at an accredited school of medicine, dentistry, osteo-

pathic medicine, veterinary medicine, podiatric medicine, or optometry, provided that the student has met the following requirements:

1. completion of all Clarion University general education requirements for the degree sought,
2. achievement of reasonable proficiency in the student's major as certified by the chair of the department and dean of the college,
3. completion of 96 semester hours at Clarion University or in credits accepted in transfer by Clarion University, and
4. submission of a transcript from the professional school certifying successful completion of the first year.

The student must complete all requirements stated above and must apply for graduation prior to entering the professional school. The student who is thus eligible to receive the baccalaureate degree shall be permitted to participate in the Clarion University graduation ceremony.

Pre-Law Studies

No particular major is required for admission to law school because law schools desire a broadly based undergraduate education that will prepare a student to read, to write, and to think and thus to adapt to a diverse and changing society. Because law deals with human institutions and values, however, some courses are recommended. English language and literature courses are indispensable. Students should also be aware of the institutional processes by which laws are made, and thus courses in political science and history are vital. Economics, accounting, and computer science are also recommended by the Association of American Law Schools. Specific courses recommended are as follows: ACTG 251 and 252, ECON 211 and 212, HIST 120 and 121, and PS 211, 354, and 375. Interested students are strongly urged to contact the pre-law advisor, Department of APPS, for further information.

Pre-Master's of Business Administration Option

The College of Arts and Sciences in cooperation with the College of Business Administration has prepared a program at the baccalaureate level which provides the basic courses needed for further graduate training for business careers. Undergraduate students intending to complete the pre-M.B.A. option will meet the university's general education and special College of Business Administration requirements, will complete an arts and sciences major of choice, and will be advised to enroll in specific business administration and related core courses. Completion of the suggested undergraduate program, however, provides neither certification, nor a minor in business administration, nor a guarantee of admission to any graduate business program. The courses provide the student with a background suitable for study at the graduate level.

The student, through consultation with the pre-M.B.A. advisor, will first take lower division skills and general knowledge courses. These courses should help students assess their ability and interest in business subjects and may also provide background preparation for assistantships during their graduate study. The courses, or approved equivalents, include:

ECON	211:	Principles of Macroeconomics
ECON	212:	Principles of Microeconomics
CIS	110:	Introduction to Computer Information Systems
MATH	221:	Elementary Applied Statistics
		OR
ECON	221:	Economics and Business Statistics I
ECON	222:	Economics and Business Statistics II
MATH	232:	Calculus for Business I
		OR
MATH	270:	Calculus with Analytic Geometry I

ACTG	251: Financial Accounting
ACTG	252: Managerial Accounting
BSAD	240: Legal Environment I

The student will gain admission to the upper division business courses by (1) maintaining at least a 2.0 QPA both in business courses and overall; (2) earning at least 50 credits, or junior standing; and (3) planning to register for the GMAT during the junior year, taking the examination during the first semester of the senior year. The upper division courses suggested are:

MGMT	320: Management Theory and Practice
MKTG	360: Principles of Marketing
FIN	370: Financial Management
MGMT	425: Production Management

Achievement of a 2.75 QPA is generally considered to be minimally acceptable for admission to the M.B.A. program.

The arts and sciences pre-M.B.A. student may not take more than 30 undergraduate credits in the College of Business Administration at Clarion unless formally admitted to Clarion's M.B.A. program. Changes in the requirements for admission to the upper division courses, as well as in the list of suggested appropriate courses, may be made upon approval of both the Colleges of Arts and Sciences and Business Administration. Students should consult Dr. Gendler, the pre-M.B.A. advisor, before registration each term.

Pre-Engineering

Since curricular requirements vary among engineering schools and fields of specialization, students planning to transfer to a school of engineering must give careful consideration to the requirements of the institutions to which they intend to apply and, with the exception of those in the Cooperative Engineering program, q.v., should plan to transfer no later than at the completion of their sophomore year. The following courses should be included in their programs at Clarion: MATH 270, 271, 272, 350, 370; CHEM 151, 152, 161, 162; PH 258/268 and 259/269. Interested students should contact Dr. Exton of the Physics Department.

Pre-Medicine, Pre-Dentistry, and Related Fields

Students who enroll at Clarion intending to enter a professional school for the study of medicine, dentistry, optometry, podiatry, chiropractic, or veterinary medicine, are advised by the Pre-Professional Committee. While students may choose any academic major, they must complete sufficient course work in the sciences, mathematics, and liberal arts to meet admission requirements established by the professional schools. In addition to academic requirements many professional schools expect applicants to have engaged in specific kinds of services related to the profession and to be able to demonstrate a knowledge of the profession through these services. Students must also take an admissions examination designed by the professional association to assist admissions committees in evaluating the applicant's preparation for that profession. Such examinations (MCAT, DAT, GRE, etc.) are normally taken near the end of the junior year or the beginning of the senior year at Clarion.

Since the following courses are usually required by professional schools, it is recommended that students complete the following work at Clarion:

BIOL	153:	Introductory Animal Biology
CHEM	153/163:	General Chemistry I
		OR
CHEM	151/161:	Chemistry Principles I
CHEM	251/262:	Organic Chemistry I
PH	251:	General Physics I

MATH	270:	Calculus With Analytic Geometry I
ENG	111:	Writing II
BIOL	451:	Animal Physiology
CHEM	154/164:	Generat Chemistry II
		OR
CHEM	152/162:	Chemistry Principles 11
CHEM	252/262:	Organic Chemistty 11
PH	252:	General Physics 11
ENG	200:	Composition and Literature

The student must also complete the requirements for an academic major within a specific department. If the student chooses to major in one of the sciences, the above courses may be included in the major.

Requirements for admission to specific professional schools vary slightly; thus, the student must determine such requirements through the Pre-professional Committee.

Admission requirements for the professional schools are high, and competition is intense. Students usually should have high school SAT scores of 1,000 or better and a high school grade average of 3.5 with emphasis in the sciences, mathematics, and English before starting a pre-professional program. To remain in the program, the student should maintain an academic standing appropriate to admission requirements for his or her particular professional school.

The Pm-professional Committee will assist students in arranging to take admissions examinations and preparing admissions materials. For information send inquiries to Dr. Wanda Jetkiewicz, Department of Biology, Chair, Pre-professional Committee.

To ensure proper advisement, students must contact the Pre-professional Committee at once.

Pre-Pharmacy

It is possible for students to transfer to a school of pharmacy after the completion of either the freshman or sophomore year. In either case, they should carefully check the requirements of the school they wish to enter. Students who plan two years of pre-pharmacy study at Clarion should include the following courses in their programs: BIOL 153, 154; CHEM 153, 154, 163, 164, 251, 252; MATH 270; PH 251 and 252. Interested students should contact the pre-pharmacy advisor, Dr. Beck, for additional information and assistance.

Pre-Theological Studies

There is no fixed pattern of pre-seminary studies, but the American Association of Theological Schools recommends that students who are planning to enter a seminary should major in English, philosophy, or history. Interested students should contact the pre-theology advisor, Dr. Takei.

Psychology

Department of Psychology, Richard J. Nicholls, Ph.D., Chair

Professors: Jolley, Nicholls, Potter; **Associate Professors:** Ashcraft, Haynes, Krauss, Mitchell, Schlueter, Vilberg; **Assistant Professor:** Forden

PSYCHOLOGY, B.A.

56 credits

Required: PSY 211, 230, 251 (each with the grade of "C" or higher), and either 456 or 470, and at least 24 credits in psychology electives chosen in consultation with a departmental advisor. Three elective courses at the 400 level, in addition to PSY 456 or 470, are required. At least one course must be taken from the following: PSY 454, 457, 460, 464, or 467; and at least one from the following: PSY 452, 455, 458, or 465. In addition to the 38 credits in psychology, students are required to select 12 credits from at least two of the following areas: ANTH, ECON ENG GEOG HIST HUM, MATH, PHIL, PS, SOC SCT (except 120, 161.262.350,

351, 362, 363, 364, and 367), SW, and additional FOREIGN LANGUAGE. In addition to the above, students are required to pass the final examination in either their 250 or 252 numbered language course.

PSYCHOLOGY, B.S. 56 credits

Required: PSY 211, 230, 251 (each with the grade of "C" or higher), and either 456 or 470, and at least 24 credits in psychology electives chosen in consultation with a departmental advisor. Three elective courses at the 400 level, in addition to PSY 456 or 470, are required. At least one course must be taken from the following: PSY 454, 457, 460, 464, or 467; and at least one from the following: PSY 452, 455, 458, or 465. In addition to the 38 credits in psychology, students are required to select 12 credits from among at least two of the following areas: ANTH 356, 362; BIOL CHEM CIS (except 110); COMM 352; ECON 211, 212; HIST 398; MATH (except 100, 111, 311, 215); PHIL 111,311, 355; PH; and SOC 300. In addition to the above, students must complete one computer science course (except CIS 110), one mathematics course (except 100, 111, 211, 215), and six additional credits from mathematics (except 100, 111,211, 215), computer science (except 110), or ECON 221, 222.

PSYCHOLOGY, Minor 18-20 credits

Available to all undergraduate students. Required: PSY 211 and five other psychology courses (at least nine credits of which must be at the 300- or 400-level.

Social Sciences

The interdisciplinary social sciences program is administered in the office of the dean.

SOCIAL SCIENCES, B.A. 54 credits

54 credits are required for the major, including 15 credits in one of the following disciplines: anthropology, economics, geography, history, political science, psychology, and sociology, nine credits in one other, and six credits in each of the remaining. At least 12 credit hours must represent junior and/or senior level work.

Sociology

SOCIOLOGY, B.A. See Department of Anthropology, Philosophy, Political Science, and Sociology.

Sociology—Psychology

Robert A. Rath, Ph.D., Coordinator

Committee members: **Professors:** Nicholls, Rath

The interdisciplinary program in sociology-psychology, leading to the Bachelor of Arts degree, is administered jointly by the Departments of Sociology and Psychology. This degree was developed to provide a complementary course of study for students interested primarily in social and human service fields.

SOCIOLOGY-PSYCHOLOGY, B.A. 56 credits

Required: SOC 211, 352, one of SOC 361, 362, or 363; one of SOC 340, 351, or 395; and two courses of approved sociology electives; PSY 211, 260; one of PSY 354, 355, or 454, and three courses of approved psychology electives. Research Methods required: PSY 230 and either PSY 251 or SOC 300. Applied course work selection is limited to four courses from the following: SW 311, 312; SOC 353, 499; PSY 460, 464, 471, 499. A maximum of six credits may be supervised field work.

Spanish

SPANISH, B.A. See Department of Modern Languages and Cultures.

Speech Communication and Theatre

**Department of Speech Communication and Theatre,
Myrna Kuehn, Ph.D., Chair**

Professors: Clark, Hardwick, Wright; **Associate Professor:** Kuehn; **Assistant Professors:** Levy, Marshall, McCauliff, Michel, Seaver, H. Yang

- SPEECH COMMUNICATION, B.A.** 36 credits
Required: 36 credits selected from the following courses: SCT 115, 155, 200, 210, 213, 214, 215, 251, 256, 264, 300, 310, 311, 312, 320, 357, 358, 375, 400, 411, 415, 464, 490, and 495.
- SPEECH COMMUNICATION AND THEATRE, B.A.** 36 credits
Required: 12 credits from among the following: SCT 115, 155, 200, 210, 213, 214, 215, 251, 256, 264, 3(X), 310, 311, 312, 320, 357, 358, 375, 400, 411, 415, 464, and 490; 12 credits from the following: SCT 120, 155, 161, 201, 215, 251, 253, 254, 255, 262, 301, 350, 351, 352, 355, 359, 361, 362, 364, 365, 367, 461, and 490; 12 credits among any of the SCT courses above and 495.
- SPEECH COMMUNICATION AND THEATRE, B.S.** 57 credits
(1) Concentration in Interpersonal Communication: Required: 15 credits from among SCT 200, 214, 264, 300, 312, 358, 375, 400, and 415; a required elective and 18 credits selected from other SCT courses: nine credits from MAW 110, 171, 221; ECON 221, 222; CIS 110, 151, 223, 253, 324; PSY 230, 251, 455, or PHIL II 1, 31 I; a required course, CIS 217; and nine credits by advisement in one of the following: anthropology, business, communication, English, history, philosophy, political science, psychology, or sociology.
(2) Concentration in Public Communication: Required: 15 credits from among SCT 210, 214, 256, 264, 300, 311; required elective from either COMM 152 or COMM 171, and 18 credits selected from among SCT 115, 200, 213, 215, 310, 312, 357, 358, 400, 415, GS 222; nine credits selected from MATH 110, 171, 221; ECON 221, 222; CIS 110, 151, 223, 253, 324; PSY 230, 251, 455 or PHIL 111, 311; a required course, CIS 217; and the following three required core courses of MGMT 320, MGMT 321, COMM 431.
- SPEECH COMMUNICATION, Minor** 18 credits
Required: Six credits from SCT 113 and SCT 251; three credits from among SCT 115, SCT 155, SCT 200, SCT 210, SCT 213, SCT 214, SCT 215, SCT 255, SCT 256, or SCT 264; six credits from among SCT 300, SCT 310, SCT 311, SCT 312, SCT 355, SCT 358, or SCT 415; and three credits (capstone) from SCT 400.
- THEATRE, B.F.A.** 56 credits
(1) Concentration in Acting: Required: SCT 155, 201, 251, 254, 255, 301, 359, 361, 363, 365, 368, 461; MUS 162, 163; and three credits chosen from ENG 344, 345, 412, 413; and 12 credits chosen from SCT 113, 120, 161, 200, 264, 350, 351, 352, 355, 367, 400; ENG 140, 342, 343, 344, 345. Also required are an audition, four non-credit production labs, and a recital.
- THEATRE, B.F.A.** 48 credits
(2) Concentration in Technical Design/Direction: Required: SCT 113, 161, 253, 254, 262, 359, 362, 367; ART 121, 125 or 126; ENG 140; MUS 131; and 12 credits chosen from SCT 155, 200, 215, 350, 351, 363; ART 125, 126, 211, 212, 214, 222; ENG 172, 342, 343, 345, 412, 413; COMM 152, 251. Also required are a portfolio, four non-credit production labs, and a recital.
(3) Selection/Retention Standards for B.F.A./theatre majors: Students must demonstrate potential for excellence in acting or technical design by means of an audition and/or a portfolio of designs and audition for acceptance into the degree no later than the end of their second semester in the program.
After completing a total of 60 credit hours, or prior to entering their junior year, B.F.A. students must appear before the theatre staff and demonstrate the following: a minimum of QPA of 2.50 in at least 12 credits within the required core curriculum and a written statement of career goals. At the time of this review, the theatre staff will inform the B. F.A./theatre student of any program deficiencies and specify a time limit for removing the deficiencies. Students who fail to meet the retention standard will be dropped from the B. F.A./theatre program. Students may appeal the decision of the theatre staff through the appropriate channels: department chair, dean, and vice president for academic affairs.
- THEATRE: ACTING, Minor** 18 credits
Required: Six credits from SCT 253 and either SCT 155 or SCT 254: nine credits from among SCT 301, SCT 361, SCT 365, or SCT 461; and three credits from SCT 359.
- THEATRE: TECHNICAL, Minor** 18 credits
Required: Six credits from SCT 253 and either SCT 161 or SCT 262: nine credits from among SCT 352, SCT 362, SCT 364, or SCT 367; and three credits from SCT 359.

Women's Studies Program

Deborah Alden King, Director

Office: West Wing, Harvey Hall

Telephone: 226-2720

The Women's Studies Minor was designed to address the extraordinary growth of scholarship about women and will provide students with a focus on and an opportunity to pursue a thorough investigation of the study of women's roles and contributions.

Because the study of women's roles and contributions to society has traditionally been omitted, distorted, or minimized in the university curriculum, the Women's Studies Program will provide opportunities for students to understand and appreciate the diversity of cultures in the United States and the world.

Through co-curricular activities, use of case studies, field-based internships in social service agencies, business, industry, or educational institutions, the Women’s Studies Program shall contribute to meeting the needs of career-oriented students. It shall also help prepare students to respond and adapt to various career, personal, and societal changes.

The women’s studies courses have been developed to integrate learning in a way that encourages the students to learn from each other as well as from the professors and through individual efforts. In this way, the program is designed to stimulate student and faculty contributions to this ever growing field of knowledge.

A minor in women’s studies is available to all qualified students who are enrolled in a baccalaureate degree program. To earn a minor in women’s studies the student must complete 18 credits of women’s studies courses, including WS 100, Survey of Women’s Studies; WS 490, Seminar in Women’s Studies; and at least six other credits at the 300/400 level.

WOMEN’S STUDIES, Minor 18 credits
 Students will complete 18 credits from among the following, nine of them at the 300/400 level: ART 216; ENG 365; HPE 370; HIST 230; PHIL 357; PSY 220, 340; SCT 320; SOC 452; WS 100,490.

College of Business Administration

Joseph P. Grunenwald, D. B.A., Dean

Office: Still Hall

Telephone extension: 2600

Degree Listing

Philosophy

The College of Business Administration offers curricula leading to the degree of Bachelor of Science in Business Administration, the Master of Business Administration, the Associate of Science degree in business administration, and the Associate of Science degree in paralegal business studies. The College of Business Administration also offers a minor program in international business as well as economics. The description below is concerned mainly with the undergraduate curriculum. For full information concerning the M.B.A. program, refer to The *Graduate Studies* bulletin and the *Master of Business Administration* bulletin, which may be obtained from the College of Business Administration, Clarion University, Clarion, PA 16214. The description of the Associate of Science degree program is found on pages 130-132.

All candidates for the Bachelor of Science or Associate of Science degree in business administration are required to take a broad program of business foundation subjects and then choose a business field of specialization in one of the following majors:

- | | |
|--|---------------------------------|
| Accountancy (B. S. B.A.) | Marketing (B. S. B.A.) |
| Economics (B. S. B.A.) | Real Estate (B. S. B.A.) |
| Finance (B. S. B.A.) | |
| Industrial Relations (B. S. B.A.) | Business Administration (A. S.) |
| Management (B. S. B.A.) | Legal Business Studies (A. S.) |
| Management/Library (B. S. B.A.) | (see Venango Campus) |

Fields of study may also include the following minors:

- | | |
|-------------------|--------------------------------|
| Economics (Minor) | International Business (Minor) |
|-------------------|--------------------------------|

The curriculum leading to the degree of Bachelor of Science in Business Administration is designed to assist students in arriving at a better understanding of the complex relationships inherent in the rapidly changing domestic and international world of business,

industry, and government; to provide educational experience that will help students develop their potential for leadership and service; to stimulate the growth of students as individuals and citizens; and to provide a qualitative environment in which educational enrichment can take place.

Supplemented by broad general requirements in the humanities, the social sciences, and the natural sciences, the business curriculum offers a well balanced program of courses in business administration and economics which will not only help prepare students for careers in business, industry, and government, but will also give preparatory training to students who plan to further their education through graduate study in business, economics, or law.

Although there is opportunity to develop depth in certain areas, i.e., accountancy, economics, finance, industrial relations, management./library science, marketing, and real estate, emphasis in the program is not on deep specialization but rather on the development of analytical ability, intellectual toughness, imagination, the ability to communicate ideas, and adaptability so that technological change does not render the education obsolete.

Mission Statement

The College of Business Administration at Clarion University has as its mission providing high quality undergraduate and graduate education that primarily prepares residents of western Pennsylvania for positions in business, industry, and government. The College of Business Administration also seeks to serve the needs of a diverse student body and faculty complement which comes from throughout the United States and the world. The College of Business Administration seeks to support continuous professional development of faculty through continuing education, scholarship, and professional consulting. These development activities should be designed to enhance classroom teaching, lead to the development of effective instructional methods, materials, and curriculum, provide application of theoretical knowledge, and assist regional businesses and industry. The College of Business Administration seeks to provide service to Clarion University as well as citizens and organizations throughout its service region.

Objectives of Degree Program

1. Assure that each student has a general education composed of liberal knowledge, skills, applications, values, health, and personal performance experiences.
2. Assure that each student has a thorough knowledge of fundamental business concepts of appropriate breadth and depth and has the opportunity to integrate business disciplinary knowledge.
3. Assure that each student has a thorough knowledge of concepts within a particular business specialty.
4. Assure that each student has a thorough knowledge of the international and ethical dimensions of business management.
5. Prepare undergraduate students for entry level professional positions in business, industry, and government.
6. Provide opportunities for business study for non-business majors at Clarion University.
7. Prepare aspiring, high achieving students for entry into graduate programs.
8. Provide a reasonable level of direct contact with businesses and organizations to enhance application of learned classroom concepts.
9. Assure that academic programs adapt to changing requirements in business professions, adapt to changing expectations of businesses and other employers, are current

with national educational trends, and are reflective of educational debate within professional associations.

Academic Standards

Business students pursuing the B.S.B.A. must meet the requirements for admission to the college's upper division. In addition, business administration students must meet graduation standards beyond general university requirements.

Students who are readmitted to the College of Business Administration after an absence of one year or more must meet all requirements of the college as of the date of readmission.

Students transferring into the College of Business Administration from other accredited colleges and universities must have earned a cumulative quality-point average of 2.50 on a 4.00 scale. This applies to all course work taken at all universities prior to attending Clarion University. Clarion University students transferring from majors outside the College of Business Administration must have earned a minimum of 12 credits with a quality-point average of 2.50 while at Clarion University.

Credits for courses completed at other universities or colleges are transferable to Clarion University, but the grades and quality points are not. Therefore, grades earned in courses accepted by the College of Business Administration to satisfy requirements of the lower or upper division core will not be used in the computation of the quality-point averages required by the academic standards of the College of Business Administration.

1. Math requirements: All students in the College of Business Administration are required to take MATH 131 and 232. For MATH 232, students may substitute MATH 270, 271, or 272. Beginning in the fall of 1991, all students accepted to the College of Business Administration must earn a grade of "C" or better in each of these required mathematics courses.
2. Separation of upper- and lower-division programs of study: All business students must meet the requirements for admission to the upper-division course of study in the College of Business Administration. The upper division consists of all courses numbered 300 and above. No business student is permitted to take any 300- or 400-level courses in the College of Business Administration until the student has met the following requirements:
 - a. completed not less than 50 hours with a minimum average of 2.00/4.00;
 - b. completed the math requirements listed above; and
 - c. completed all required courses in the business core with a 100- or 200-level designation (ECON 211, ECON 212, CIS 110, ACTG 251, ACTG 252, ECON 221, ECON 222, BSAD 240) with a minimum quality-point average of 2.00/4.00.

Every business student must complete the courses in the upper-division business core (ECON 310, MGMT 320, MKTG 360, FIN 370, MGMT 425, and BSAD 490), with a minimum quality-point average of 2.00/4.00, in order to meet graduation requirements.

3. Courses within the major: In order to graduate, students must meet university requirements, the above standards, and achieve a minimum grade of "C" in each course presented as meeting the requirements for the major. There are 24 credits required of each business student to be placed in the "major area." Either 18 or 21 of these credits must come from the specific area of concentration which has been declared by the student. These requirements are listed on the back of the business checksheet. The other three (or six) credits may be any other business class(es) listed on the back of the checksheet from any major. Additionally, at least one business course with international content must be included within the 24 credit block of "major courses." This means that a minimum grade of "C" must be earned in this course.

4. Each business student must complete six credits in courses with international content. At least three of these must be business credits and must be included within the 24 credits which apply to the major area of concentration (as detailed in number three above). The additional three credits may be utilized to satisfy requirements in general education or free electives. Courses taken to satisfy this requirement are to be selected from the approved international course list. Students should see their advisor or may obtain a copy of this list from the College of Business Administration Dean's Office, 340 Still Hall.
5. Business students are not permitted to take business courses credit (no record).

General Education Requirements

The general education program required for all students in the university is presented on pages 65-66; however, students majoring in business administration must include six credits in mathematics (at least MATH 131 and MATH 232, or its equivalent) in fulfilling general education or free elective requirements. They must also add six credits in economics (ECON 211 and 212). The general education requirements are summarized as follows:

modes of communication	12 credits
natural sciences and mathematics	9 credits
social sciences	9 credits
humanities	9 credits
personal development and life skills (includes health and physical education)	9 credits
additional general education (economics)	6 credits
TOTAL	54 credits

Business Foundation Requirements

Regardless of the major chosen, all students of business administration must take 36 hours of **foundation subjects**. These have been selected with the following primary objective in mind:

1. To give students an insight into the major functions of organizations whether they be private business firms or local, state, or federal government agencies.
2. To give students an understanding of the major problems within organizations as they pursue their goals.
3. To assist students in using the insights and methods of the humanities, social sciences, and natural sciences to analyze and illuminate these problems. Each of the Foundation Subjects either deals with an important aspect of organization or provides a tool which can be used in attacking problems faced by individuals in organizations. The courses as a whole comprise a common body of knowledge in business and administration.
4. To provide students with an understanding of the domestic and world-wide environment of business.

The following foundation courses are required of all business administration students:

ADDITIONAL GENERAL EDUCATION

ECON	211: Principles of Macroeconomics	3 credits
ECON	212: Principles of Macroeconomics	3 credits

ACCOUNTING AND QUANTITATIVE

CIS	1 10: Computer Information Processing	3 credits
ACTG	251: Financial Accounting	3 credits
ACTG	252: Managerial Accounting	3 credits
ECON	221 Economic and Business Statistics I	3 credits
ECON	222: Economic and Business Statistics II	3 credits

ENVIRONMENTAL

BSAD	240: Legal Environment I	3 credits
ECON	310: Intermediate Macroeconomics	3 credits

NOTE: ECON 212 is a prerequisite for ECON 310.

FUNCTIONS

MGMT	320: Management Theory and Practice	3 credits
MKTG	360: Principles of Marketing	3 credits
FIN	370: Financial Management	3 credits
MGMT	425: Production Management	3 credits

ADMINISTRATIVE PROCESS

BSAD	490: Administrative Decision Making	3 credits
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NOTE: MGMT 320, MKTG 360, and FIN 370 are prerequisites for BSAD 490.

TOTAL 36 credits

Major Requirements

In addition to the general education and business foundation courses outlined above, all students studying business administration must build up a major consisting of at least 18 hours in one of the following areas:

accountancy	management
economics	management/library science
finance	marketing
industrial relations	real estate

Twenty-four hours of business and economics electives are required for each major. Of these 24 hours, at least 18 are specified for the major. Any unspecified hours in the major may be satisfied by any business or economics course not used to meet other requirements. Specific course requirements for each of these majors are outlined under the five academic departments on the following pages. The international business course requirement specified in the academic standards may affect business elective course selections.

Accountancy

Department of Accountancy, Charles J. Pineno, Ph.D., Chair

Office: 334 Still Hall

Telephone extension: 2628

Professors: Campbell, Chen, Oliver, Pineno, Que; **Associate Professors:** Farinacci, Merz; **Assistant Professors:** Barnes, Otte

Accounting (B.S.B.A.)

The followin courses are required:

ACTG	5 50: Intermediate Accounting
ACTG	351: Accounting for Equities
ACTG	352: Cost Accounting
ACTG	353: Federal Taxes
ACTG	354: Auditing
ACTG	355: Advanced Accounting

One course from the following:

	451: Accounting Problems
ACTG	452: Advanced Cost Accounting
ACTG	453: Problems in Federal Taxation Accounting
ACTG	454: Comparative Accounting Systems
ACTG	455: Not-For-Profit Entities
ACTG	461: International Accounting

ACTG	463: Tax Planning
*ACTG	490: Current Accounting Pronouncements and Practice
ACTG	499: Special Topics in Accounting

*Prerequisite: COOP 420: Accounting Internship offered during the Spring Semester of the senior year for nine credits.

If a student selects ACTG 461: International Accounting, from the above 400-level course list, the student may use that course to fulfill the international requirement as well. If a student does not select ACTG 461, the student must then select another international business course from the approved list to be used in the major.

Suggested Course of Study Sequence

Refer to the eight semester sequence listed on pages 91-92. ECON 370 or ECON 410 and BSAD 241 are not required courses but should be selected by students participating in the Five-Year Professional Course of Study.

A 10-week, full-time accounting internship is available to qualified seniors during the Spring Semester for nine credits. The last five weeks of the Spring Semester are for the ACTG 490: Current Accounting Pronouncements and Practice course for three credits. In addition, ACTG 451: Accounting Problems, and ACTG 461: International Accounting are offered as electives during the last five weeks of the Spring Semester. A limited number of accounting internships are available during the summer and Fall Semesters for three to nine credits.

Accounting (B.S.B.A./M.B.A.)-Professional Accountancy Course of Study

The Professional Accountancy Program leads to both the Bachelor of Science in Business Administration and the Master of Business Administration degrees. The sequence of 164 semester hours of course work (167 semester hours with any 400-level accounting course included) is designed to prepare persons for entry into the practice of professional accountancy as prescribed by the American Institute of Certified Public Accountants.

FRESHMAN YEAR

- | | |
|----------------------|----------------------|
| 1. general education | 2. general education |
|----------------------|----------------------|

SOPHOMORE YEAR

- | | |
|--|--|
| 1. general education
and general business | 2. general education
and general business |
|--|--|

JUNIOR YEAR

- | | |
|--|--|
| 2: general business
professional accountancy
(admission to Professional Accountancy Course of Study) | 3. general education
4. advisement and review |
|--|--|

SENIOR YEAR

- | | |
|--|--|
| 1. approval for continuation
in course of study | 6. advisement and review |
| 2. general business | 7. graduation |
| 3. professional accountancy | a. optional exit with
Bachelor of Science
degree |
| 4. general education | b. Bachelor of Science;
continue in course of study |
| 5. admission to graduate
school | |

GRADUATE YEAR

- | | |
|--|--|
| 1. approval for continuation
in course of study | 3. professional accountancy |
| 2. general M.B.A. courses | 4. graduate with Master
of Business Administration
and Five-Year Certificate |

Courses with 500 or 600 numbers are graduate-level courses only. Courses with 400 numbers may be graduate or undergraduate credit (graduate credit must have prior approval).

Elective Credits

In selecting electives to meet general education requirements students should select the following:

Business Law: Three additional credits should be selected (BSAD 241: Legal Environment 11)

Intermediate Economic Analysis and the Monetary System: Three credits involved with the study of the monetary system, (e.g., ECON 370: Money and Banking; ECON 410: Managerial Economics) should be selected.

Written and Oral Communications: Six credits beyond English III in written and oral communications must be selected.

Three of these credits must be related to written business communications (e.g., ENG 307: Business Writing). Three additional credits must be in oral communications (e.g., SCT 113: Fundamentals of Speech; SCT 213: Advanced Public Speaking; SCT 300: Communication in Organizations).

Students participating in the Professional Accountancy Course of Study must select courses such that all of the general education requirements are met. The courses to meet these requirements should be determined jointly by students and their advisors.

Suggested Course of Study Sequence

It is conceivable that the course of study could be completed in as few as 10 semesters by following the suggested sequence. Students who are awarded graduate assistantships should expect to extend the time necessary to complete the course of study. Other students may wish to spread their studies over 11 or 12 semesters, depending on their particular needs and abilities.

FIRST SEMESTER

MATH 131: Math for Business and Economics	3
written or oral communications	3
general education	10

THIRD SEMESTER

ACTG 251: Financial Accounting	3
ECON 21 1: Principles of Macro-economics	3
ECON 221: Economics and Bus. Statistics 1	3
CIS 110: Computer Info. Processing	3
ENG 307: Business Writing	3

FIFTH SEMESTER

ACTG 350: Intermediate Accounting	3
ACTG 352: Cost Accounting	3
ECON 310: Intermediate Micro	3
FIN 370: Financial Management	3
MGMT 320: Mgmt. Theory and Practice	3

SEVENTH SEMESTER*

ACTG 354: Auditing	3
ACTG 355: Advanced Accounting	3
MGMT 425: Production Management	3
BSAD 490: Admin. Decision Making	3
elective (BSAD 241)	3

SECOND SEMESTER

BSAD 240: Legal Environment I	3
MATH 232: Calculus for Business 1	3
written or oral communications	3
general education	7

FOURTH SEMESTER

ACTG 252: Managerial Accounting	3
ECON 212: Principles of Macro-economics	3
ECON 222: Economics and Bus. Statistics 11	3
general education	6

SIXTH SEMESTER

ACTG 351: Accounting for Equities	3
ACTG 353: Federal Taxes	3
MKTG 360: Prin. of Marketing	3
general education	6
elective ECON 370 or 410)	3

EIGHTH SEMESTER*

accounting elective	3
general education or internship	9
international accounting or business	3

NINTH SEMESTER*

ACTG 653: Federal Tax Research and Practice	3
ACTG 650: Theory of Accts	3
ECON 510: Managerial Econ.....	3
ECON 603: Quant. Analysis for Business Decisions	3
MGMT 521: Org. Structure and Behav	3
MKTG 560: Marketing Decision Making.....	3

TENTH SEMESTER*

ACTG 652: Advanced Cost and Managerial Accounting	3
ACTG 554: Advanced Auditing	3
ACTG 454: Comparative Accounting Systems or other infor. systems course	3
BSAD 690: Adtn. and Bus. Policy	3
FIN 675: Advanced Managerial Finance	3
MGMT 626: Productions/operations Mgmt	3

TOTAL CREDITS: 164

*students may possibly take graduate credits during their senior Year and summer, provided they have been admitted to the graduate program.

Administrative Science**Department of Administrative Science, James G. Pesek, Ph.D., Chair**

Office: Still Hall, Room 335

Telephone extension: 2626

Professors: Ackerman, Fulmer, Pesek, Reed; **Associate Professors:** Anderson, John, Roth; **Assistant Professor:** Kavooisi

Management (B.S.B.A.)

The following courses are required:

MGMT	521: Organization Theory and Behavior	3 credits
MGMT	322: Selection and Management of Business Information Systems	3 credits
MGMT	324: Personnel Management	3 credits
MGMT	426: International Business	3 credits

Additionally, management majors must follow one of three tracks: general management, materials management, or small business management.

GENERAL MANAGEMENT

Three courses from the following :

9 credits

MGMT	323: Problems in Small Business
MGMT	420: Operations Research
MGMT	423: Business and Society
MGMT	427: Small Business Seminar
MGMT	445: Management Seminar
MGMT	450: Total Quality Management
MGMT	482: Collective Bargaining
MGMT	483: Wage and Salary Administration
MGMT	485: Industrial Relations and Public Policy
BSAD	437: International Business Seminar
MKTG	361: Marketing Management

MATERIALS MANAGEMENT

The following are required:

9 credits

MGMT	420: Operations Research
MKTG	366: Physical Distribution Management
ACTG	352: Cost Accounting

SMALL BUSINESS MANAGEMENT

The following are required:

9credits

- MGMT 323: Problems in Small Business
- MGMT 427: Small Business Seminar
- MKTG 361: Marketing Management

Management/Library Science(B.S.B.A.)

The following courses are required:

- MGMT 321: Organization Theory and Behavior.....3 credits
- MGMT 324: Personnel Management.....3 credits
- LS 257: Basic information Sources and Services3 credits
- LS 258: Selection of Library Media.....3 credits
- LS 260: Development and Administration of Libraries3 credits
- LS 357: Organization of Media.....3 credits
- LS 385: Automation and the School Library Media Center.....3 credits
- LS 491: Business Reference Sources and Services3credits

One of the following :

- MGMT 445: Management Seminar.....3 credits
- MGMT 485: Industrial Relations and Public Policy3 credits

Industrial Relations (B.S.B.A.)

The following courses are required:

- ECON 551: Labor Economics3 credits
- MGMT 324: Personnel Mmagement.....3 credits
- MGMT 482: Collective Bargaining3 credits
- MGMT 483: Wage and Salary Administration3 credits
- MGMT 485: Industrial Relations and Public Policy3 credits

Two courses from the following6 credits

- BSAD 437: International BusinessSeminar
- MGMT 321: Organization Theory and Behavior
- MGMT 322: Selection and Management of Business Information Systems
- MGMT 445: Management Seminar
- PSY 350: Industrial Psychology
- Soc 321: Sociology of Work
- HIST 363: History of American Labor

Economics

Department of Economics, Enid Dennis, Ph.D., Chair

Office: Still Hall

Telephone extension: 2627

Professors: Balough, E. Dennis, Ross, Sanders, Sohng, Stine, Vernon, C. Yang; **Associate Professors:** Haggerty, L. Smith; **Assistant Professor:** Raehsler

Students may take a major in economics either in the College of Business Administration or the College of Arts and Sciences. A minor in economics is available to students from all colleges.

Economics (B.S.B.A.)

Course Requirements

The Economics Department has instituted several tracks which help students select a program to meet their interests and career goals. All tracks requireECON311: Intermedi-

ate Macroeconomic Theory. Students may choose additional economics courses from the following tracks.

- a. Monetary Economics Track (15 cr. hrs.)
 ECON 370: Money and Banking
 ECON 371: Public Finance
 ECON 361: International Economic Relations
 Select two additional economics courses or one additional economics course and FIN 476: Portfolio Theory and Management.
- b. Quantitative Economics Track (15 cr. hrs.)
 ECON 410: Managerial Economics
 ECON 423: Statistical Tools for Quantitative Analysis
 ECON 470: Business Cycles and Forecasting
 Select two additional economics courses.
- c. International Economics Track (15 cr. hrs.)
 ECON 312: Comparative Economic Systems
 ECON 361: International Economic Relations
 ECON 363: Economic Development
 Select MGMT 426: International Business and one additional economics course or two additional Economics courses.
- d. Urban and Public Affairs Track (15 cr. hrs.)
 ECON 314: Urban and Regional Economics
 ECON 341: The Economics of Regulated Industries
 ECON 351: Labor Economics
 Select two additional economics courses or one addition at economics course and PS 375: Public Administration.
- e. General Economics Track (15 cr. hrs.)
 Five courses in economics to be selected in consultation with and approved by the student's advisor.

Economics (Minor)

The minor in economics consists of 18 credit hours to be taken from the existing courses as indicated below:

ECON	211: Principles of Macroeconomics	3 credits
ECON	212: Principles of Macroeconomics	3 credits
ECON	310: Intermediate Macroeconomics	3 credits
ECON	311: Intermediate Macroeconomics.....	3 credits
Electives:	Choose two 300- or 400-level three-credit economics courses in consultation with the coordinator of the minor	6 credits
	TOTAL	18 credits

Finance

Department of Finance, Soga O. Ewedemi, Ph.D., Chair

Office: 336 Still Hall

Telephone extension: 2626

Professors: Belloit, Eicher, Ewedemi, Stuhldreher, VanLandingham, Yeaney; **Associate Professors:** Eichlin, Quesenberry; **Assistant Professors:** Bish, Hall, Shepard

Finance (B.S.BA.)

The finance curriculum prepares students for a variety of positions in financial institutions and other corporations. Since finance is a functional area in every organization, students are exposed in their finance electives to a wide range of choices.

The following courses are required:

FIN	371: Intermediate Finance	3 credits
FIN	375: Management of Fin. institutions.....	3 credits
FIN	376: Investments	3 credits
FIN	471: Financial Problems	3 credits

Three courses from the following 9 credits

FIN	373: Fundamentals of Insurance
FIN	374: Property and Casualty Insurance

FIN	377: Medical Care Finance
FIN	473: Retirement and Estate Planning
FIN	476: Portfolio Theory and Management
FIN	480: Multinational Financial Management
RE	373: Real Estate Finance
RE	471: Real Estate Investment Analysis
ECON	370: Money and Banking
ECON	371: Public Finance

Real Estate (B.S.B.A.)

The real estate program is designed to prepare students for careers in brokerage, appraisal, management, finance, and investment in real estate.

In addition to RE 270: Real Estate Fundamentals, the following courses are required:

RE	371: Real Estate Practice	3 credits
RE	373: Real Estate Finance	3 credits
RE	470: Residential Real Estate Appraisal	3 credits
RE	471: Real Estate Investment Analysis	3 credits

Plus at least two courses from the following four:6 credits

RE	372: Real Estate Law
RE	374: Real Estate Brokerage
RE	472: Income Property Appraisal
RE	475: Real Estate Management

All courses with an RE designation have been approved by the Pennsylvania Real Estate Commission for three credits each toward meeting the education requirements for real estate brokerage licensing.

RE 270 and 371 are the only courses applicable toward meeting requirements of the salesperson licensing examination.

International Business Minor

The College of Business Administration also offers an interdisciplinary minor in international business, open to all business administration and other majors meeting the pre-requisites for courses required in the program. Students wishing to formally elect this minor are urged to contact their advisor or the Department of Economics, which administers the program, early in their college career.

The minor in international business includes four program requirements:

1. International business courses: students must complete four upper division international business courses (12 credits) from among the following:

ACTG 461: International Accounting	(prerequisites: ACTG 351 or consent of instructor)
ECON 312: Comparative Economic Systems	(prerequisites: ECON 2 11; ECON 2 12)
ECON 361: International Economic Relations	(prerequisites: ECON 2 11; ECON 2 12)
ECON 363: Economic Development	(prerequisites: ECON 2 11; ECON 212)
FIN 480: Multinational Financial Management	(prerequisites: ECON21 I;ECON212; ACTG 25 I; ACTG 252; FIN 370)
MGMT 426: International Business	(prerequisite: MGMT 320)
MKTG 469: International Marketing	(prerequisite: MKTG 360)

Students in the College of Business Administration are required to complete four of the above courses in addition to the 18 and 21 credits specifically required for their major.

2. International cultural courses: Students must complete two courses (6 credits) from the college’s approved international course list (excluding business courses and elementary or intermediate foreign language courses).

3. Foreign experience requirement: Students may meet their requirements in a variety of ways, including completing BSAD 437: International Business Seminar; completing a co-op or internship course working with a foreign or international firm; or completing a foreign study abroad experience. Students who opt for an internship in a foreign country are advised to take a *commercial language course*.
4. Modern language requirement: Students must show competency in a language other than English. This will be accomplished by passing a nationally-recognized language proficiency exam at Level I as a minimum in any language covered by that examination. Students interested in taking an internship in a foreign country are required to be proficient in that language at Level II.

Marketing

Department of Marketing, Paul Y. Kim, Ph.D., Chair

Office: 338 Still Hall

Telephone extension: 2627

Professors: L. Felicetti, Garland, Kim, K. Traynor, Wilson

Marketing (B.S.B.A.)

The following courses are required:

	461: Marketing Research.....	3 credits
MKTG	465: Marketing Problems	3 credits
MKTG	469: International Marketing	3 credits

Two of the following6 credits

MKTG	361: Marketing Management
MKTG	363: Advertising Management
MKTG	468: Consumer Behavior

Two of the following6 credits

	362: Retailing Management
MKTG	364: Principles of Selling
MKTG	365: Industrial Marketing
MKTG	366: Physical Distribution Management
MKTG	367: Industrial Buying
MKTG	390: Marketing for Non-Profit Organizations
MKTG	460: Sales Management
MKTG	463: Women in Marketing
MKTG	495: Special Topics in Marketing
MKIW	361, 363,468, listed above

College of Communication, Computer Information Science, and Library Science

Rita Rice Flaningam, Ph.D., Dean

Office: 109 Becker Hall

Telephone Extension: 2328

Degree Listing

- Communication (B.S.)
- Computer Science (B.S.)
 - Computer Science (Minor)
- Computer Application and Information Systems (B.S.)
 - Computer Application and Information Systems (Minor)
- Library Science (B.S.Ed.)
- Management/Library Science (B.S.B.A.)

Communication

Department of Communication, Carmen Felicetti, Ed.D., Chair

Office: G-13 Becker Hall

Telephone Extension: 1884

Professors: C. Felicetti, Larson, Siddiqui; **Associate Professors:** Barlow, Fueg, Marini, Pfaff; **Assistant Professors:** Hilton, Kuehn, Lloyd, Washington

The Department of Communication offers a broadly-based program leading to the Bachelor of Science degree in communication. It is interdisciplinary in nature, requiring courses from English, speech communication, management, accounting, economics, computer information science, philosophy, and the Department of Communication. Electives may be selected from any academic area of the university. If desired, they may be concentrated to provide additional training for specific career goals.

The communication major at Clarion University enters a program of rigorous interdisciplinary study and vigorous co-curricular activities. The program prepares the major for an entry-level position in an area of choice and provides a solid foundation on which to build a professional career.

The program is based on the four sections of the professional foundation: knowledge, action, values, and adaptation.

Knowledge: The participant is a facilitator of communication and a decision-maker. The course work stresses an integrated and interdisciplinary approach based on the theories of the academic discipline; it is intellectually challenging.

Action: The participant will work in an active student-oriented environment. The program uses traditional and new technologies for practical projects which result in the creation and completion of communication products. This hands-on experience gives competitive and energetic people the opportunity to utilize their new knowledge and skills.

Values: The program also disciplines students in the use of their tools, competencies, and skills. It is concerned with values and the social responsibility modern communicators must exercise in ethical and culturally sensitive situations. It encourages a professional and broad-minded approach to issues, and it encourages the ideal of service.

Adaption: The graduate of this program is a generalist: competent to work with a variety of communication tools to perform many different tasks in different contexts. At the same time, specialization is possible and strongly encouraged. The major is an adaptable and flexible individual with an aptitude for creativity and an openness to new ideas.

Graduates have assumed positions in business, industry, government, and non-profit organizations. They work in public relations, advertising, newspapers, radio and television broadcasting, employee training, and publications.

Students majoring in communication must complete 48 credits in general education, which includes modes of communication, natural science and mathematics, social sciences, humanities, and personal development and life skills. In addition to general education, major, and elective course requirements, students are required to participate in a minimum of two semesters in co-curricular media activities consisting of one broadcast-oriented organization and one print-oriented organization. Broadcast organizations are Cable TV-5, WCUC-FM, a non-commercial FM radio station, and WCCB, a carrier current AM radio station. Print organizations are *The Clarion Call* campus newspaper and *The Sequel/e* yearbook. Students who wish to fulfill this requirement by working for another radio or television station or newspaper may do so with agreement of both academic advisor and employer.

The student is expected to own or have access to a 35mm camera with variable focus and f-stop and a built-in or separate light meter. Guidance in selecting an appropriate camera will be provided after the student has entered the program.

COMMUNICATION, B.S.

68 credits

Required courses: ENG 200, 307; SCT 113, 115 or 264,300 or MGMT 321; MGMT 320; ECON 211: ACTG 201; CIS 110; PHIL 111; COMM 100, 152, 171,251,271,351 Of 200 and 201,352,451,452.

Computer Information Science

Department of Computer Information Science, Michael Barrett, M.S., Chair

Office: 141 Becker Hall

Telephone Extension 2442

Professor: Schaeffer; **Associate Professors:** Madison, R. Smaby, S. Traynor; **Assistant Professors:** Adelson, Barrett, Holden, Kahle, Wyatt

The Department of Computer Information Science offers two majors leading to a Bachelor of Science degree. One major is computer application and information systems (CAIS). This major prepares students for careers in application programming and systems analysis. Major emphasis is placed on the COBOL programming language and on the principles necessary for computer usage in commercial, industrial, and governmental environments.

The other major is computer science (CS) which prepares students for careers in systems programming, computer systems analysis, and computer system management. This major places heavy emphasis on mathematical foundations of computation and principles of data organization and computer system software.

The Department of Computer Information Science also offers a computer application and information systems (CAIS) minor and a computer science (CS) minor. These minors provide students with a solid knowledge of computers and their applications to assist them in gaining employment and coping with the rapid changes in technology that are affecting and will continue to affect both their personal and professional lives.

Computing facilities at Clarion are designed to provide students with a broad background of marketable skills on the most current equipment and software. Students have access to a VAX 8850 computer through terminals in the Becker laboratory with all major programming languages available, including BASIC, COBOL, FORTRAN, ADA, C, PL/1, PROLOG, and PASCAL. More than 50 microcomputers are also available for student use. Each microcomputer is a workstation to a Novell Local Area Network and provides the student with access to such current productivity tools as WordPerfect, LOTUS 1-2-3, R:Base System V, dBASE IV, TURBO PROLOG, PageMaker, and TURBO C.

Computer Application and Information Systems (CAIS) Major

Required Courses		s.h.
CLS	120	Principles Applied Information Systems3
CIS	217	Application of Microcomputers3
CIS	223	Computer Programming--COBOL3
CIS	301	Computer Systems Analysis3
CIS	324	Data Structure and File Utilization-COBOL3
CIS	402	Data Base Management Systems3
CIS	403	Data Communications3
CM	411	Systems Development Project3
ACTG	251	Financial Accounting3
ACTG	252	Managerial Accounting3

BSAD	490	Administrative Decision Making.....	3
ECON	211	Principles of Macroeconomics	3
ECON	212	Principles of Microeconomics.....	3
FIN	370	Financial Management	3
MATH	221	Elementary Applied Statistics	3
MATH	2 2 2	Elementary Nonparametric Statistics	3
MGMT	320	Management Theory and Practice.....	3
MGMT	425	Production Management	3
MKTG	360	Principles of Marketing.....	3

Major Elective Courses (nine credits)

CIS	151	FORTRAN I.....	3
CIS	211	IRPG II—Report Program Generator	3
CIS	253	Computer Organization and Assembly Language.....	3
CIS	302	EDP Auditing and Security.....	3
CIS	305	Artificial Intelligence in Decision Making.....	3
CIS	317	Advanced Microcomputing.....	3
CIS	462	Simulation and Modeling.....	3

Computer Science (CS) Major

Required Courses

			s.h.
CM	163	Introduction to Programming and Algorithms I	3
CIS		Introduction to Programming and Algorithms II	3
CIS	164	Computer Organization and Assembly Language	3
CIS	254	Information Structure	3
CIS	255	Survey of Languages	3
CIS	340	Discrete Mathematical Structures	3
CIS	350	Machine Architecture and Systems Software	3
CIS	355	Operating Systems I.....	3
CIS	356	Data Structures and Algorithm Analysis	3
CIS	357	Structure of Programming Languages	3
CIS	460	Introduction to Theory of Computation	3
CIS	469	Seminar in Computer and Information Science	1
MATH	270	Calculus with Analytic Geometry I	4
MATH	271	Calculus with Analytic Geometry II	4
MATH	370	Introduction to Linear Algebra	3

Major Elective Courses (12 credits)

CIS	223	Computer Programming-COBOL	3
CIS	301	Computer Systems Analysis	3
CIS	302	EDP Auditing and Security.....	3
CIS	305	Artificial Intelligence in Decision Making	3
CIS	317	Advance Microcomputing.....	3
CIS	324	Data Structure and File Utilization-COBOL	3
CIS	375	Software Engineering Using the ADA Programming Language	3
CIS	377	Computer Graphics	3
CIS	402	Data Base Management Systems	3
CIS	403	Data Communications	3
CIS	411	Systems Development Project	3
CIS	462	Simulation and Modeling	3
MATH	272	Calculus with Analytic Geometry III	4
MATH	360	Numerical Methods in Mathematics I.....	3
MATH	421	Mathematical Statistics I.....	3
MATH	460	Numerical Methods in Mathematics II.....	3
MGMT	420	Operations Research I	3

Computer Application and Information Systems (CAIS) Minor

Required Courses

			s.h.
CIS	110	Introduction to Computer Information Systems	3
CIS	217	Applications of Micromputers.....	3
CIS	223	Computer Programming-COBOL	3
CIS	301	Computer Systems Analysis	3

Minor Elective Courses (six credits)

CIS	302	EDP Auditing and Security.....	3
CIS	305	Artificial Intelligence in Decision Making.....	3
CIS	317	Advanced Microcomputing.....	3
CIS	324	Data Structure and File Utilization-COBOL	3
CIS	402	Data Base Management Systems	3

CIS	403 Data Communications	3
CIS	462 Simulation Modeling.....	3

Computer Science (CS) Minor

Required Courses		S.h.
CIS	163 Introduction to Programming and Algorithms I.....	3
CIS	164 Introduction to Programming and Algorithms II	3
CIS	253 Computer Organization and Assembly Language.....	3
CIS	254 Information Structures.....	3

Minor Elective Courses (six credits)

CIS	305 Artificial Intelligence in Decision Making.....	3
CIS	317 Advanced Micromputing.....	3
CIS	340 Discrete Mathematical Structures	3
CIS	350 Machine Architecture and Systems Software	3
CIS	355 Operating Systems I	3
CIS	356 Data Structures and Algorithms Analysis	3
CIS	357 Structure of Programming Languages.....	3
CIS	375 Software Engineering Using the ADA Programming Language	3
CIS	377 Computer Graphics	3
CIS	402 Data Base Management Systems	3
CIS	460 Introduction to Theory of Computation	3

Library Science

Department of Library Science, Ahmad Gamaluddin, Ph.D., Chair

Office: Carlson Library Building, Room 166

Telephone Extension: 2271

Professors: Gamaluddin, Vavrek; **Associate Professors:** Head, Jetter, Karp; **Assistant Professors:** Buchanan, Maccafenì; **Instructor:** Miller

On December 3, 1937, the State Council of Education approved a curriculum for the education of school librarians at Clarion University. The B.S. degree in education with a specialization is offered by the department. In addition, library science courses are offered as electives for liberal arts and business administration students (see program description for those degree programs). Elementary majors may elect to take their 18 hour concentration in library science.

Besides meeting state requirements for school librarianship, the library science program at Clarion qualifies students for entry level positions in public and special libraries.

Candidates for the B.S. degree in education who specialize in library science are required to complete 45 semester hours of library science courses. A total of 128 semester hours must be completed for the B.S. in education. Upon receipt of the degree, the graduate is recommended for certification as a librarian in all grades of the Pennsylvania public schools.

A student planning eventually to work for a master's degree in library science may need a reading knowledge of a modern foreign language and may, therefore, wish to take one of these languages as an undergraduate. It is also advisable to take one or more courses in computer information science.

Before being assigned to student teaching, all students specializing in library science must have completed the 33 hours required for the specialization.

The department offers a graduate program in library science accredited by the American Library Association, preparing personnel for first-level professional positions in public, school, academic, and special libraries. It is recommended that students planning to enter the master's program pursue a broad liberal arts education at the undergraduate level. It would be well to seek counsel from advisors and carefully plan the undergraduate program in order to meet the requirements for entering the Master of Science in Library Science program. For further information regarding the program refer to the bulletin of the Department of Library Science.

College of Education and Human Services

Charles R. Duke, Ph.D., Dean

Office: Stevens Hall

Telephone Extension: 2146

Degree Listing

Teacher Education

Early Childhood Education (B.S.Ed.), Certification for grades N-3

Early Childhood Education/Special Education, Certification

Elementary Education (B. S. Ed.), Certification for grades K-6

Elementary Education/Early Childhood Education (B. S. Ed.), Certification for grades N-6

Elementary Education/Library Science (B. S.Ed.)

Elementary Education/Special Education (B.S.Ed.)

Elementary Health, Concentration

Library Science, Certification for grades K-12

Music Education (B. S. Ed.), Certification for grades K- 12

Special Education (B. S. Ed.), Certification for grades K-12

Rehabilitative Science, Concentration

Special Education/Early childhood, Certification

Special Education/Rehabilitative Sciences (B.S.Ed.)

Speech Pathology and Audiology: Speech Science (B. S.) pre-professional degree

Secondary Education (B. S. Ed.), Certification for grades 7- 12:

biology	English	mathematics
chemistry	French	physics
communication arts	general science	social studies
earth and space science	German	Spanish

A dual certification with environmental education and one of the following areas is also available: elementary, biology, chemistry, earth and space science, and general science

Students in any area may choose to obtain a Coaching Verification Certificate. (For details contact HPE Department chair.)

Human Services

Rehabilitative Sciences (B. S.)

Rehabilitative Sciences: Developmentally Disabled, Concentration

Rehabilitative Sciences: Gerontology, Concentration

Rehabilitative Sciences: Substance Abuse, Concentration

Rehabilitative Services (A.S.)--see Venango Campus

Speech Pathology and Audiology B. S.; five-year program leading to the M.S. Degree and Certification grades K-12

The College of Education and Human Services offers programs to prepare professional educators and other human services personnel. Eight specialized curricula are offered in professional education: early childhood education, elementary education, environmental education, library science, music education, secondary education, special education, and speech pathology and audiology. Each teacher education curriculum is designed to meet the graduation requirements of the university, the certification requirements of the state, and the accreditation standards of various professional groups such as the American Speech-Language-Hearing Association and the National Council for the Accreditation of Teacher Education.

The college is committed to selecting and graduating outstanding students who are empowered with the knowledge and skills necessary to take their place in society as effective professionals capable of meeting the needs of a diverse population in our rapidly changing society. The college is dedicated to providing these students with programs and environments which (1) promote a global view of education; (2) embrace cultural diversity and individual differences within a rural region; (3) provide access to academic, pedagogical, cultural, and other relevant knowledge bases; (4) support development of interpersonal skills, self-esteem, professional attitudes, and democratic values; (5) focus on the roles of schools and human service agencies; (6) emphasize the importance of individuals in terms of their unique ethnic, intellectual, and personality traits; (7) create

linkages between theory and practice; (8) use new technologies to enhance learning; and (9) remain responsive to societal needs and professional standards.

The overall mission of the college is to develop educators and human service professionals who have received specialized training, mastered a recognized body of knowledge, internalized standards of excellence, and who are ready to assume responsibility for the exercise of professional judgment and continued professional growth.

Human Services

In the human services field, programs are offered in rehabilitative services at the associate degree level, rehabilitative sciences and speech pathology and audiology at the bachelor degree level; a five-year program leading to M.S. degree and certification is also available in speech pathology and audiology.

Programs in these human services areas provide students with the professional preparation to work with children, adolescents, and adults in institutional and community settings. Students in these programs are prepared to assist individuals who may experience a range of physical or mental handicaps. They develop their skills in classroom, clinical, and field settings at the university, cooperating agencies, and institutions. Completion of their degree program should help students qualify for employment in a wide variety of roles based on the training they receive in the various human services programs within the college. Their responsibility will be to help persons acquire those competencies necessary for independent living.

Teacher Education

In its teacher education programs, the College of Education and Human Services is committed to producing professionals who are effective decision makers and whose skills, attitudes, and beliefs are built upon the following teacher education knowledge base that underlies all teacher education programs in the college:

Teacher Education Knowledge Base

- I. Knowledge of educational aims
 - A. Purpose of education in a multicultural society
 - B. Purpose for teacher and student actions in the classroom
 - C. Communication with students, colleagues, families, and other members of the community
 - D. Commitment to professionalism
 - E. Promotion of civic and social responsibility
 - F. Leadership role of the professional within educational programs and communities
 - G. Articulation of educational philosophy
 - H. Organization and administration of educational programs
 - I. Impact of societal forces on education
 - J. Historical development and future directions of education
 - K. Commitment to scholarship and independent, lifelong learning
 - L. Interrelationships between humans and their environment
 - M. Role of education in career development
- II. Knowledge of subject matter
 - A. Relevance of content knowledge to teaching
 - B. Understanding of the major domains of content knowledge as reflected in the humanities, social sciences, natural sciences, and mathematics, and their relevance to students' worlds
 - C. Key concepts, generalizations, and principles most relevant to the major domains of content knowledge
 - D. Structures of a discipline which guide inquiry and interpretation of information
 - E. Transformation of content knowledge into forms of knowledge relevant to students' needs
 - F. Appreciation for the contributions of members of a multicultural world to improvement of the human condition
- III. Knowledge of learners
 - A. Theories of human growth and development and the implications for instruction
 - B. Learning styles and their implications for instruction
 - C. Exceptionalities, gender, culture, socio-economic backgrounds, and other student characteristics and their influence on learning and on teacher behaviors
 - D. Role of self-esteem in student learning
 - E. Roles of motivation, aptitude, and interests in learning

- IV. Knowledge of curriculum
 - A. Basic components of **curricula**
 - B. Relationship among curricula, instruction, and instructional materials
 - C. Historical development and future trends in curricula development
 - D. Interactive relationship among traditions, social forces, regulations, guidelines, and curricula
 - E. Integration of content knowledge, pedagogical skills, and curricula to meet the diverse needs of learners
 - F. Variety of curriculum models
 - G. Development of learning experiences and instructional materials that reflect curricular intent and student needs
 - H. Evaluation of instructional materials and resources in achieving curricular goals
 - I. Role of the professional in adapting and modifying curricula
 - J. Integration of technology into curriculum
- V. Knowledge of pedagogy
 - A. Instructional strategies and techniques derived from educational theories, research, and practice
 - B. Planning of instruction and design of lessons that acknowledge individual differences and learning styles
 - C. Theories of instructional and behavior management and their relation to learning
 - D. Role of evaluation in education and procedures for assessing learning
 - E. Critical thinking, problem-solving, and decision-making skills across the curriculum
 - F. Integration of reading, writing, listening, and speaking skills across the curriculum
 - G. Professional and community resources and their role in supporting instruction
 - H. Role of reflection, self-evaluation, and professional resources in enhancing professional growth
 - I. Relationship between research and educational practices
 - J. Ways to assist students in becoming independent, lifelong learners
 - K. Interpersonal and communication skills to foster collaboration and cooperation among students, parents, other members of the community, and the profession
 - L. Strategies to assist students in developing self-esteem
 - M. Role of technology as it relates to instruction

Certification

Students who complete one of the teacher education curricula at Clarion and who are awarded a baccalaureate degree are qualified for the Pennsylvania Instructional I Certificate, valid for six years of teaching. Applications for the certificate must be made by the student and the certificate issued before graduates may teach in the public schools of Pennsylvania. **Since the recommendation for certification is based upon program requirements in effect when the application is filed, students are urged to do this during the semester in which they plan to graduate.** Applications are available in the Office of Field Services. Students should be aware that Act 34 of 1985 requires that prospective employees of public and private schools present evidence from the State Police or the Federal Bureau of Investigation that they have no criminal record.

Any certificate may be extended to include other teaching fields by completing approved programs in those areas. Students not enrolled in a program leading to a Bachelor of Science in Education degree can make application for teacher certification by obtaining admission to and completing one of the university's approved programs in teacher education. For further information, consult the Dean's Office, College of Education and Human Services.

The Instructional I Certificate will be issued to individuals who fulfill the following:

1. Possess a baccalaureate degree.
2. Successfully complete an approved teacher certification program.
3. Present evidence of having passed the P.D.E. prescribed and administered teacher certification tests.
4. Receive recommendation for certification from the dean, College of Education and Human Services.

College of Education and Human Services Selection, Retention, and Graduation Standards

- I. Student responsibilities in any program of the college
- A. Complete all application forms in a timely fashion:
 1. Admission
 2. Student teaching/internship/externship
 3. Graduation from the university
 4. Certification where appropriate from the Commonwealth of Pennsylvania
 - B. Meet with advisors on a regular basis for career and program counseling as well as at each of the appropriate checkpoints in the program to obtain the appropriate forms.
 - C. Arrange for any tests needed to comply with the Public School Code of 1949, as amended, Article XII, Section 1209, which in part provides that teaching certification may not be issued if the “applicant is either mentally or physically disqualified, by reason of tuberculosis or any other communicable disease or by reason of mental disorder from successful performance of the duties of a teacher.”

II. Admission to a program

- A. Completion of 30 semester hours, including six semester hours of introductory professional courses to be determined by the appropriate department in the College of Education and Human Services. All courses are to be completed with a grade of “C” or higher:

Elementary Education	ED 110, ED 121
Early Childhood Education	ED 110, ED 121
Library Science	LS 255 and ED 110, ED 121 or ED 122
Secondary Education (all majors)	ED 110, ED 122
Special Education	SPED 110,220 (courses are sequential)
Rehabilitative Sciences	REHB 110,240
Speech Pathology and Audiology	SPA 125, SPA 450, SPA 456 (SPA 450 is a required prerequisite for SPA 456)
Dual Certifications:	
Elementary/Special Education	ED 110 or ED 121 and SPED 110
Elementary/Library Science	ED 110 or ED 121 and LS 255
Elementary/Early Childhood	ED 110 and ED 121
Early Childhood/Special Education	ED 100 or ED 121 and SPED 110

- B. Completion of a speech and hearing screening.
- C. Removal of any academic, physical, or mental deficiencies noted at any point in the student’s program that would prevent the candidate from fulfilling the responsibilities of the professional area.
- D. Completion of ENG 110 and ENG 111 plus three hours in either SCT 113 or MATH (as follows):

Elementary and Early Childhood	MATH 111
Secondary Mathematics	CIS 151 or 163
Secondary biology, earth and space, and general science	MATH 171 or higher
Secondary chemistry	MATH 171 or 270
Secondary physics	MATH 270 or higher
All others	MATH 110, 112, or higher; MATH 112 strongly encouraged

NOTE: All students must complete both SCT 113 and the appropriate math requirement with at least a grade of “C” prior to student teaching or intern/externship. Elementary and early childhood majors must meet the math requirement

before taking ELED 324. Proficiency examinations may be substituted for courses as specified in catalog.

- E. Possession of acumulative quality-point average of 2.50 or higher at the time of application.

NOTE: Transfers and readmits must meet these requirements as well but will be treated on a case by case basis.

III. Retention in a program

- A. Maintenance of a 2.50 cumulative quality-point average.
- B. Attainment of a grade of "C" or higher in all required professional courses and all required major courses in an area.
- C. Removal of any academic, physical, or mental deficiencies identified after admission to a program before being permitted to continue in the program.
- D. Completion of all program requirements.

IV. Qualification for student teaching/internship/extemship

- A. Completion of 90 semester hours of university credit in professional program, including all teaching methods or clinical courses.
- B. A grade of "C" or higher in all required professional courses and all required major courses in an area.
- C. An overall cumulative quality-point average of 2.50.
- D. Satisfactory completion of all tests and clearances necessary for field placement, including verification of a negative tuberculin skin test.

V. Graduation requirements

- A. Fulfill all university standards for graduation.
- B. Earn an overall cumulative quality-point average of 2.50.
- C. Maintain a grade of "C" or higher in all required professional courses and all required major courses in an area.

VI. Pennsylvania certification requirements at Clarion University

- A. Complete all program requirements and meet the standards of the Teacher Certification Program at Clarion University.
- B. Pass the appropriate examinations required by the Pennsylvania Department of Education in the following:
 - 1. Communication skills (reading, writing, computation)
 - 2. General knowledge
 - 3. Professional knowledge
 - 4. Content area(s) of certification
- C. Complete application for certification.
- D. Certify U.S. citizenship or hold an immigrant visa which permits employment within the United States and declares intent to become a United States citizen.
- E. Certify no habitual use of narcotic drugs in any form or excessive amounts of intoxicating beverages (School Code 1209) and not under indictment nor conviction for a criminal offense.

VII. The College of Education and Human Services will, through a formal agreement with the Special Services Program and the Educational Opportunities Program, identify students with disabilities for the purpose of advisement in relation to professional, certification, and degree requirements.

- A. The college associate dean will notify the dean and each department chair of all identified students with disabilities in the department.
- B. The associate dean and department chair or representative must meet with each student with disabilities to discuss professional, certification, and degree requirements. The associate dean and department chair will discuss these issues with regard to the student's disability and any potential functional limitations which may impact the attainment of certification, the degree, and effective practice in

the profession. Appropriate accommodations and strategies to compensate for any functional limitations will also be discussed with the student. Results of this meeting will be documented, signed by the associate dean, and copies of the report will be placed in the student's departmental file, field experience file, and Academic Support Services file.

- C. Whenever possible, students will be placed and supervised in an early field assignment as a means to ascertain their abilities and to develop strategies to overcome functional limitations.
- D. If faculty suspect that a student has a disability which may negatively affect the student's ability to obtain certification, the degree, or practice in the profession, the student should be referred to Academic Support Services for assistance.
- E. All faculty will be made aware of the need to openly discuss professional, certification, and degree requirements with students with disabilities. However, the final decision to pursue a degree program rests with the student as long as program requirements are met satisfactorily. Faculty must also be aware that all graduates of certification programs should be qualified to practice in the profession in a competent manner.

VIII. Transfer students

Each transfer student must follow the selection and retention standards of the College of Education and Human Services. Transcripts will be evaluated by the college dean and any deficiencies will be noted. The transfer student and dean will develop an individual plan to remove any deficiencies identified. Once deficiencies are removed, the student may be admitted to the appropriate program.

IX. Petitions procedure

The faculty of the College of Education and Human Services recognizes that there may be times when special circumstances arise which may legitimately justify the waiver of certain policies and/or standards. Students who have failed to meet the policies and/or standards because of unusual and extenuating circumstances are permitted to file a petition with the college. Petition forms are available in the Office of the Dean. All petitions must be written, must be addressed to the dean, and must be filed in a timely fashion. Students will be notified in writing from the Dean's Office regarding a decision with a copy to the student's academic advisor.

Application Procedures for Student Teaching/ Internships/Externships

1. Read the qualifications for student teaching, internship, and externship and the conditions for assignment.
2. Complete the Application for Student Teaching/Internship/Externship with the advisor. Complete the Personal Data Form. Return these forms to the Office of Field Services.
3. Discuss questions concerning assignments, if necessary, with the director, Office of Field Services.

Conditions for Assignment

1. All qualifications must be met prior to the start of the student teaching, internship, and externship.
2. Applicants must have verification of a negative tuberculin skin test prior to receiving an assignment.
3. Students are responsible for their own travel and housing arrangements. Every attempt is made to place students within a 50-mile radius of Clarion.

4. Students will follow the school district/agency calendar, including in-service days, breaks, and holidays.
5. Applicants will not be assigned to school districts they previously attended as elementary and secondary pupils and those where relatives work and attend school.
6. Applicants will not be assigned to their home communities.
7. Assignments will be for a full day, five days per week, for a full semester.
8. Tentative assignments for summer and fall will be announced during April; assignments for spring will be made prior to Thanksgiving break. Applicants may secure housing in the community where they are assigned.
9. Applicants will be assigned to selected sites and cooperating professionals by the Office of Field Services.
10. Applicants will not be permitted to enroll in courses, except designated seminars, during this professional semester; this field experience is a full-time professional responsibility. A petition to take other courses during this semester must be approved by the Dean's Office.
11. Applicants will report any changes in status or plans to the director, Office of Field Services, whenever they occur.

Education

Department of Education, Kathleen Smith, Ph.D., Chair

Professors: J. Smith, K. Smith, Tate, Walker; **Associate Professors:** Brown, Grejda, McKee, McLaughlin, Payne, Sayre, Stalker; **Assistant Professors:** Caropreso, Couch, Creany, DeLuca, Elmore, B. Grugel; **Instructor:** McCullough

The Education Department offers baccalaureate programs leading to certification in elementary education (K-6), early childhood education (N-3), and dual certification in elementary/early childhood, elementary/special education, elementary/library science, early childhood/special education, and elementary/environmental education. Dual certifications require additional semesters of course work. The department also offers 13 secondary certification programs (7-12).

Each program of study is composed of a common core of courses applicable to all certification areas, corresponding program of applicable general education courses, and a sequence of professional courses, including field experiences, specific to the certification area.

The Education Department also offers a graduate program leading to a master's degree in elementary education or reading education (K-12).

Elementary Education

Teacher candidates pursue an academic program that includes general education courses, professional education courses, and a concentration—a program of 128 credit hours. Candidates complete the general education studies requirements of 48 credits distributed among the following: modes of communication (12 credits); natural sciences and mathematics (9 credits); social studies (9 credits); humanities (9 credits); and personal development and life skills (9 credits). They complete 59 credit hours in professional education studies that include a carefully planned sequence of courses and field experiences that prepare them for effective teaching of specific subject matter content curriculum in the elementary classroom. The teacher candidates must also complete a concentration—15 credits in a related field, six of which are at the 300 level or above. In addition, candidates can pursue individual academic interests through six credit hours of general electives.

Program Requirements

General Education

The elementary major should fulfill the general education distribution requirements noted on pages 65-66.

Professional Competencies

General education courses may be used to meet the following content competencies required for certification in Pennsylvania: American history, arts, biological sciences, earth science, economics, literature/language, mathematics, physical science chemistry, physical science physics, speech, and world geography.

PROFESSIONAL EDUCATION COURSES

59 Credits

The following courses are required of all elementary majors:

ART	190 Teaching Art in the Elementary Grades	3
	(or advisor approved art course)	
ED	110 Introduction to Education.....	3
ED	121 Human Development and Learning	3
ED	217 Microcomputer Applications in the Classroom.....	3
ED	225 Multicultural Mutation.....	3
ED	327 Instructional Strategies and Management	3
ED	329 Educational Evaluation	3
ED	418 Exceptionalities in the Regular Classroom	3
ELED	323 Teaching of Reading	3
ELED	324 Teaching of Elementary School Mathematics.....	3
ELED	325 Teaching of Elementary School Social Studies	3
ELED	326 Reading Problems in the Elementary School.....	3
ELED	330 Language Arts in the Elementary Schwa.....	3
ELED	331 Children's Literature	2
ELED	424 Elementary Student Teaching	6
ELED	425 Elementary Student Teaching	6
HPE	323 Modern Curriculum and Methods in Elementary Physical Education	1
MUS	234 Basic Music Methods for Elementary Teachers.....	2
SCED	322 Teaching of Elementary Science	3

NOTE: Students electing dual certification are required to take six semester hours of ELED 424: Elementary Student Teaching and six semester hours of student teaching in the other area of certification.

Academic Concentrations for Elementary Majors

Concentration—15 credits

Elementary majors must complete and approve concentration of courses selected from the humanities, the natural sciences, the social sciences, mathematics/computer science, early childhood, special education, health, or any other advisor approved concentration.

Early Childhood Education

The Early Childhood Education Program provides teacher candidates with multiple opportunities to gain the knowledge, skills, and attitudes necessary to become effective decision makers in a multicultural society. In a sequential format, early childhood teacher candidates are inducted into the early childhood education core with an introduction to the foundations of education along with an introduction to human development and learning. This knowledge is next supported by study and experiences in multicultural education and microcomputer technology. Subsequently, teacher candidates proceed with a series of pre-methods courses, emphasizing art, music, physical education, reading, mathematics, literature, and instructional strategies and management. Additionally, a sequence

of field experiences is initiated in the first semester of the early childhood program with the requirement that teacher candidates observe young children and early education programs firsthand at the Earl R. Siler Children's Learning Complex on the Clarion University campus.

Program Requirements

General Education

To qualify for graduation, each student must satisfy the general distribution requirements noted on pages 65-66.

Professional Education

The following courses are required of all early childhood education majors:

		s.h.
ECH	231 Creative Activities in Art, Music, and Movement	3
ECH	235 Classroom Observation and Participation	3
ECH	333 Developmental Programs for Infants and Toddlers	3
ECH	336 Developmental Program for Preprimary Children	3
ECH	401 Creative Response to Conflict	3
ECH	420 Incidental Learning	3
ECH	424 Early Childhood Student Teaching	12
ECH	425 Early Childhood Student Teaching	12
ED	110 Introduction to Education	3
	121 Human Development and Learning	3
ED	217 Microcomputer Applications in the Classroom	3
ED	225 Multicultural Education	3
ED	327 Instructional Strategies and Management	3
ED	329 Educational Evaluation	3
ED	418 Exceptionalities in the Regular Classroom	3
ELED	323 Teaching of Reading	3
ELED	324 Teaching of Elementary School Mathematics	3
ELED	325 Teaching of Elementary School Social Studies	3
ELED	326 Reading Problems in Elementary School	3
ELED	330 Language Arts in the Elementary School	3
ELED	331 Children's Literature	2
HPE	410 Psychomotor Development in Early Childhood	3
SCED	322 Teaching of Elementary Science	3

In addition, early childhood majors must take six credits of electives approved by the advisor.

Environmental Education

Sponsored by an interdisciplinary committee comprised of faculty from the Departments of Biology, Chemistry, Education, and Geography and Earth Science, the certification in environmental education prepares teacher-educators to develop and implement in-school and outdoor education about the environment programs at both elementary and secondary levels. The environmental education program is for non-degree certification only. It may be combined as a dual certification with one of the following areas: biology, earth and space science, elementary education, chemistry, or general science. The total semester hours needed to complete a dual certification program varies. Graduate students in some areas may also complete, concurrent with their master's program, the certification program by selecting appropriate courses by advisement. Application for admission to the program is through the dean, College of Education and Human Services. The required courses in the non-degree, certification only, program are as follows:

Required courses:

EDUCATION		s.h.
ED	110 Introduction to Education.....	3
	122 Educationd Psychology	3
ED	225 Multicultural Education.....	3
ED	327 Instructional Strategies md Management	3
ED	329 Educational Evaluation	3
ED	333 Teaching Reading in the Secondary Content Areas	3
ED	418 Exceptionalities in the Regular Classroom	3

SCIENCE FOUNDATIONS

BIOL	153 Introductory Animal Biology	4
BIOL	154 Introductory Plant Biology	4
CHEM	153 General I.....	3
CHEM	163 General Chemistry Laboratory I	1
CHEM	154 General Chemistry II.....	3
CHEM	164 General Chemistry Laboratory II	1
PH	251 General Physics I.....	4
PH	252 General Physics II.....	4
ES	150 Physical Geology With Laboratory	4
ES	280 Meteorology	3

EDUCATION ABOUT THE ENVIRONMENT SPECIALIZATION

GEOG	115 Conservation of Naatral Resoures.....	3
ES	2 60 Environmental Geology	3
ES	270 Oceanography.....	3
BIOL	202 Principles of Ecology.....	3
SCED/ BIOL/ES	476/576 Science, Technology, and Society	3

PROFESSIONAL CORE

ED	403 Field Experience and Methods in Environmental Education	3
XX	xxx Student Teaching	6
ED	426 Environmental Education Student Teaching	6

Health and Physical Education

Department of Health and Physical Education, Albert A. Jacks, Jr., M.Ed., Chair

Professors: Bubbs, Taylor; **Associate Professors:** Baschnagel, Carlson, Jacks, D. Leas, R. Leas, Leonard, Pae, Sobolewski, Truitt-Bean; **Assistant Professors:** Davis, English, Latimore

Through its general education courses and intramural program, the department provides students with extensive opportunities to develop sound health habits and life-long skills in a variety of sports and other physical activities. Although the department does not offer any programs leading to the bachelor's degree, it does offer an Elementary Health Emphasis Program for elementary education majors and an Athletic Coaching Program.

ACTIVITY AND RECREATION COURSES

HPE	121 Walking for Fitness	1
HPE	125 Introduction to Bicycling	1
HPE	131 Beginning Swimming	1
HPE	135 Aqua-Aerobics	1
HPE	141 Badminton	1
HPE	142 Bowling	1
HPE	143 Golf	1
HPE	144 Racquetball (men's roles).....	1
HPE	145 Racquetball (women's roles).....	1
HPE	147 Beginning Tennis	1
HPE	150 Coming.....	1

HPE	161	Basketball (men's roles).....	1
HPE	162	Basketball (women's roles).....	1
HPE	163	Volleyball (men's roles).....	1
HPE	164	Volleyball (women's roles).....	1
HPE	181	Adapted Physical Education	1
HPE	185	Physical Fitness and Conditioning	1
HPE	186	Physical Fitness Through Weight Lifting	1
HPE	191	Camping and Outdoor Recreation	2
HPE	230	Basic Water Safety—Emergency Water Safety	1
HPE	231	Intermediate Swimming	1
HPE	233	Springboard Diving	1
HPE	247	Intermediate Tennis	1
HPE	330	Lifeguard Training	1

ELECTIVE

HPE	370	Women in Sports	
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HEALTH AND FIRST AID COURSES

HPE	111	Health Education	2
HPE	235	Introduction to Elementary Health Concepts and Emotion.....	3
HPE	314	Cardiopulmonary Resuscitation	1
HPE	317	First Aid and Safety	2
HPE	333	Fitness for Wellness	3
HPE	334	Food, Fitness, and Weight Management.....	3
HPE	335	The Elementary Health Curriculum	3

ELEMENTARY MAJOR COURSES

HPE	223	Physical Education for Elementary Major.....	1
HPE	323	Modern Curriculum and Methods in Elementary Physical Education	1
HPE	410	Psychomotor Development in Early Childhood Rationale and Integrated Activities	3

Elementary Health Emphasis Program

This program is one of the emphasis options within the professional studies for elementary majors. This is a 16 credit program consisting of seven courses of study. These courses of study will center upon contemporary elementary health issues and curriculum.

HPE	235	Introduction to Elementary Health	3
HPE	314	Cardiopulmonary Resuscitation	1
HPE	317	First Aid and Safety	2
HPE	333	Fitness for Wellness	3
HPE	334	Food, Fitness, and Weight Management	3
HPE	335	Elementary Health Curriculum	3
HPE	415	HIV/AIDS Education	3

Athletic Coaching Program (12 semester hours)

The Athletic Coaching Program* is established for those who intend to coach in inter-school athletic programs but do not have a degree in physical education. Students who complete the Athletic Coaching Program successfully are issued a letter of verification.

The program is designed for all students. Non-education majors have found the program to be an excellent alternative to their areas of concentration. Any student with an interest in any related future field in fitness, athletics, health, physiology, health clubs, and equipment will find the program an additional dimension to their undergraduate major.

The minimum requirement for this program is 12 credit hours. The following 13 credits are required coaching courses:

HPE	314	Cardiopulmonary Resuscitation	1
HPE	407	Physiological Foundations of Coaching	3
HPE	408	Principles and Problems of Athletic Coaching	3
HPE	409	Kinesiological Foundations of Coaching	3
HPE	317	First Aid and Safety	2

*Not a public school certification field.

Six credits are offered in the theory and techniques of coaching baseball, basketball, and football. These courses are not required as part of the coaching program.

HPE	351 Theory and Technique of Coaching Basketball	2
HPE	352 Theory and Technique of Coaching Baseball	2
HPE	354 Theory and Technique of Coaching Football	2

Active Military Service

The university grants a maximum of four credits in HPE for active military service of six months or more with honorable discharge or continued reserve status. Credit is normally given for HPE 111 (two credits) and two HPE activity courses of one credit each. To assure that the credit is granted, students should bring an honorable discharge document to the Office of the Registrar, 122 Carrier.

Library Science

Information of certification as a school librarian in Pennsylvania is included under Library Science. See page 100.

Music Education

The curriculum for majors in music education at Clarion, leading to the Bachelor of Science in Education degree in music education, combines a broad requirement in general education with advanced study in theory, history and literature of music, applied music, specialized courses in music education, and participation in performing organizations. The emphasis of the program is two-fold.

- A. **Musicianship: The** achievement of significant musical understanding and ability.
- B. **Teaching Ability: The** development of skills and techniques necessary for the effective communication of music understanding and ability to others.

The purpose of this program is to prepare prospective public school teachers specializing in music education, with certification in all of the following areas:

- A. Elementary music education, from kindergarten through the sixth grade, vocal and instrumental.
- B. Junior high school music programs, including general music, instrumental and vocal classes.
- C. Secondary school music programs, including all vocal and instrumental activities, general music, and elective academic courses.

Program Requirements

General Education

The general education distribution for all students in the college is presented on pages 65-66. Teacher education selection and retention standards are listed on pages 104-106.

Professional Education

		s. h.
	110 Intro. to Education	3
ED	122 Educational Psychology	3
ED	418 Exceptionalities in the Regular Classroom	3
MUS	333 Elementary Music Methods	3
MUS	334 Junior High and Secondary Music Methods	3
MUS	362 Instrumental Method	2
MUS	363 Vocal Methods	2
ED	432 Student Teaching in Music	12
	TOTAL	31

A.REA OF SPECIALIZATION

Mu s	135	Thory of Music I	.....4
Mu s	136	Theory of Music II	.....4
Mu s	235	Theory of Music III	.....4
Mu s	236	Theory of Music IV	.....4
Mu s	151	History and Literature of Music I	.....3
Mu s	152	History and Literature of Music II	.....3
Mu s	251	History and Literature of Music III	.....3
M	252	History and Literature of Music IV	.....3
Mu s	365	Conducting I	.....2
u s	366	Conducting II	.....2
Mu s	367	Orchestration	.....2

KEYBOARD AND VOICE PROFICIENCY

PIANO (required of all but piano majors*)			
MUS	160	Piano Class I	.....1
MUS	161	Piano Class II	.....1
MUS	171	Rho	.....1
VOICE (required of all but voice majors*)			
MUS	162	Voice Class I	.....1
MUS	163	Voice Class II	.....1

*Students whose applied area is voice or piano will substitute an approved music elective (three credits).

PIANO COMPETENCY TEST

The Piano Competency Test is required of all music education majors in order to qualify for student teaching. Students are expected to complete the requirements and take the competency test by the end of the sophomore year in order to qualify for the admission into the teacher certification program and also to pursue the student teaching experience.

INSTRUMENTAL TECHNIQUES Minimum of five

One course for each family of instruments is required.			
	280	Instrumental Techniques I: Violin, Viola	.....1 s.h.
MUS	281	Instrumental Techniques II: Cello, String Bass	.....1 s.h.
MUS	284	Instrumental Techniques V: Trumpet, French Horn	.....1 s.h.
MUS	285	Instrumental Techniques VI: Trombone, Baritone Horn, Tuba	.....1 s.h.
MUS	286	Instrumental Techniques VII: Percussion	.....1 s.h.
MUS	287	Instrumental Techniques III: Flute, Oboe, Bassoon	.....1 s.h.
MUS	288	Instrumental Techniques IV: Clarinet, Saxophone	.....1 s.h.

APPLIED FIELD OF PERFORMANCE7.
(MUS 164, 165, 166, 167, 168, 169, 170,171, 172, 173)

PERFORMING ORGANIZATIONS

Seven semesters of participation is required. Optional one credit per semester may be counted toward graduation. No more than eight credits can be counted toward graduation requirements.
Total credits in specialization sequence51 -52

ATTENDANCE AT RECITALS

Students pursuing degree programs are required to attend the biweekly student recital series for seven to eight semesters as an extension of their Curricular and performance activities. Election of MUS 300, Section 01, satisfies this requirement. All students are strongly encouraged to perform.

JUNIOR/SENIOR RECITAL

For students in the B.S. in Education degree in music education program, a junior or senior recital is optional. Students wishing to perform a junior or senior recital must audition in the Spring Semester preceding the academic year in which the recital is to be scheduled. Students who successfully complete the audition process should elect MUS 300, Sections 01 and either Section 02 for a junior recital or Section 03 for a senior recital. Must be enrolled in applied music each semester.

APPLIED MUSIC CREDITS

All matriculated music majors must elect applied music credits on instrument/voice each semester in residence. For more information see Music Department chair.

Typical Program in Music Education

Sample four-year curriculum for students whose field of performance is instrumental. The curriculum for students whose field of performance is piano or voice is similar. MUS 300, Section 1—*Recitals* should be elected for each semester.

1ST SEMESTER: 17 or 18 s.h.

	Gen. Ed. requirements		MUS 135 Theory of Music I.....	4
	or electives	9	applied music.....	1
		9	MUS 160 *Piano Class I.....	1
			*Voice Class I	1
			**inst. tech.....	1
			***performing org	0-1
			MUS 300:01 Recitals	0
				8-9

2ND SEMESTER: 18 s.h.

	Gen. Ed. requirements		MUS 136 Theory of Music II.....	4
	or electives	9	applied music.....	1
HPE	physical education	1	MUS 161 *Piano Class II	1
		10	*Voice Class II	1
			**inst. tech.....	1
			***performing org.....	0
			MUS 300:01 Recitals	0
				8

3RD SEMESTER: 17 or 18 s.h.

	Gen. Ed. requirements		MUS 235 Theory of Music III	4
	or electives	6	MUS 151 His. and Lit. Mus.I.....	3
HPE	physical education	1	applied music.....	1
		7	*piano.....	1
			**inst. tech.....	1
			***performing org.....	0-1
			MUS 300:01 Recitals	0
				10-11

4TH SEMESTER: 17 or 18 s.h.

	Gen. Ed. requirements		MUS 236 Theory of Music IV	4
	or electives	3	MUS 152 His. and Lit. Mus.II.....	3
ED 110	Intro. to Education	3	applied music.....	1
HPE	health education	2	**s. tech.....	1
		8	***performing org.....	f)-1
			MUS 300:01 Recitals	0
				9-10

5TH SEMESTER: 17 or 18 s.h.

	Gen. Ed. requirements		MUS 251 His. and Lit. Mus.III.....	3
	or electives	2	MUS 365 Conducting I.....	2
ED 122	Educational Psy	3	applied music.....	1
MUS 333	Elem. Mus. Methods.....	3	**inst. tech.....	1
MUS 363	Vocal Methods.....	2	***performing org.....	0-1
		10	MUS 300:01 Recitals	0
				8

6TH SEMESTER: 17 or 18 s.h.

	Gen. Ed. requirements		MUS 252 His. & Lit. of Mus.IV	3
	or electives	3	MUS 366 Conducting II.....	2
ED 418	Except. in Reg. Clsrm.....	3	applied music.....	1
MUS 334	Jr. High and Sec. Methods	3	***performing org.....	0-1
			MUS 300:01 Recitals '	0
MUS 362	Inst. Methods	2		7

7TH SEMESTER (or 8TH): 15 or 16 s.h.

	Gen. Ed. requirements		MUS 367 Orchestration	2
	or electives	12	applied music.....	1
		12	***performing org.....	0-1
			MUS 300:01 Recitals	0
				3-4

8TH SEMESTER (or 7TH): 12 s.h.

ED 432	Student Teaching	12
		12

TOTAL CREDITS REQUIRED FOR GRADUATION: 130-131

*Students whose applied field of performance is voice or piano will substitute an approved music elective.

Five out of seven **instrumental techniques (MUS 280-288) are the minimum requirement. Each family of instruments must be represented in the selection of instrumental techniques.

*****Participation is required**; however, a student may elect a performing organization for one credit or no credit. No more than eight credits can be counted toward the graduation requirement.

Nursing

Information of certification as a school nurse in Pennsylvania is included under the School of Nursing (see page 143.)

Secondary Education

Baccalaureate programs leading to certification in secondary education (7-12) are available in biology, chemistry, communication arts, earth and space science, English, French, general science, German, mathematics, physics, social studies, and Spanish. Each program is designed to provide students with a thorough foundation in the teaching specialty and with the professional skills needed to work effectively with adolescents in a variety of learning environments.

Program Requirements

General Education

Secondary education students fulfill the general education requirements by following the distribution noted on pages 65-66. However, within certain majors there may be slight deviations from the pattern presented and secondary students should check with the departmental office of the discipline in which they are majoring to ascertain any variations.

Professional Education Requirements

ED	110 Introduction to Mutation.....	3
ED	122 Educational Psychology	3
ED	217 Microcomputer Applications in the Classroom.....	3
ED	225 Multicultural Education	3
ED	327 Instructional Strategies and Management	3
ED	329 Educational Evaluation	3
ED	333 Teaching Reading in the Secondary Content Areas.....	3
ED	418 Exceptionalities in the Regular Classroom	3
ED	xxx Methods in.....	3
ED	424 Secondary Student Teaching	6
ED	425 Secondary Student Teaching	6

Secondary Certification Specialization

Secondary education majors may choose areas of specialization from the following programs. Curriculum requirements are noted for each area of specialization. A grade of "C" or better is required for each course in the major area of specialization.

Biology (50 semester hours)**Required**

			c.h.	s.h.
BIOL	153	Introductory Animal Biology	6	4
BIOL	154	Introductory Plant Biology	4	4
BIOL	201	Genetics	5	3
BIOL	202	Principles of Ecology	5	3
BIOL	203	Cell Biology	5	
BIOL	476	Science, Technology, and Society	3	3
CHEM	153	General Chemistry I	6	4
CHEM	154	General Chemistry II	6	4
CHEM	254	Introductory Organic Chemistry	6	4
ED	332	Biomethods.....	3	3
MATH	171	precalculus	4	4
	251	General Physics I.....	6	4
PH	252	General Physics II.....	6	4

Electives (four required)

Courses taken as biology electives will be approved by the student's advisor prior to registration.

In meeting general education requirements (see pages 65-66), the distribution in natural sciences and mathematics may be met with supplemental courses from the field of specialization. Students should note that no more than one non-laboratory elective may be included in credits for the biology specialization. Proficiency in earth science is also required.

Chemistry (41 semester hours)**Required**

			c.h.	s.h.
CHEM	151	Chemical Principles I	4	4
CHEM	161	Chemical Principles Lab I.....	3	1
CHEM	152	Chemical Principles II.....	4	4
CHEM	162	Chemical Principles Lab II	3	1
CHEM	251	Organic Chemistry	3	3
CHEM	261	Organic Chemistry Lab II	3	1
CHEM	252	organic Chemistry II	3	3
CHEM	257	Organic Spectroscopy	3	2
CHEM	262	Organic Chemistry Lab II	3	1
CHEM	211	Science and Society	3	3
CHEM	270	Chemical Information	1	1
CHEM	351	Introduction to Analytical Chemistry	3	3
CHEM	354	Physical Chemistry I.....	4	4
CHEM	361	Introduction to Analytical Chemistry Laboratory	3	1
CHEM	453	Biochemistry	3	3
		Electives numbered 300 or above		6

*These laboratories must be taken concurrently with the lecture course.

Electives (two required)

Electives must be selected from the following: CHEM 355,356,357,359,456, 459,465,466,470, and 485.

Additional Requirements

MATH	270	Calculus with Analytic Geometry I	4	4
MATH	271	Calculus with Analytic Geometry II.....	4	4
		AND EITHER		
PH	251	General Physics I	6	4
PH	252	General Physics II.....	6	4
		OR		
PH	258	Introductory Physics Lecture I.....	5	4
PH	268	Introductory Physics Laboratory I	3	
PH	259	Introductory Physics Lecture II	5	4
PH	269	Introductory Physics Laboratory II.....	3	1

Students who have taken CHEM 153 and 154 may be permitted, upon consideration of their performance, to substitute these courses for CHEM 151 and 152. A total of 30 semester hours in chemistry must be taken. Competency in biology and earth science also required.

Communication Arts (57 semester hours)

The Communication Arts Program prepares prospective teachers of communication-related subjects. It is designed to equip the teacher with the ability to help students make meaning out of their experience through the uses of language and all those behaviors, verbal and nonverbal, associated with the uses of language. Candidates may develop a program that meets their special needs and interests as potential teachers of English, speech, drama, and other communication subjects. Successful completion of the program leads to the communication certification.

Required (18 credits)

ENG	200 Composition and Literature
ENG	263 English Grammars and English Usage
ENG	370 Literature for Young Adults
ENG	482 Composition: Theory and Practice
SCT	155 Interpretation I
SCT	200 Interpersonal Communication Theory and Processes
SCT	213 Advanced Public Speaking
SCT	253 Introduction to the Theatre
SCT	264 Discussion
SCT	352 Play Directing

Additional requirements: English (21 credits) and Communication (six credits). Above courses to be approved by student's advisor prior to **registration**.

Earth Science (49 semester hours)

Required

		c.h.	s.h.
ES	150 Physical Geology With Laboratory	4	4
ES	200 Solar System Astronomy	3	3
ES	250 Historical Geology With Laboratory	4	4
ES	270 Oceanography	3	3
	280 Meteorology	3	3
ES	410 The Earth Sciences: A Synthesis	3	3
ES	476 Science, Technology, and Society	3	3

Plus 10 additional credits in one of two specializations: Geology or **Planetarium Management**.

And 16 credits of supplemental courses:	
CHEM	154/164 General Chemistry H
PH	252 General Physics 11
BIOL	153 Intro Animal Biology
	OR
BIOL	154 Intro Plant Biology

Plus 4 credits from CHEM Pi-1 or BIOL

Courses taken as earth and space electives will be approved by the student's advisor prior to registration.

In satisfying the general education distribution, page 65-66, it is required that earth and space science majors schedule MATH 260.

English (45 semester hours)

Required

		c.h.	s.h.
ENG	200 Composition and Literature	3	3
	OR		
ENG	207 Research Methodology and Writing	3	3

ENG	482	Composition: Theory and Practice	3	3
ENG	262	Introduction to the English Language.....	3	3
ENG	263	English Grammars and English Usage	3	
ENG	221	English Literature : Beginning 1800.....	3	3
ENG	222	English Literature : 1800 to the Present.....	3	3
ENG	225	American Literature : Beginning to 1800.....	3	
ENG	226	American Literature : 1800 to the Present	3	3
ENG	227	World Literature: Backgrounds and Traditions	3	3
		OR		
ENG	228	Modern and Contemporary World Literature	3	3
ENG	370	Literature for Young Adults.....	3	3

Electives (15 credit hours)

Suggested writing electives (select one).....	3	3
ENG 200/207, ENG 202, ENG 301, ENG 303, ENG 304, ENG 306, ENG 307		
Suggested language electives (select one).....	3	3
ENG 353, ENG 457, ENG 458, ENG 459		
Literature electives (nine hours must be taken on the 300/400 course levels)	9	9
Non-print media competency is required.		

French (44 semester hours)

Required

		c.h.	s.h.
ANTH	211 Anthropology	3	3
ENG	457 Introduction to Linguistics	3	3
FR	225 Intro. to French Phonetics and Renunciation.....	3	3
*FR	250 Intensive Intermediate French (111 and IV).....	6	6
	OR		
**FR	251 Intermediate French I.....	3	3
**FR	252 Intermediate French II.....	3	3
FR	255 French Civilization I	3	3
FR	256 French Civilization II.....	3	3
	260 The French Short Story.....	3	3
FR	265 Intermediate Conversation	3	3
FR	351 Advanced Grammar and Composition.....	3	3
FR	354 Development of the French Novel.....	3	3

Electives: 11 credits to be approved by advisor.

**As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in (his situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.*

****May be omitted upon demonstration of proficiency at second Year level.**

A minimum of six s.h. must be taken in courses numbered 352 or above.

Students participating in foreign study programs must complete at least six hours of French literature at Clarion, regardless of the number of credits earned abroad.

General Science (43 semester hours)

A program specifically designed to prepare students to teach science at the junior high or middle school level. General science majors are not prepared to teach specialized high school courses such as biology, chemistry, physics, or earth science. Likewise, biology, chemistry, or physics majors are not prepared to teach general science unless their college program is broadened to include all of the required science courses of the general science curriculum. Students who desire to teach only specialized courses should major in the specific subject area.

Required

		c.h.	s.h.
BIOL	153 Introductory Animal Biology	6	4
BIOL	154 Introductory Plant Biology	4	4
BIOL	202 Principles of Ecology	5	3
BIOL/ES	476 Science, Technology and Society.....	3	
CHEM	153 General Chemistry I.....	6	3
CHEM	163 General Chemistry Laboratory I.....	3	
CHEM	154 General Chemistry II.....	6	3
CHEM	164 General Chemistry Laboratory II.....	3	
CHEM	211 Science and Society	3	
PH	251 General Physics I.....	6	4
PH	252 General Physics II.....	6	4
ES	150 Physical Geology With Laboratory	4	4
ES	200 Solar System Astronomy	3	
ES	270 Oceanography	3	3
ES	280 Meteorology	3	3

Proficiency in precalculus (MATH 171) and statistics (MATH 221) is required.

Majors in general science should not include BIOL 111, MATH 112, PHSC 111 and 112, and ES 11 I in their general education programs (see pages 65-66).

Requirements also include successful completion of SCED 460: Science Curriculum in the Middle and Junior High School.

Since general science is an interdisciplinary major, students must maintain a quality-point average of 2.00 in each of the following fields: physics, chemistry, biology, and earth science.

A biology, chemistry, physics, or earth science major will be recommended for an Instructional I certificate in general science only upon satisfactory completion of all basic courses in the general science curriculum.

German (44 semester hours)**Required**

		c.h.	s.h.
ANTH	211 Anthropology	3	3
ENG	457 Introduction to Linguistics	3	3
GER	225 Introduction to German Phonetics and Pronunciation	3	3
*GER	250 Intensive Intermediate German (111 and IV)	6	6
	OR		
**GER	251 Intermediate German I	3	3
**GER	252 Intermediate German II.....	3	3
GER	255 Germanic Civilization I.....	3	3
GER	256 Germanic Civilization II.....	3	3
GER	351 Advanced Grammar and Composition	3	3
GER	352 Survey of German Literature Through the Classical Age.....	3	
GER	353 The Modern German Drama	3	3
GER	358 Classical German Literature: Goethe, Schiller and Lessing	3	3

Electives: 11 credits to be approved by advisor.

**As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.*

***May be omitted upon demonstration of proficiency at Second year level.*

A minimum of six s.h. must be taken in courses numbered 352 or above.

Students participating in foreign study programs must complete at least six hours of German literature at Clarion, regardless of the number of credits earned abroad.

Mathematics (34 semester hours)

Required

			c.h.	s.h.
MATH	270	Calculus with Analytic Geometry I.....	4	4
MATH	271	Calculus with Analytic Geometry II.....	4	4
MATH	272	Calculus with Analytic Geometry III.....	4	4
MATH	300	An Introduction to Advanced Mathematics.....	3	3
MATH	321	Intermediate Applied Statistics I.....	3	3
MATH	340	Discrete Mathematical Structures.....	3	3
MATH	357	Modern Geometry.....	3	3
MATH	370	Introduction to Linear Algebra.....	3	3
MATH	451	Modern Algebra I.....	3	3
MATH	49-	Seminar.....	1	1
		Electives (300 level or above).....	3	3

Electives (three credits)

Courses taken as mathematics electives will be approved by the student's advisor prior to registration.

Majors should select PH 258 and/or CHEM 151 or 153 instead of basic PHSC 111-112. PHSC 111-112 do not count toward graduation.

Concurrent certification in physics is possible with the election of PH 258, 268, 259, 269, 351, 352, 353, 354 and 370-I and 370-II or 455. Students admitted into both programs should substitute ED 335 for 339.

Physics (34 semester hours)

Required

			c.h.	s.h.
PH	258	Introductory Physics Lecture I.....	5	4
PH	268	Introductory Physics Laboratory I.....	3	1
PH	259	Introductory Physics Lecture II.....	5	4
PH	269	Introductory Physics Laboratory II.....	3	3
PH	351	Mechanics: Dynamics.....	3	3
PH	352	Electricity and Magnetism.....	3	3
PH	353	Modern Physics I.....	3	3
PH	354	Optics.....	3	3
PH	355	Modern Physics II.....	3	3
PH	356	Thermodynamics.....	3	3
PH	371	Experimental Physics I.....	4	3
PH	455	Analog Electronics.....	5	3
		OR		
PH	456	Digital Electronics.....	5	3

Proficiencies in Other Related Areas

MATH	270	Calculus With Analytic Geometry I
MATH	271	Calculus With Analytic Geometry II
MATH	272	Calculus With Analytic Geometry III
MATH	350	Ordinary Differential Equations
CHEM	153	General Chemistry I
CHEM	163	General Chemistry Laboratory I
CHEM	154	General Chemistry II
CHEM	164	General Chemistry Laboratory II
BIOL	111	or other approved biology course
ES	150	Physical Geology With Laboratory

Social Studies (45 semester hours)

Social Studies Specialization

Selection must include courses in all seven of the following fields: anthropology, economics, geography, history, political science, psychology, and sociology.

Required Components

		c.h.	s.h.
American Cultures.....		6	6
Behavioral Sciences and American Government			
PSY 211 General Psychology.....		3	3
SOC 211 Principles of Sociology.....		3	3

ANTH 211 Anthropology.....	3
PS 211 American Government.....	3
Economics (except 221 or 222).....	3
World Cultures.....	6

Discipline Concentration

Students must choose 18 hours of course work in one area: anthropology, economics, geography, history, political science, or sociology. Specific course listings may be located under the respective department. No 100 level courses may be used to fulfill this requirement. Nine of the 18 credits must be at the 300 and/or 400 level. With authorization of the social studies coordinator, students can develop a behavioral science concentration.

ANTHROPOLOGY

ANTH 213,214,215,250,251, 253,354,356,357,358, 359,361,362,400,401, 402.

ECONOMICS

ECON 310, 311,312, 340,341, 351,361, 370,371,410,423,470, 490.

GEOGRAPHY

GEOG 225,250,252,257,258, 260,265,300,325,345, 385,400,450.

HISTORY

HIST 215,216,230,254, 255,260,275,277,286, 300,315,320,330,345, 350,351,352,353,354, 357,358, 359,360,361,362,363, 366,370,378, 380,398,410,420.

POLITICAL SCIENCE

PS 210,351,352,354,355, 358,365,366, 375,451.

PSYCHOLOGY

PSY 225, 230,251,260,331,340, 350, 354,360,452,454,455, 456,458,459,464.

SOCIOLOGY

SOC 300,310,321,340,351, 352,353,361,362,363, 370,380,395,400,452, 499; SW311,312.

Spanish (44 semester hours)

Required

			c.h.	s.h.
ANTH	211	Anthropology.....	3	
ENG	457	Introduction to Linguistics.....	3	3
SPAN	225	Introduction to Spanish Phonetics and Pronunciation.....	3	3
*SPAN	250	Intensive Intermediate Spanish (III and IV).....	6	6
		OR		
*SPAN	251	Intermediate Spanish I.....	3	3
*SPAN	252	Intermediate Spanish II.....	3	3
SPAN	255	Hispanic Civilization I.....	3	3
SPAN	256	Hispanic Civilization II.....	3	3
SPAN	265	Intermediate Conversation.....	3	3
SPAN	351	Advanced Grammar and Composition.....	3	3
SPAN	352	Introduction to Spanish Literature.....	3	3
SPAN	360	Readings in Spanish-American Literature from Pre-Colonial/Romantic Period.....	3	3

Electives: 11 credits to be approved by advisor.

**As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.*

***May be omitted upon demonstration of proficiency at second Year level.*

A minimum of six s.h. must be taken in courses numbered 352 or above.

Students participating in foreign study programs must complete at least six hours of Spanish or Spanish-American literature at Clarion, regardless of the number of credits earned abroad.

Special Education and Rehabilitative Sciences

Department of Special Education and Rehabilitative Sciences,
Bryan W. Huwar, Ph.D., Chair

Professor: Huwar; **Associate Professors:** Dunkle, Feroz, Gurecka, Krouse, Mainzer; **Assistant Professors:** Davis, Gent, Sabousky, Wolf

B.S. Degree in Special Education

Special education students who graduate from Clarion University of Pennsylvania receive certification to teach mentally and/or physically handicapped students in elementary and secondary schools. This encompasses children who may be emotionally disturbed, learning disabled, brain injured, physically handicapped, and all levels of mental retardation.

The special education program has identified specific professional competencies regarded as essential for performance as a diagnostic prescriptive teacher of children who have special needs.

Human relations skills training is presented through a series of sensitizing exercises which focus upon fundamental social interactions among teachers, students, administrators, and parents. These crucial teaching attitudes and behavioral skills are deliberately planned instead of assuming that they will happen by chance.

Training in the clinical skills of diagnosing the learning difficulties of children is conducted with referrals that come to the Special Education Department's psychoeducational clinic for intensive study. Prior to such specialized training students engage in a wide spectrum of field experiences observing and interacting with exceptional children in school program settings.

The special education professional bloc invokes student participation in diverse practicum sites as interns. At these sites, a university supervisor is on hand daily, observing, counseling, advising, and supervising assigned students. A close working relationship between the site personnel and the university faculty member provides for a highly supervised practicum experience. This professional relationship contributes to valuable interacting that serves both the university and professional community in a valuable way.

Student teaching is the culminating field experience conducted during the senior year with joint planning and execution of an instructional program for learners who have special needs ranging from severe to mild learning handicaps. This experience is at times selectively monitored by video cameras which provide important feedback which may be reviewed and analyzed to assess the effectiveness of teaching strategies and styles.

Professional Education and Area of Specialization

ED	110 Introduction to Education.....	3
PSY	260 Developmental Psychology.....	3
ED	122 Educational Psychology.....	3
ELED	323 Teaching of Reading.....	3
ELED	324 Teaching of Elementary School Mathematics.....	3
SPA	457 Developmental Sequences in Language and Speech.....	3
SPED	110 Human Exceptionalities.....	3
SPED	115 Human Relations Skills Training.....	2
SPED	125 Early Field Experiences.....	1
SPED	220 Nature of Mental Retardation.....	3
SPED	230 Social and Emotional Disturbances.....	3
SPED	235 Specific Learning Disabilities.....	3
SPED	240 Neurological Impairments and Physical Disorders.....	3
SPED	320 Educational Assessment.....	3
SPED	345 Secondary, Transitional, and Vocational Services.....	3
SPED	411 Educational Assessment Practicum.....	1
SPED	415 ID and S for ma.....	6
SPED	420 ID and S for Sum.....	6

SPED	425 Behavior Management in Special Education Settings	3
SPED	450 Student Teaching	12
SPED	455 Professional Seminar	2
	RELATED ELECTIVES	11

B.S. Degree in Rehabilitative Sciences

The Rehabilitative Sciences Program is an interdisciplinary program which combines the teaching resources of the biology, health and physical education, nursing, psychology, rehabilitative sciences, and sociology faculties of Clarion University of Pennsylvania. The program prepares students to assume professional human service positions in aging, developmental disabilities, and substance abuse service delivery systems, or continue on in graduate study. Program graduates receive training in characteristics and etiologies of client groups, basic theoretical concepts of disciplines involved in client service delivery, and strategies of client interventions. Rehabilitative science graduates are competent in client assessment procedures, intervention plan development, intervention procedures, client service planning, resource development and procurement, and client plan evaluation. Graduates assume positions such as case managers, residential program managers, day service directors, rehabilitation program specialists, behavior management specialists, and qualified mental retardation professionals (QMRP). Employers of graduates from this program frequently return to seek out additional program graduates.

Students in the Rehabilitative Science Program experience a variety of field experiences throughout their undergraduate training. The culminating field experience consists of a full-time, full semester field experience in a human service agency. This supervised experience provides students with an opportunity to practice professional skills in a supportive professional environment. The final experience provides an opportunity to synthesize academic concepts in practical applications.

Program Requirements

Area of Specialization

I. Rehabilitative Science Core-41 credits

REHB	110	Human Exceptionalities	3
REHB	115	Human Relations Skills Training	2
REHB	125	Early Field Experiences	1
REHB	240	Neurological Impairments and Physical Disorders	3
REHB	460	Models of Human Services Delivery Systems	3
REHB	470	Assessment and Intervention Strategies	3
REHB	475	Administering Rehabilitation Delivery Systems	3
SPED	230	Social and Emotional Disturbances	3
SPED	425	Behavior Management in Special Education Settings	3
PSY	260	Developmental Psychology	3
PSY	354	Abnormal Psychology	3
Sw	311	Principles of Social Work	3
	312	Social Work with Groups	3
HPE	317	First Aid and Safety	2
COOP	377	COOP in Rehabilitative Sciences	3

Concurrent with the completion of the rehabilitative science core, students must complete one of the following options. These options are designed to provide students with opportunities to focus their studies on a particular human service consumer group or prepare for further study at the graduate school level.

A. Developmental Disabilities Concentration

SPA	125	Introduction to Communication Disorders	3
SPED	220	Nature of Mental Retardation	3
HPE	333	Fitness for Fellowship	3
SPED	420	ID and S for S/PMultihandicapped	6
REHB	345	Secondary, Transitional and Voc. Services	3
REHB	495	Field Experience in Rehabilitative Sciences	6
REHB	495	Field Experience in Rehabilitative Sciences	6
		RELATED ELECTIVES	9

B. Gerontology Concentration

BIOL	257	Biology of Aging	3
Soc	353	Sociology of Aging	3
NURS	365	Health Promotion for the Elderly	3
PSY	464	Introduction to Counseling and Psychotherapy	3
PSY	467	Gerontological Psychology	3
REHB	495	Field Experience in Rehabilitative Sciences	6
REHB	495	Field Experience in Rehabilitative Sciences	6
		RELATED ELECTIVES	12

C. Substance Abuse Concentration

PSY	321	Psychology of Adolescence	3
HPE	333	Fitness for Fellness	3
Soc	351	Contemporary Social Problems	3
Soc	361	Sociology of Deviance	3
REHB	405	Substance Abuse	3
REHB	410	Prevention and Treatment Strategies in Substance Abuse	3
REHB	495	Field Experience in Rehabilitative Sciences	6
REHB	495	Field Exp. in Rehab. Sciences	6
		RELATED ELECTIVES	9

D. Open Sequence (27 credits)

Students are required to take nine credit hours from each of three of the following fields: psychology, sociology, mathematics, biology, chemistry, computer science, political science, special education/rehabilitative sciences, speech pathology/audiology, or modern languages.

Special Education and Rehabilitative Sciences Dual Emphasis

Students enrolled in either the special education or rehabilitative sciences curriculum have a unique opportunity to obtain a second degree during the course of their undergraduate study. By extending their study approximately one extra semester and carefully selecting free electives and general education courses, students can obtain degrees in both special education and rehabilitative sciences. This degree permits graduates to become Pennsylvania certified to teach in special education as well as work in community human service agencies. In addition to the general education requirements for all students the following constitutes the required courses for the dual degree.

Area of Specialization**1. Special Education—48 to 54 credits**

REHB	110	Human Exceptionalities	3
REHB	115	Human Relations Skills Training	2
REHB	125	Early Field Experience	1
REHB	240	Neurological Impairments and Physical Disorders	3
SPED	220	Nature of Mental Retardation	3
SPED	230	Social and Emotional Disturbances	3
SPED	235	Specific Learning Disabilities	3
SPED	320	Educational Assessment	4
SPED	345	Secondary, Transitional, and Voc. Services	3
SPED	411	Educational Assessment Practicum	1
SPED	415	ID and S for M/M Handicapped	6
SPED	420	ID and S for S/P Multihandicapped	6
SPED	425	Behavior Management in Spec. Educ. Settings	3
SPED	450	Student Teaching	6
SPED	450	Student Teaching	6
SPED	455	Professional Seminar	3

2. Rehabilitative Sciences—20 credits

REHB	460	Models of Human Services Delivery Systems	3
REHB	470	Assessment and Intervention Strategies	3
REHB	475	Administering Rehabilitation Delivery Systems	3
PSY	260	Developmental Psychology	3
Sw	311	Principles of Social Work	3
Sw	312	Social Work with Groups	3
HPE	317	First Aid and Safety	2

3. Professional Education—15 credits

ED	110	Introduction to Education	3
ED	122	Educational Psychology	3
ELED	323	Teaching of Reading	3

ELED 324	Teaching Elementary School Mathematics	3
SPA 457	Developmental Sequences in Language and Speech	3
4. Rehabilitative Sciences Specialization Options (select one of the following)		
A. Developmentally Disabled—9 credits		
HPE 333	Fitness for Wellness	3
REHB 495	Field Experience in Rehabilitative Sciences	6
B. Gerontology-21 credits		
BIOL 257	Biology of Aging	3
Soc 353	Sociology of Aging	3
NURS 365	Health Promotion for the Elderly	3
PSY 464	Introduction to Counseling and Psychotherapy	3
PSY 467	Gerontological Psychology	3
REHB 495	Field Experience in Rehabilitative Sciences	6
C. Substance Abuse—24 credits		
PSY 321	Psychology of Adolescence	3
HPE 333	Fitness for Wellness	3
Soc 351	Contemporary Social Problems	3
Soc 361	Sociology of Deviance	3
REHB 405	Substance Abuse	3
REHB 410	Prevention and Treatment Strategies in Substance Abuse	3
REHB 495	Field Experience in Rehabilitative Sciences	6
D. General Studis		
Required electives—27 credits		
Students are required to take nine credit hours from each of three of the following fields: psychology, sociology, mathematics, biology, chemistry, computer science, political science, special education/rehabilitative sciences, speech pathology/audiology, or modern languages.		
Related electives—12 credits		

Elementary Education/Special Education

With careful planning, students can complete programs leading to certification in both special education and elementary education in nine semesters or four years and a summer, thereby becoming eligible to teach in both regular and special classrooms. The dual certification will also help students to meet the challenges of inclusion. In addition, several states now require dual certification to teach handicapped individuals. Students interested in this program should contact the chair of the Department of Special Education or Education for more information.

Special Education/Early Childhood

Many employment opportunities exist in the state of Pennsylvania and throughout the country in pre-school special education programs. The College of Education and Human Services offers a program of study which will provide students interested in working with pre-school special needs students dual certification in special education and early childhood education. Students completing this program are qualified to teach in special education programs from kindergarten to grade 12, early childhood programs from pre-school to grade three, as well as in special education infant stimulation and pre-school programs. This program offers students an outstanding opportunity to obtain professional employment in infant and pre-school programs, as well as in special education. Completion of the following requirements will lead to dual state certification in special education and early childhood education:

I. Professional Education—37 credits			
ECH	231	Creative Activities in Art, Music, and Movement	3
ED	110	Introduction to Education	3
ED	121	Human Development and Learning	3
	217	Microcomputer Applications in the Classroom	3
S P	110	Human Exceptionalities	3
SPED	115	Human Relations Skills Training	2
SPED	125	Early Field Experience	1
SPED	220	Nature of Mental Retardation	3
SPED	240	Neurological Impairments and Physical Disorders	3
SPED	230	Social and Emotional Disturbances	3
SPED	235	Specific Learning Disabilities	3
SPED	320	Educational Assessment	4
SPED	345	Secondary, Transitional, and Vocational Services	3
II. Early Childhood Block—17 credits			
ELED	323	Teaching of Reading	3
ELED	324	Teaching Elementary School Mathematics	3
ELED	331	Children's Literature	2
ECH	333	Developmental Programs for Infants and Toddlers	3
ECH	336	Developmental Program for Preprimary Children	3
ED	327	Instructional Strategies and Management	3
III. Elementary Block—15 credits			
SCED	322	Teaching of Elementary Science	3
ELED	325	Teaching Elementary School Social Studies	3
ELED	326	Reading Problems in the Elementary *Hal	3
ELED	330	Language Arts in the Elementary School	3
ECH	420	Incidental Learning	3
IV. Special Education Bloc—16 credits			
SPED	411	Educational Assessment Practicum	1
SPED	415	ID and S for MM Handicapped	6
SPED	420	ID and S for S/P Multihandicapped	6
SPED	425	Behavior Management in Special Education Settings	3
V. Professional Experience—12 credits			
ECH	424	Student Teaching—Elementary/Early Childhood	6
SPED	450	Student Teaching—Special Education/Early Childhd	6
			TOTAL: 144 CREDITS

Speech Pathology and Audiology

Department of Speech Pathology and Audiology, R. Dennis Hetrick, Ph.D., Chair

Professors: Dininny, Hetrick, McAleer; **Associate Professor:** Bauman-Waengler; **Assistant Professors:** Jarecki-Liu, Savage, Stagray; **Instructors:** Janes, Linnart

Leading to the Bachelor of Science degree in speech pathology and audiology, this pre-professional program is designed to prepare the student for graduate study and the completion of professional requirements at that level. Full professional status, including certification by the American Speech-Language-Hearing Association and appropriate state licensure, requires completion of the master's degree. The department, furthermore, has an articulation agreement with Gallaudet University wherein interested majors may study for a semester at that institution and transfer credits back to Clarion University.

In addition to the undergraduate program, the department offers a graduate degree in speech pathology and audiology and makes provision for teacher certification following the completion of the Master of Science degree. The graduate programs in both speech/language pathology and audiology are accredited by the Educational Standards Board of the American Speech-Language-Hearing Association.

Required Courses, Speech and Hearing Science

		c.h.	s.h.
SPA	125 Introduction to Communication Disorders	3	3
SPA	450 Speech Science	3	3
SPA	451 Anatomy of Speech and Hearing Mechanisms	3	3
SPA	452 Speech Pathology I	3	3
SPA	453 Speech Pathology II	3	3
SPA	454 Organization and Admin. of Speech and Hearing Programs	3	3

SPA	456 Phonetics and Phonology	3	
SPA	457 Developmental Sequences in Language and Speech	3	3
SPA	458 Language Disorders in Children	3	3
SPA	460 Hearing Problems.....	3	3
SPA	463 Speech Reading and Auditory Training	3	
SPA	467 Clinical Observation	3	3
SPA	472 Seminar in Speech Science	3	3
ED	110 Introduction to Education	3	3
ELED	323 Teaching of Reading	3	3
PHSC	457 Intro. to Electronics for Audio Applications	3	
PSY	electives	9	3
ENG	457 Introduction to Linguistics	3	3
SPED	110 Human Exceptionalities	3	3
MATH	221 OR PSY 230.....	3	3

NOTE: For general education requirements in speech pathology and audiology see pages 65-66.

Sequence of Courses, Speech and Hearing Science

1st Semester

			c.h.	s.h.
SPA	125 Introduction to Communication Disorders	3	3	
SPA	450 Speech Science	3	3	

2nd Semester

SPA	456 Phonetics and Phonology	3	3	
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1st or 2nd Semester

SPED	110 Human Exceptionalities	3	3	
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3rd Semester

SPA	451 Anatomy of Speech and Hearing Mechanisms.....	3	3	
SPA	457 Developmental Sequences in Language and Speech	3	3	

4th Semester

SPA	458 Language Disorders in Children	3	3	
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5th Semester

SPA	452 Speech Pathology I.....	3	3	
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6th Semester

SPA	453 Speech Pathology H	3	3	
PHSC	457 Introduction to Electronics for Audio Applications	3	3	

7th Semester

SPA	460 Hearing Problems	3	3	
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8th Semester

SPA	463 Speech Reading and Auditory Training	3	3	
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7th or 8th Semester

SPA	454 Organization and Admin. of Speech and Hearing Programs	3	3	
SPA	467 Clinical Observation	3	3	
ENG	457 Introduction to Linguistics	3	3	
SPA	472 Seminar in Speech Science	3	3	

College of Graduate Studies and Extended Programs

Rita Rice Flaningam, Ph.D., Dean

Office: Carrier Administration Building, Room 108

Telephone Extension-Graduate Studies: 2337

Telephone Extension—Extended Programs: 2227

Graduate Degree Programs

Clarion University of Pennsylvania offers 11 graduate level programs leading to the Master of Arts, Master of Business Administration, Master of Education, Master of Science, or Master of Science in Library Science degrees. The Master of Science in Library Science program is accredited by the American Library Association and the Master of Science program in speech pathology and audiology is accredited by the Educational Standards Board of the American Speech-Language-Hearing Association.

Biology (M. S.)

Business (M. B.A.)

Communication (M. S.)

Elementary Education (M.Ed.)

English (M. A.)

Library Science (M. S. L. S.)

Certificate of Advanced Studies

Mathematics (M.Ed.)

Reading Education (M.Ed.)

Science Education (M.Ed.)

Special Education (M. S.)

Speech Pathology and

Audiology (M. S.)

Teacher certificate programs are also available for instructional media specialist, reading specialist, and school supervisor.

Certificate of Advanced Studies is also available from the Department of Library Science.

For more detailed information on graduate curricula and courses, refer to the *Graduate Catalog*.

Extended Programs

The major thrust of continuing education is to organize and make available to the community the vast resource of instructional talent that resides in the area. Educational programming of all types, presented in almost any format and developed to meet the needs of a wide variety of audiences, is possible through continuing education.

Generally, continuing education activities will fall into one of three program types: non-credit courses, open to the general public without regard to educational background; credit courses offered to meet professional needs; and conferences, a concentrated experience developed for a specific group.

Non-credit courses, as the name implies, do not carry academic credit, do not require admission to the university, and do not have examinations or grades. They are mostly conducted on a basic level, thus allowing everyone the opportunity for personal growth. Reasons for pursuing non-credit courses could be for gaining job skills, personal development, intellectual enrichment, or just plain fun.

Venango Campus

Mission and Goals

Venango Campus, as an integral part of Clarion University, not only responds to community needs but also serves a special role in the enhancement of the services and pro-

grams of the university. In order to articulate the mission of Venango Campus, the following goals are offered:

Goal One: To provide stand-alone, two-year associate degree programs of Clarion University.

Venango Campus will explore community needs through its contact with regional institutions in business, government, and education, to assure that meaningful and relevant associate degree programs are designed.

Venango Campus has a concurrent responsibility to provide essential support services such as personal and professional counseling, tutoring programs, academic advising, job placement services, and appropriate opportunities for participation in extracurricular activities.

Goal Two: To provide continuing education for the Venango Campus service area.

Venango Campus will have the responsibility of identifying and responding to the continuing education needs of its region.

Continuing education includes both credit and non-credit bearing course work which may be technical and non-traditional in nature such as SAT preparation courses, allied health education, or wood products manufacture training. Some of these offerings will be certificate programs and associate degrees which may be terminal and non-transferable. These programs will complement the offerings of existing educational institutions.

Goal Three: To provide an educational foundation for the four-year degree programs of Clarion University.

Since students from Venango County and the surrounding area may find it desirable to begin their four-year degree programs at Venango Campus, the curricula will be designed so that credits earned will be accepted toward the completion of a four-year degree. Such articulation requires the appropriate structure of academic programs, reasonable scheduling, and solid advising.

Goal Four: To provide a regional campus for adult learners who wish to further their education at the collegiate level.

Given its location, size, and potential for program development, Venango Campus should be able to respond to the particular needs of adult learners.

Goal Five: To provide nursing education.

Given the relatively high number of health care facilities in the Venango County area, it is logical to centralize direction and control of nursing education at Venango Campus. These programs will be adapted regularly to maintain high quality in meeting changing health care demands.

The university will provide the academic and student services necessary to assure the quality of all of the nursing education programs offered by Clarion University.

Goal Six: To provide appropriate bachelor's degree courses and graduate courses.

Venango Campus should meet the educational needs of the community's diverse non-traditional student population. Many of these students are confined to the immediate area because of financial constraints, work and familial commitments, and lack of transportation.

Goal Seven: To develop initiatives for experimentation and innovation in teaching and learning.

Venango Campus will offer opportunities for educational experimentation that will address the need to develop solutions to persisting problems in pedagogy. More effective means must be designed to meet the educational challenges of the future.

James Blake, Ph.D., Executive Dean

Office: Frame Building

Telephone: (814) 676-6591

Degree Listing

Arts and Sciences (A.A.)

Business Administration (A. S.)

Accounting*

Computer Processing*

Management*

Office Management*

Legal Business Studies (A. S.)

Legal Assistant*

Nursing (B.S. N., A. S.N.)

Rehabilitative Services (A.S.)

**academic concentrations*

To complete an associate degree, a minimum of 30 credit hours must be completed on the Venango Campus. The transfer of a specific associate degree to a specific baccalaureate program may incur deficiencies within the major.

Associate of Science: Major in Business Administration***Philosophy***

The Associate of Science has as its principal objective the providing of an opportunity in post-secondary education not found elsewhere within the service area of Clarion University. Students studying in this program may specialize in accounting, general business management, office management, or computer processing. If after earning the associate degree students wish to further their education, they may continue at the baccalaureate level on Clarion Campus.

The program is divided into three blocks of required courses. Half of the program is aimed at developing the general educational level of the student's ability related to working and living in the business environment. The remaining courses are in the field of business and provide the basic and specialized knowledge needed for entry into the business world.

Objectives of Degree Program

1. Assure that each student has an exposure to general education, business or legal fundamentals, and business or legal specialty concepts appropriate for associate level degree education in business administration or paralegal studies.
2. Prepare associate degree students for entry level positions in business, industry, and government.
3. Prepare aspiring students for entry into baccalaureate degree programs.

General Education

		CR.
ENG	110 Writing I.....	3
ENG	111 Writing II.....	3
SCT	113 Fundamentals of Speech.....	3
PSY	211 General Psychology.....	(3)
Soc	211 Principles of Sociology.....	(3)
ECON	211 Principles of Macroeconomics.....	3
HPE	111 Health Education.....	2
	elective in science or humanities*	3-6
		20-23

*Office management students need only three credits.

Business Core

The following business courses are required of all students regardless of their area of specialization.

MGMT	120 Introduction to Business.....	3
MGMT	121 Fundamentals of Management.....	3
MATH	131 Mathematics for Business and Economics I.....	3
CIS	110 Introduction to Computer Information Systems.....	3
ACTG	251 Financial Accounting.....	3
ACTG	252 Managerial Accounting.....	3
BSAD	240 Legal Environment I.....	3
ENG	307 Business Writing.....	3
ECON	221 Economic and Business Statistics I.....	3
		27

Area of Concentration

Each student will choose an area of specialization. Four areas are available. Requirements are listed below for each area. Any duplication of courses between concentrations would require substitution of an appropriate number of approved courses in order to satisfy the credit hour requirements.

ACCOUNTING

ACTG	253 Factory Accounting.....	3
ACTG	254 Payroll Accounting.....	3
ACTG	255 Financial Statement Preparation and Analysis.....	3
ACTG	256 Income Tax Procedures and Forms.....	3
	business elective.....	3
		15

GENERAL BUSINESS ADMINISTRATION

OFMT	221 Office Management.....	3
MGMT	228 Human Behavior in Organizations.....	3
MGMT	227 Applied Supervision.....	3
	business electives.....	6
		15

OFFICE MANAGEMENT

*OFMT	132 Production Typing.....	3
*OFMT	136 Executive Shorthand.....	3
OFMT	221 Office Management.....	3
OFMT	230 Office Procedures.....	3
OFMT	232 Word Processing.....	3
	business elective.....	3
		18

*OFMT 132 and 136 require a proficiency level equal to two years of high school typing and shorthand. OFMT 131 and 135 are required for students who do not have this proficiency.

COMPUTER PROCESSING

CIS	211	RPG II Report Program Generator	3
CM	217	Applications of Microcomputers	3
CIS	223	Computer Program—COBOL	3
CIS	226	Computer Systems Development	3
CIS	317	Advanced Microcomputing	3
		Business Elective	3

Recommended Sequence, Accounting, Computer, and General Management

First Semester

PSY211 or SOC 211.....	3 cr.
CIS I 1o.....	3 cr.
MGMT 120.....	3 cr.
ACTG 251.....	3 cr.
BSAD 240	3 cr.
	15 cr.

Second Semester

SCT 113.....	3 cr.
MATH 131	3 cr.
ACTG 252.....	3 cr.
ENG 111	3 cr.
course from specialization	3 cr.
	15 cr.

Third Semester

ECON 211	3 cr.
ECON 221	3 cr.
general education elective	3 cr.
course from specialization.....	3 cr.
course from specialization.....	3 cr.
	15 cr.

Fourth Semester

ENG 307.....	3 cr.
HPE 111	2 cr.
MGMT 121.....	3 cr.
elective	3 cr.
course from specialization	3 cr.
course from specialization	3 cr.
	17 cr.

Two-Year Sequence, Office Management

First Semester

ACTG 251
ENG 111
PSY 211 or SOC211
SCT 113
MGMT 120

Second Semester

ACTG 252
CIS 110
HPE 111
BSAD 240
OFMT 131
OFMT 135 or elective business elective

Third Semester

OFMT 132
OFMT 136
OFMT 221
ECON 211
ECON 221

Fourth Semester

MGMT 121
ENG 307
OFMT 230
OFMT 232
MATH 131

Associate of Science: Major in Rehabilitative Services

The associate degree program is designed to provide training for persons desiring to work in paraprofessional roles with special needs citizens. The emphasis is on the blanket concept of "normalization" and related topics such as deinstitutionalization, mainstream-

ing, etc. This program is designed to help prepare persons to assist in the social-vocational adjustment of special needs persons to community living.

Since paraprofessional roles in rehabilitative services will vary, the program of preparation offers both specialized and generic competencies. The person completing this program may opt for further education in special education and/or rehabilitative sciences at the Clarion Campus. Typically, qualified students may continue their study toward a bachelor's degree in special education or rehabilitative sciences (developmentally disabled emphasis) and receive full credit toward graduation for all courses taken while earning the associate degree. Rehabilitative Services students should be aware, however, that bachelor degree programs have an admission requirement of a 2.5 quality point average.

General Education

		Cr.
ENG	111 Writing Id.....	3
SCT	113 Fundamentals of Speek.....	3
PSY	211 General Psychology.....	3
PSY	225 Psychology of Adjustment.....	3
PSY	260 Developmental Psychology.....	3
SOC	122 Educational Psychology.....	3
	211 Principles of Sociology.....	3
	Related Electives.....	3
electives:	humanities and natural science.....	6
	general or free elective.....	6
		36

Special Education

REHB	110 Human Exceptionalities.....	3
REHB	115 Human Relations Skills Training.....	2
REHB	125 Early Field Experiences.....	1
REHB	240 Neurological Impairments and Physical Disorders.....	3
SPED	220 Nature of Mental Retardation.....	3
SPED	230 Social and Emotional Disturbances.....	3
SPED	235 Specific Learning Disabilities.....	3
SPED	245 Behavior Management.....	3
SPED	250 The Helping Relationship: principles and Procedures.....	3
SPED	295 Field Experience.....	6
		30

Suggested Sequence

First Semester

ENG	111 Writing HI.....	3
SCT	113 Fundamentals of Speech.....	3
REHB	110 Human Exceptionalities.....	3
REHB	115 Human Relations Skills Training.....	2
PSY	211 General Psychology.....	3
		14

Second Semester

PSY	260 Developmental Psychology.....	3
PSY	225 Psychology of Adjustment.....	3
SPED	220 Nature of Mental Retardation.....	3
REHB	225 Early Field Experiences.....	1
SPED	230 Specific Learning Disabilities.....	3
SPED	235 Learning Disorders.....	3
	elective—humanities or natural sciences.....	3
		19

Third Semester

REHB	240 Neurological Impairment and Physical Disorders.....	3
SOC	211 Principles of Sociology.....	3
ED	122 Educational Psychology.....	3
SPED	245 Behavior Management.....	3
	electives—humanities or natural sciences.....	6
		18

Fourth Semester

SPED	250 The Helping Relationship: Principle-s and Procedures	3
SPED	295 Field Experience	6
	Related Electives	3
	elective-general elective	15

Associate of Science: Legal Business Studies

The associate of science degree in legal business studies offers a program designed to educate students to render direct assistance to lawyers, clients, and courts, whether in a law office, governmental institution, or as an independent contractor when authorized to do so by administrative, statutory, or court authority. All of the courses required for this degree are offered at Venango Campus. Some of the courses are also offered at Clarion campus .

Academic Requirement

The program is divided into three blocks of required courses. The general education and business core classes are required of all Associate of Science candidates to develop their ability to work and live as a well-rounded and competent individual in the business environment. The remaining courses are specialized legal courses designed to develop competence in substantive and procedural law.

General Education

At least 20 credits of general education courses must be completed to earn the degree.

The following are the general education courses:

ENG	110 Writing I	3
ENG	111 Writing II.....	3
SCT	113 Fundamentals of Speech.....	3
HPE	111 Health Education	2
PSY	211 General Psychology	3
ECON	211 Principles of Macroeconomics	3
MATH	131 Mathematics for Business and Economics.....	3
	General Education Elective	3-6
		23-26

Business Core

The following 21 semester hours are required of all associate of science in legal business studies students:

CIS	110 Introduction to Computer Information Systems	3
MGMT	120 Introduction to Business	3
ECON	221 Economic and Business Statistics I.....	3
BSAD	240 Legal Environment I.....	3
BSAD	241 Legal Environment II	3
ACTG	251 Financial Accounting	3
ACTG	252 Managerial Accounting	3
		21

Concentration

Every legal assistant student is required to take the following four courses:

BSAD	242 Methods of Legal Research	3
BSAD	246 Civil Litigation	3
BSAD	248 Legal Writing	3
BSAD	249 Field Experience	3
		12

In addition, the legal assistant student must choose two courses of the following for four courses:

BSAD	239	Family Law	3
BSAD	243	Wills, Trusts, Estates	3
BSAD	244	Administrative Law	3
BSAD	247	Real Estate Law for the Paralegal	3

Free Electives

9 credits

Each student should use their free electives to tailor the legal assistant degree to their individual career preference. Choices might include the law specialty courses not counted in the area of concentration, secretarial skills courses, political science, philosophy, or other general education courses of interest.

Associate of Arts in Arts and Sciences

The Associate of Arts is a liberal arts degree program designed to provide the traditional student with a wide range of experiences or to provide the adult learner with a flexible educational program. To complete an associate degree, a minimum of 30 credit hours must be completed on the Venango Campus.

Suggested Program Outline

I. Communication (12)*			
A. ENG	111:	Writing 11	
B. MATH	112:	Excursions in Mathematics	
c. SCT	113:	Fundamentals of Speech	
D. CIS	110:	Introduction to Computer Information Systems	
II. Humanities (12)*			
A. MUS	111:	Introduction to Music	
B. ART	110:	The Visual Arts	
C. ENG	130:	The Literary Experience	
D. SCT	253:	Introduction to Theatre	
III. Natural Science (12- 13)*			
A. BIOL	111:	Basic Biology	
B. PHSC	111:	Physical Science-Chemistry	
C. PHSC	112:	Physical Science—Physics	
D. ES	111:	Basic Earth Science	
IV. Social Science (12)*			
A. PSY	211:	General Psychology	
B. SOC	211:	Principles of Sociology	
C. HIST	112:	Early Modern Civilization	
D. PS	211:	American Government	
v. Personal Development (2)			
VI Free Electives (14)			
TOTAL: 64			

*Since this is a liberal arts degree, with the permission of academic advisor substitution by equivalent course within the area of study is allowable.

General Course Offerings

NOTE: Certain courses listed under general education below are also applicable to major fields. Students should consult the university catalog and their advisors to determine which courses should be taken for specific majors.

I. Modes of Communication			s.h.
ENG	111	Writing II	3
COMM	100	Explorations in Mass Communication	3
CIS	110	Introduction to Computer Information Systems	3
SCT	113	Fundamentals of Speech	3
SCT	200	Interpersonal Communication	3
n. Humanities			
ART	110	The Visual Arts	3
ART	190	Teaching Art in the Elementary Grades	3
ENG	130	The Literary Experience	3
ENG	244	Special Topics	3
HUM	120	Humanities I	3

HUM	121	Humanities II.....	3
MUS	111	Introduction to Music.....	3
PHIL		III Elementary Logic	3
PHIL	211	Introduction to Philosophy	3
SCT	253	Introduction to Theatre	3
111. Social Science			
ANTH	211	Anthropology.....	3
ANTH	251	Historic Indians of North America.....	3
ECON	211	Principles of Macroeconomics.....	3
ECON	212	Principles of Microeconomics.....	3
ECON	221	Economic and Business Statistics I.....	3
GEOG	100	Introduction to World Geography.....	3
GEFX	257	Geography of the United States and Canada.....	3
HIST	111	Ancient and Medieval Civilization.....	3
HIST	112	Early Modern Civilization.....	3
HIST	113	Modern Civilization, 1789 to the Present.....	3
HIST	120	United States History to 1877.....	3
HIST	121	United States History since 1877.....	3
PSY	211	General Psychology.....	3
PSY	225	Psychology of Adjustment.....	3
PSY	228	Human Behavior in Organizations.....	3
PSY	260	Developmental Psychology.....	3
PSY	331	Child Psychology.....	3
PSY	354	Abnormal Psychology.....	3
Ps	211	American Government.....	3
Soc	211	Principles of Sociology.....	3
IV. Natural Science/Mathematics			
BIOL	111	Basic Biology.....	4
BIOL	258	Anatomy and Physiology I.....	3
BIOL	259	Anatomy and Physiology II.....	3
BIOL	260	Microbiology.....	3
BIOL	453	Pathophysiology: Endogenous Agents.....	4
BIOL	454	Pathophysiology: Exogenous Agents.....	4
CHEM	153	General Chemistry I.....	3
CHEM	163	General Chemistry Laboratory I.....	1
CHEM	154	General Chemistry II.....	3
CHEM	164	General Chemistry Laboratory II.....	1
MATH	100	Basic Algebra.....	3
MATH	110	Intermediate Algebra.....	3
MATH	131	Mathematics for Business and Economics I.....	3
MATH	222	Elementary Nonparametric Statistics.....	3
ES	111	Basic Earth Science.....	3
PHSC	111	Basic Physical Science: Chemistry.....	3
PHSC	112	Basic Physical Science: Physics and Astronomy.....	3
V. Electives for General Education			
ENG	200	Composition and Literature.....	3
ENG	307	Business Writing.....	3
GS	100	College Reading/Study Skills.....	2
HPE	111	Health Education.....	2
HPE	121	Walking for Fitness.....	1
HPE	163	Volleyball.....	1
HPE	142	Bowling.....	1
OFMT	232	Word Processing.....	3
Business Subjects			
ACTG	251	Financial Accounting.....	3
ACTG	252	Managerial Accounting.....	3
ACTG	253	Factory Accounting.....	3
ACTG	254	Payroll Accounting.....	3
ACTG	255	Financial Statement Preparation and Analysis.....	3
ACTG	256	Income Tax Procedures and Forms.....	3
CIS	226	Computer Systems.....	3
CIS	217	Applications of Microcomputers.....	3
CIS	223	Computer Programming COBOL.....	3
CIS	324	Data Structure and File Utilization COBOL.....	3
BSAD	239	Family Law.....	3
BSAD	240	Legal Environment I.....	3
BSAD	241	Legal Environment II.....	3
BSAD	242	Methods of Legal Research.....	3
BSAD	243	Wills, Trusts, and Estates.....	3
BSAD	244	Administrative Law.....	3
BSAD	246	Civil Litigation.....	3
BSAD	247	Real Estate Law for the Paralegal.....	3

BSAD	248	Legal Writing	3
BSAD	249	Field Experience	3
MGMT	120	Introduction to Business	3
MGMT	121	Fundamentals of Management	3
MGMT	227	Applied Supervision	3
MGMT	228	Human Behavior in Organizations	3
OFMT	131	College Typing	2
OFMT	132	Production Typing	3
OFMT	135	College Shorthand	3
OFMT	136	Executive Shorthand	3
OFMT	221	Office Management	3
OFMT	230	Office Procedures	3
OFMT	231	Office Practice	3
Special Education Subjects			
REHB	210	Human Exceptionalities	3
REHB	215	Human Relations Skills Training	2
SPED	220	Nature of Mental Retardation	3
REHB	225	Early Field Experiences	1
SPED	230	Behavior Disorders	2
SPED	235	Learning Disorders	2
REHB	240	Neurological Impairments and Physical Disorders	3
SPED	245	Behavior Management	3
SPED	250	The Helping Relationship: Prin. and Procedures	3
SPED	295	Field Experience	6
Professional Education Courses			
	110	Introduction to Education	3
ED	122	Educational Psychology	3

School of Nursing

T. Audean Duespohl, Ph. D., Dean

Office: Montgomery Hall, Venango Campus

Telephone Extension: (814) 677-6107

Degree Listing

Associate of Science in Nursing Program (A. S. N.)

Bachelor of Science in Nursing Program (B. S. N.)

Bachelor of Science in Nursing—RN Completion Program (B. S. N.)

Venango Campus, Oil City, Pennsylvania
Pittsburgh, Pennsylvania

Department of Nursing

Mary Kavooosi, Ph. D., Chair

Office: Montgomery Hall

Telephone: (814) 677-6107

Linda Pritchett, Ph.D., Director

Pittsburgh Program

Office: Pittsburgh, PA

Telephone: (412) 578-5239

School of Nursing Philosophy

The philosophy of the Clarion University School of Nursing is consistent with the philosophy of Clarion University in establishing as the school's primary goal the provision of educational experiences designed to promote scientific inquiry, creative thinking, critical judgment, and self-evaluation. The student's nursing education is complemented by such curriculum offerings as humanities, natural sciences, behavioral sciences, and free electives. The programs are based on the concept of continued self-development so that graduates will aspire to improve and expand their competencies on a continuing basis after graduation.

Nursing is a profession concerned with the delivery of care to individual(s) of all ages, cultures, races, and ethnic groups who desire assistance with health during their life processes. The nursing process is the basis for communication between the nurse, client, and family who collaborate to achieve maximum health potential. This process includes health teaching by the nurse for the purpose of establishing and maintaining a high level of well-being.

The individual is a unified whole who continually interrelates with the environment. As sensing, thinking beings, the individuals make conscious choices and assume responsibility for their consequences. Given freedom of choice, individuals will make decisions regarding their health care needs according to their priorities. They possess and manifest traits that are greater than and different from the sum of all their parts. The individual's families are made up of significant others within their framework of life.

Health, as defined by the client, is the primary focus of nursing care. It is a dynamic, ever-changing process that reflects individuals' ability to attain their optimum level of wellness. Clients' concepts of health are derived from patterns they have formulated based on their attitudes and personal experiences. Individuals, as experts on themselves, are responsible for seeking assistance throughout the spectrum of health; therefore, they participate actively in their health care.

Environment is the aggregate of influence that interrelate with individuals. Society, a component of the environment, is a dynamic, multicultural system which is composed of individuals, families, and communities. Societal influences interrelate with individuals' attitudes to impact behavioral patterns and life goals.

Education is a dynamic activity which involves the teaching-learning process. Teaching is an organized activity that facilitates learning and is accomplished by the active sharing of attitudes, skills, and knowledge. Learning requires mental activity and is enhanced by a climate which takes into consideration the learner's previous educational and life experiences. Learning is a self-directed activity requiring motivation, desire, and effort by the learner. The learner's response to the process is unique to that individual.

The nursing faculty endorse two levels of nursing practice—the technical and the professional—and conceptualize the nursing profession as follows:

The first level of nursing is provided by the technical nurse who is educated in associate degree nursing programs and the second level by the professional nurse prepared in baccalaureate and post-baccalaureate programs. The nursing care provided by the associate degree nurse demonstrates a high degree of technical skill based upon principles from an ever-expanding body of science. The associate degree nurse works directly under the supervision of the professional nurse, performing those skills necessary to carry out the prescribed nursing care plan and the medical regimen. The professional nurse, although proficient in technical skills, assumes primary responsibility for the nursing care of individuals and groups, coordinates the health team as it assists clients with their goals, serves as a resource person for all persons giving direct client care, and engages in research to evolve nursing theory.

School of Nursing Policies

Academic Requirements in Nursing

The academic requirements of the university apply to all programs in the School of Nursing, but in addition the student must earn grades of at least “C” in the theory and *pass* in clinical practice in each of the following nursing courses: NURS 101, 102, 201, 202, 203, 340, 361, 457, 462, 463, and 464.

All the nursing courses listed above entail (A) theory and (B) clinical practice. The student receives two grades in each course. The theory area of all nursing courses is graded on the conventional “A-B-C-D-E” scale with any mark below “C” indicating failing achievement. Students will be graded in theory according to the following:

GRADING SCALE	
93-100	A
84-92	B
75-83	C
74-66	D
65-below	E

The clinical practice experience is graded pass/fail instead of being awarded a letter grade. The associate degree student is evaluated by four critical elements which must be met in order to receive a passing grade in the clinical area. The baccalaureate degree student is evaluated by an evaluation tool based on program and course objectives.

An unsatisfactory grade in either the theory or the clinical practice experience or both areas of any of the nursing courses listed in this section is regarded as a failure for the entire course and failure in the nursing program, and the student is withdrawn from the nursing program.

Transfer

The transfer policy for nursing students is consistent with that of Clarion University; however, nursing credits are only transferable if received from an associate degree or bachelor’s degree program within the preceding two years. If the individual has been out of a nursing program for more than two years, the Nursing Mobility Profile I must be taken for transfer of nursing credit. Diploma students wishing to transfer must take the Nursing Mobility Profile I for transfer of nursing credit. Only the courses NURS 101 and NURS 102, are transferable and only if they are deemed comparable by the nursing faculty.

Intercollegiate Transfer

A student presently enrolled in a program at Clarion University may request admission into the Associate of Science in Nursing Program by filling out a Change of Status Form and submitting it to the School of Nursing at Venango Campus. Admission into the ASN program through intercollegiate transfer occurs twice a year.

1. A student must have the Change of Status Form completed and sent to the School of Nursing by December 15 for admission to the program in the fall of the next year.
2. NLN preadmission testing and informational sessions will be scheduled for students meeting the December 15 deadline.
3. Students requesting intercollegiate transfer must meet the general admission requirements of the nursing program.

Associate of Science in Nursing Program

Assistant Professors: Gracy, Shiley, Stright, Weber

Admission Requirements

Candidates for admission into the Associate of Science in Nursing Program must make application to the Admissions Office at Clation University. All candidates are required to have the following high school requirements:

- four units of English
- three units of social studies
- two units of science; one year chemistry with a grade of “C” or better and one year of biology with a grade of “C” or better within five years of date of entry.
- two units of mathematics (one must be **algebra** with a grade of “C” or better and one course that may be algebra II, trigonometry, geometry, or calculus). These courses must have been taken within five years of date of entry.

Candidates who **do not** meet all the high school requirements must take the following courses. A grade of “C” or better must be earned.

1. To satisfy the English requirement, an individual must take ENG 110 and ENG 111. (The university requires that **all** entering students take a placement test in order to determine the courses they need to take to graduate from Clarion University.)
2. To satisfy the social studies requirement, an individual must complete a history course (e.g. U. S., Western Civilization; not History of Art or Music).
3. To satisfy the science requirement, an individual must complete BIOL 111 and PHSC 111 or CHEM 153 and 163. (College credits for the sciences are acceptable only if they have been earned within 10 years of admission.)
4. To satisfy the mathematics requirement, an individual must take the university mathematics placement test. Based on the results of this exam, the individual will either be exempt from MATH 100 (college level math course) or be required to take MATH 100. College credits for mathematics are only acceptable if they have been earned within 10 years of admission.

Applicants who satisfy all of the high school criteria will be considered for admission into the A.S.N. Program. Admission procedures for the A.S.N. Program include:

1. completing a university application or a Change of Status Form by the designated dates;
2. requesting an official high school transcript and official transcripts from any previously attended colleges and/or universities to be sent to the Admission Office;
3. attending an informational session related to Clarion’s nursing programs;
4. taking the N.L.N. Pre-Entrance Tests
5. meeting the accepted admission criteria in high school class rank, admission scores in SAT/ACT, or hold a four-year college/university degree;
6. achieving a QPA of 2.00 or better in high school and/or college; and
7. receiving a grade of “C” or better in **all** courses listed in the A.S.N. curriculum.

The School of Nursing has an advanced standing policy for licensed practical nurses who desire to continue their education at the collegiate level.

Associate of Science in Nursing Degree Program Curriculum

Freshman Year First Semester

			Cr.
ENG	110	Writing I (if required)	3
ENG	111	Writing II	3
BIOL	258	Anatomy and Physiology I.....	3
PSY	211	General Psychology	3
NURS	101	Nursing Process I.....	8

Second Semester

BIOL	259	Anatomy and Physiology II.....	3
PSY	260	Developmental Psychology	3
ENG	111	Writing II or elective	3
NURS	102	Nursing Process II	8

Sophomore Year Third Semester

SCT	113	Fundamentals of Speech	3
BIOL	260	Microbiology	3
Soc	211	Principles of Sociology	3
NURS	201	Nursing Process III.....	8

Fourth Semester

ENG		Modes of communication	3
HUM		elective	3
NURS	202	Nursing Process IV.....	8
NURS	203	Nursing Seminar	2

Bachelor of Science in Nursing Program

Associate Professors: Pritchett, Wahba; **Assistant Professors:** Benson, Falvo, Kavooosi, Lawrence, Nelson-Somerville, Tarr; **Instructor:** Doas

Admission Requirements

Candidates for admission into the Bachelor of Science in Nursing Program must make application to the Admissions Office at Clarion University and gain acceptance into the Associate of Science in Nursing Program. During the fourth semester of the associate degree program, individuals interested in continuing their education at the bachelor level must notify the Nursing Office of their intent to further their education by completing a Change of Status Form. To apply, applicants must:

1. Have graduated from Clarion's Associate of Science in Nursing Program the previous Spring Semester.
2. Have applied to take the July licensure examination for registered nurses in the state of Pennsylvania prior to Fall Semester.
3. Show evidence of scholarship as demonstrated by a QPA of 2.5 on a 4.0-point system.
4. Meet B.S.N. admission criteria.
5. Demonstrate theoretical and technical competencies.
6. Complete a personal interview to determine:
 - (a) suitability for professional nursing
 - (b) personal goals related to professional nursing

B.S. in Nursing Curriculum

*Freshman Year

*sophomore year

Junior Year

First Semester

			Cr.
NURS	340	Nursing, Health, and the Individual	3
NURS	361	Advanced Nursing Process	6
BIOL	453	Pathophysiology: Endogenous Agents	4
CHEM	205	Nutrition	3

Second Semester

			Cr.
NURS	462	Advanced Nursing Process: Chronic Care	6
BIOL	454	Pathophysiology: Exogenous Agents	4
		statistics	3
HUM		elective	3

Senior Year

Third Semester

			Cr.
NURS	445	Inquiry in Nursing	3
NURS	463	Advanced Nursing Process: Acute Care	6
ED	122	Educational Psychology	3
HUM		elective	3
		**free elective	3

Fourth Semester

			Cr.
NURS	457	Leadership Skills in Nursing	3
NURS	464	Advanced Nursing Process: Health Promotion	6
		**free elective	3
HUM		elective	3

TOTAL CREDITS 128

*Refer to freshman and sophomore years of Associate of Science in Nursing curriculum.

**If college chemistry course is not-taken prior to entry into B.S. N. Program, it must be taken as a free elective in program.

***Individuals desiring School Nurse certification must take ED 110, Introduction to Education, in the free elective.

Bachelor of Science in Nursing— RN Completion Program

Admission Requirements

Admission into the Bachelor of Science in Nursing—RN Completion Program is contingent upon successful fulfillment of pre-entry requirements. Nursing students can fulfill requirements of the lower division by:

1. Transferring 30 nursing credits from an associate degree in nursing program, or successful completion of prescribed challenge exams.
2. Transferring 33 general education credits from any accredited college, or successful completion of selected challenge exams.

To be admitted, applicants must:

- A. Have graduated from either an associate or diploma program in nursing.
- B. Hold current licensure as a RN in Pennsylvania or have applied to take the July licensure examination for registered nurses in the state of Pennsylvania prior to Fall Semester.
- C. Show evidence of scholarship as demonstrated by QPA of 2.5 on a 4.0 point system in previous nursing education program.
- D. Meet B.S.N. admission criteria.
- E. Demonstrate theoretical and technical competencies.
- F. Complete a personal interview to determine:
 - (1) suitability for professional nursing.
 - (2) personal goals related to professional nursing.

B.S. in Nursing Curriculum, RN Completion Program

Pre-Entry Requirements

<i>Nursing</i>	Credits
Maternal and Child Health Care	10
Mental Health Care	10
Adult Health Care	10
TOTAL	30

General Education

Writing II	3-6
Sociology	3
Speech	3
** Natural Science and/or Math	9
Psychology	6
Modes of communication elective	3
free elective	6
TOTAL	33-36

If college **chemistry is not taken prior to entry, it must be taken as a free elective in the junior year.

B.S.N. Requirements

****Junior Year***

****Senior Year***

TOTAL CREDITS= 128

*Refer to junior and senior years of the Bachelor of Science in Nursing curriculum.

School Nurse Certification

Individuals desiring school nurse certification are required to complete the curriculum requirements of the Bachelor of Science in Nursing Program and in addition must complete specific criteria in the B.S.N. program related to school nursing certification competencies, including ED 110, Introduction to Education. Upon receipt of the degree, the graduate is recommended for certification as a school nurse in all grades of the Pennsylvania public schools.

Cooperative Education Internship Program

College Deans

Co-op study is a general term applied to voluntary service, part-time and full-time employment, and internship experiences.

Co-op courses (300 level) are based upon job assignments which are related to the student's university major or career objectives and which provide learning experiences as stated in their respective learning objectives. Faculty coordinators from academic departments advise students, review learning objectives, and evaluate term reports.

Cooperative education procedures are sufficiently flexible to provide for student and employer needs. The program is designed to enhance self-realization and direction by integrating classroom study with planned and supervised experiences in educational, professional, business, and cultural learning situations outside the formal classroom environment. The joint efforts of faculty, participating employers, and students are directed toward the achievement of an educational experience where classroom studies and appropriate work experience combine to reinforce each other. Prerequisite: junior standing, minimum QPA 2.5, or approval of the appropriate college dean. Offered each semester and summer session.

An internship (400 level) is usually a culminating experience for seniors and graduate students. Interns should have completed most of the required courses in their major area of study. Internships operate somewhat like student teaching, with the emphasis upon application of knowledge in a realistic setting rather than acquisition of new material. In other words, internships are begun with most entry level skills at least partially developed, and the intern is expected to render supervised professional services. The length of an internship may be less than a semester or as long as a year. Many internships carry no salary or stipend.

Because internships are tailored to fit the demands of the respective professions as well as the needs of individual students, each college and department is encouraged to establish requirements and criteria for acceptance in the program and for successful completion which go beyond the minimal requirements established by the cooperative education/internship program. Each college through its departments is expected to enforce its own requirements.

Minimally, students must have senior standing and a QPA of at least 2.50 or approval of the department.

CREDIT HOURS for co-op/internship registration carry from 1 to 12 credits as arranged. Any combination of co-op/internship credits earned in excess of 12 semester hours cumulative total will be entered on student records but will not be counted as credits required for graduation.

GRADING of co-op/internship experiences will carry "credit-no record" evaluation of work performance. Individual students may petition to receive a letter grade at the time of registration. This policy does not apply to the credit-no record regulation promulgated as part of the university grading system.

Co-op Course Numbers

COOP	301:	Co-op/Anthropology	COOP	440:	Intern/Urban Planning
COOP	401:	Intern/Anthropology	COOP	34 1:	Co-op/Health and Safety
COOP	302:	Co-op/Philosophy	COOP	441:	Inter-n/Health and Safety
COOP	402:	Intern/Philosophy	COOP	342:	Co-op/Physical Education
COOP	303:	Co-op/Political Science	COOP	442:	Intern/Physical Education
COOP	403:	Intern/Political Science	COOP	343:	Co-op/Rtxreation
COOP	404:	Co-op/Sociology	COOP	443:	Intern/Recreation
COOP	404:	Intern/Sociology	COOP	344:	Co-op/Coaching
COOP	305:	Co-op/Social Work	COOP	444:	Intern/Coaching
COOP	405:	Intern/Social Work	COOP	345:	Co-op/Athletic Training
COOP	306:	Co-op/Art	COOP	445:	Intern/Athletic Training
COOP	406:	hrtem/Art	COOP	346:	Co-op/Water Safety
COOP	308:	Co-op/Biology	COOP	446:	Intern/Water Safety
COOP	408:	Intern/Biology	COOP	348:	Co-op/History
COOP	309:	Co-op/Environmental Sciences	COOP	448:	Intern/History
COOP	409:	Intern/Environmental Sciences	COOP	349:	Co-op/Humanities
COOP	3 10:	Co-op/Outdoocr Education	COOP	449:	Intern/Humanities
COOP	4 1o:	Intern/Outdoor Education	COOP	350:	Co-op/Library Science
COOP	3 11:	Co-op/Science Education	COOP	450:	Intern/Library Science
COOP	41 I:	Intern/Science Education	COOP	35 1:	Co-op/Media
COOP	3 12:	Co-op/Chemistry	COOP	451:	Inter-n/Media
COOP	412:	Intern/Chemistry	COOP	352:	Co-op/Mathematics
COOP	3 13:	Co-op/Communications	COOP	452:	Intern/Mathematics
COOP	4 13:	Intern/Communications	COOP	355:	Co-op/French
COOP	3 14:	Co-op/Advertising	COOP	455:	Intern/French
COOP	414:	Intern/Advertising	COOP	356:	Co-op/German
COOP	3 15:	Co-op/Journalism	COOP	456:	Intern/German
COOP	415:	Intern/Journalism	COOP	358:	Co-op/Spanish
COOP	3 16:	Co-op/Public Relations	COOP	458:	Intern/Spanish
COOP	4 16:	Intern/Public Relations	COOP	360:	Co-op/Music
COOP	3 17:	Co-op/Radio	COOP	460:	Intern/Music
COOP	417:	Intern/Radio	COOP	361:	Co-op/Piano
COOP	3 18:	Co-op/levision	COOP	461:	Intern/Piano
COOP	4 18:	Intern/Television	COOP	362:	Co-op/Instrumental
COOP	320:	Co-op/Accounting	COOP	462:	Intern/Instrumental
COOP	420:	Intern/Accounting	COOP	363:	Co-op/Vocal
COOP	322:	Co-op/Banking	COOP	463:	Intern/Vocal
COOP	422:	Intern/Banking	COOP	364:	Co-op/Music Marketing
COOP	323:	Co-op/Finance	COOP	464:	Intern/Music Marketing
COOP	423:	Intern/Finance	COOP	366:	Co-op/Physics
COOP	324:	Co-op/Management	COOP	466:	Intern/Physics
COOP	424:	Intern/Management	COOP	368:	Co-op/Psychology
COOP	325:	Co-op/Marketing	COOP	468:	Intern/Psychology
COOP	425:	Intern/Marketing	COOP	369:	Co-op/Counseling
COOP	326:	Co-op/Real Estate	COOP	469:	Intern/Counseling
COOP	426:	Intern/Real Estate	COOP	370:	Co-op/Student Life Services
COOP	327:	Co-op/Economics	COOP	470:	Intern/Student Life Services
COOP	427:	Intern/Economics	COOP	371:	Co-op/Student Affairs
COOP	328:	Co-op/Administration	COOP	471:	Inten/Student Affairs
COOP	428:	Intern/Administration	COOP	372:	Co-op/Academic Support Services
COOP	329:	Co-op/Office Management	COOP	472:	Intern/Academic Support Services
COOP	429:	intern/Office Management	COOP	373:	Co-op/Upward Bound
COOP	330:	Co-op/Nlagement in Library Science	COOP	473:	Intern/Upward Bound
COOP	430:	Intern/Management in Library Science	COOP	374:	Co-op/Human Relations
COOP	332:	Co-op/Early Childhood	COOP	474:	Intern/Human Relations
COOP	432:	Intern/Early Childhood	COOP	376:	Co-op/Special Education
COOP	333:	Co-op/Elementary Education	COOP	476:	Intern/Special Education
COOP	433:	Intern/Elementary Education	COOP	377:	Co-op/Rehabilitative Sciences
COOP	334:	Co-op/Secondary Education	COOP	477:	Intern/Rehabilitative Sciences
COOP	434:	Intern/Secondary Education	COOP	378:	Co-op/Learning Disabilities
COOP	335:	Co-op/Education	COOP	478:	Intern/Learning Disabilities
COOP	435:	Intern/Education	COOP	379:	Co-op/Mental Retardation
COOP	336:	Co-op/English	COOP	479:	Intern/Mental Retardation
COOP	436:	Intern/English	COOP	381:	Co-op/Speech Pathology
COOP	337:	Co-op/Writing Center	COOP	481:	Intern/Speech Pathology
COOP	437:	Intern/Writing Center	COOP	382:	Co-op/Audiology
COOP	338:	Co-op/Geography	COOP	482:	Intern/Audiology
COOP	438:	Intern/Geography	COOP	383:	Co-op/Speech
COOP	339:	Co-op/Earth Science	COOP	483:	Intern/Speech
COOP	439:	Intern/Earth Science	COOP	384:	Co-op/Theatre
COOP	340:	Co-op/Urban Planning	COOP	484:	Intern/Theatre

COOP	386: Co-op/Nursing	COOP	492: Intern/Research
COOP	486: Man/Nursing	COOP	393: Co-op/Admissions
COOP	387: Co-op/Medical Technology	COOP	493: Intern/Admissions
COOP	487: Intern/Medical Technology	COOP	395: Co-op/Life Experience
COOP	389: Co-op/Continuing Education	COOP	495: Intern/Life Experience
COOP	489: Intern/Continuing Education	COOP	396: Co-op/Paralegal
COOP	390: Co-op/Academic Services	COOP	496: Intern/Paralegal
COOP	490: Intern/Academic Services	COOP	397: Co-op/Planetarium
COOP	391: Co-op/Financial Aid	COOP	497: Intern/Planetarium
COOP	491: Intern/Financial Aid	COOP	398: Co-op/Women's Studies
COOP	392: Co-op/Research	COOP	498: Intern/Women's Studies

Course Descriptions

Academic calendar sequence in which course is offered follows each course description. The designated sequence is probable rather than guaranteed, and is subject to change.

Each semester=annually

Fall=first semester

Spring=second semester

On demand=course offered if potential enrollment warrants.

Accounting

- ACTG 201: INTRODUCTORY ACCOUNTING SURVEY** 3 s.h.
An introduction to accounting, the language of business. Emphasis is on accounting terminology, concepts, and the interpretation and use of accounting information for decision-making. This course may not be used to satisfy core or major requirements for degrees in business administration. Students who have passed ACTG 25 I may not schedule this course. Prerequisite: Sophomore standing at the Clarion Campus only. Each semester, summer.
- ACTG 251: FINANCIAL ACCOUNTING** 3 s.h.
A study of the principles and procedures for collecting, recording, summarizing, and reporting financial information. Prerequisite: Sophomore standing only at Clarion Campus. Each semester, summer. Fall, annually at Venango.
- ACTG 252: MANAGERIAL ACCOUNTING** 3 s.h.
A study of the aspects of accounting that aid managers. Included are budgeting, cash behavior and systems, alternate choice decisions, international accounting aspects, and cash flow. Prerequisites: Sophomore standing only at Clarion Campus, and ACTG 251. Each semester, summer. Spring, annually at Venango.
- ACTG 253: FACTORY ACCOUNTING** 3 s.h.
This course presents fundamental accounting concepts and techniques applied in record keeping and accounting control of the production process. Prerequisite: ACTG 252. Fall, annually, only at Venango Campus.
- ACTG 254: PAYROLL ACCOUNTING** 3 s.h.
This accounting course provides detailed coverage of payroll policy, records, wage calculation, deductions, and government reporting with an emphasis on tax form preparation. Prerequisite: ACTG 252. Spring, annually, only at Venango Campus.
- ACTG 255: FINANCIAL STATEMENT PREPARATION AND ANALYSIS** 3 s.h.
This course focuses on procedures for financial statement preparation and the use of accounting information as a basis for decision making by management, owners, creditors, and other users of financial statements. Prerequisite: ACTG 251. Fall, annually, only at Venango Campus.
- ACTG 256: INCOME TAX PROCEDURES AND FORMS** 3 s.h.
This course explains which types of income are taxable and which expenses are deductible. Both filling out and tiling individual, partnership, and corporate tax returns will be covered. Prerequisite: ACTG251. Spring, annually, only at Venango Campus.
- ACTG 350: INTERMEDIATE ACCOUNTING** 3 s.h.
A study of accounting theory and practice. Topics included are accounting for current assets, investments, plant and equipment, and intangibles. A special emphasis will be placed upon developing the student's technical and problem-solving ability. Prerequisite: ACTG 252. Each semester, summer.
- ACTG 351: ACCOUNTING FOR EQUITIES** 3 s.h.
A study of accounting theory and practice. Topics included are accounting for current and long-term liabilities, corporate equity, pension plans, long-term leases, income taxes, changes in financial position, financial statement analysis, and price-level adjusted statements. A special emphasis will be placed upon developing the student's technical and problem-solving ability. Prerequisite: ACTG 350 or consent of instructor. Each semester, summer.
- ACTG 352: COST ACCOUNTING** 3 s.h.
Basic consideration of cost principles, procedure, control and analysis. Cost accounting as a "tool" of management is stressed based on management information systems. Prerequisite: A(XG 252. Each semester, summer.
- ACTG 353: FEDERAL TAXES** 3 s.h.
A study of federal income, estate, and gift taxation. Problems of compliance with the law by individuals, partnerships, corporations, estates, and trusts are considered. Prerequisite: ACTG 252. Each semester, summer.
- ACTG 354: AUDITING** 3 s.h.
A study of the purposes, the ethical and legal environment, financial analysis, and selected operational techniques of auditing. Prerequisite: ACTG 351. Each semester, summer.
- ACTG 355: ADVANCED ACCOUNTING** 3 s.h.
A consideration of modern development in accounting, including recent studies and pronouncements by accounting authorities such as the American Institute of Certified Public Accountants and the Securities and Exchange Commission. Included is a study of the problems of accounting for consolidation and partnership equity. A special emphasis will be placed upon developing the student's technical and problem-solving ability. Prerequisite: ACTG 351. Each semester, summer.

- ACTG 451: ACCOUNTING PROBLEMS** 3 s.h.
A problem-oriented study of topics most often tested on the CPA exam. Included are inventory methods, long-term contracts, partnership, leases, consignments, installment sales, receivership, fiduciary accounting, and governmental accounting. Preparations for the practice portion of the CPA exam are emphasized. Prerequisite: ACTG 355. Each semester.
- ACTG 452: ADVANCED COST ACCOUNTING** 3 s.h.
A study of advanced concepts of cost accounting as a means of providing useful quantitative information for decision making. Topics include inventory valuation, cost allocations, joint-product costs, process costing, accounting systems, profit center costs, and segment performance measuring. Prerequisite: ACTG 352. Each semester.
- ACTG 453: PROBLEMS IN FEDERAL TAXATION ACCOUNTING** 3 s.h.
Federal income tax concepts and compliance problems of partnerships, corporations, estates, and trusts. Also a brief consideration of the concepts of Social Security, estate, and gift taxation. Prerequisite: ACTG 353. Each semester.
- ACTG 454: COMPARATIVE ACCOUNTING SYSTEMS** 3 s.h.
The major objective of the course is to help the student to develop a holistic approach to the concepts and practices for the examination and exploration of accounting systems. Specialized accounting systems will be discussed in detail dependent upon the interest and desires of students. Prerequisites: ACTG 251, 252, 350, 351, 354, CIS 223 and 301. Each semester.
- ACTG 455: NOT-FOR-PROFIT ENTITIES** 3 s.h.
A study of the principles and practices of budgeting and accounting for activities of entities that are operated for purposes other than making profits. Prerequisite: ACTG 351. Each semester.
- ACTG 461: INTERNATIONAL ACCOUNTING** 3 s.h.
The theory, practice, procedures, and issues of accounting in representative foreign countries, including important differences between domestic and international accounting. The international issues of currency translation, inflation, financial reporting, standards including auditing, and taxation will be considered. Prerequisite: ACTG 351 or consent of the instructor. Each semester.
- ACTG 463: TAX PLANNING** 3 s.h.
A survey course to acquaint the student with tax planning techniques which can be used to accomplish an individual's financial goals. An understanding of financial position, cash flow and income, gift and estate tax matters enables the student to suggest actions that fit the individual's financial priorities. Prerequisite: ACTG 353. Once annually.
- ACTG 490: CURRENT ACCOUNTING PRONOUNCEMENTS AND PRACTICE** 3 s.h.
A research study of current Financial Accounting Standards Board statements of standards, interpretations, concepts, exposure drafts, and discussion memorandums. The internship experience and completed term paper will be discussed and integrated with the pronouncements. Prerequisite: COOP 420, Accounting Internship. Spring Semester.
- ACTG 499: SPECIAL TOPICS IN ACCOUNTING** 3 s.h.
Various current topics affecting accounting practice and theory will be presented. Different topics will be covered from year to year as subjects of importance are identified. Prerequisite: ACTG 351 or consent of instructor. On demand.

Anthropology

- ANTH 211: ANTHROPOLOGY** 3 s.h.
This course deals with the origin, diversification, and evolution of the human way of life (cultures) from extinct primitive systems to modern industrial civilizations. This course is an introduction to anthropology (the study of humankind) with emphasis on the nature and concept of culture. Some work is done in physical anthropology. Emphasis is placed on the simple and complex cultures of the world with specific readings in each category. Each semester.
- ANTH 213: INTRODUCTION TO BIOANTHROPOLOGY** 3 s.h.
A survey of the human species in time, place, and culture and the investigation of factors underlying human variation. No prerequisite. Each second year.
- ANTH 214: PRINCIPLES OF HUMAN ECOLOGY** 3 s.h.
A study of the functional interrelationships of humankind and the biophysical environment. No prerequisite. Every second year.
- ANTH 215: CULTURE, ILLNESS AND HEALING** 3 s.h.
This course is designed to provide undergraduate students with an overview of the field of medical anthropology. The practice of traditional medicine in other cultures has long been of interest to anthropologists, as has been the practice of folk medicine in our own country. The course includes a survey of ancient Middle Eastern and Egyptian medicine as well as New World Inca practices. Palaeopathology has been included as well, including the role of disease in human evolution.
- ANTH 250: PREHISTORIC NORTH AMERICA** 3 s.h.
The course examines the development of North American Indian cultures from the beginning of human migration in the late Pleistocene to the coming of Europeans. Emphasis will be on human interrelationships with the various New World environments in time and space which led to the rise of prehistoric cultures, food production, trade, etc. No prerequisite. Every second year.
- ANTH 251: HISTORIC INDIANS OF NORTH AMERICA** 3 s.h.
This course is an ethnographic survey of American Indians. Cultural processes, historic events, and ecological adjustments are explored in order to understand the diversity of Indian culture at the time of their discovery by Europeans. American Indian acculturation and contemporary Indian issues are also considered. No prerequisite. Every second year.

- ANTH 253: ARCHAEOLOGY OF EASTERN NORTH AMERICA** 3 s.h.
This course provides a detailed survey of prehistoric developments in North America east of the Mississippi from Late Pleistocene to the Colonial Period. The principal aim is to familiarize students with the prehistory of the Amennid populations in the area, including the gradual emergence of the Woodland pattern. Summers only.
- ANTH 290: INTRODUCTION TO FOLKLORE** 3 s.h.
The course covers the main aspects of oral traditions such as folklore, legend, myths, riddle, folksong, etc., and analyzes the relationship of oral traditions to literature. The systematic study of folklore, its methods, research approaches, and related subjects are investigated. No prerequisite. Every second year.
- ANTH 354: CULTURAL HISTORY OF ASIA AND AFRICA** 3 s.h.
A survey of major cultural trends of Old World cultures exclusive of Europe. Beginning with prehistoric Middle East, the spread of food production and its consequences is traced through space and time. Special emphasis is given to the rise and development of Asian cultural patterns. The second section of the course deals with African tribal cultures and their history. Every second year.
- ANTH 356: FIELD ARCHAEOLOGY** 4 s.h.
This course will give undergraduate students an opportunity to participate actively in all phases of archaeological field investigation of a limited section of the Allegheny River drainage in order to determine cultural sequence, settlement patterns, population density, economy, cultural influences, technologies, and human ecology. Procedures will include reconnaissance, testing of suspected sites, site survey, controlled excavation, site mapping, interpretation and recovery of specimens, and a final site report. Summers only.
- ANTH 357: INDIANS OF SOUTH AND CENTRAL AMERICA** 3 s.h.
A survey of Indian cultures from the beginnings in the Late Pleistocene to the coming of the Conquistadores; special emphasis is placed upon culture developments, the rise of states, native agriculture, and the development of arts and crafts, including architecture and ceremonial art. No prerequisite. Every second year.
- ANTH 358: WORLD PREHISTORY** 3 s.h.
This course covers the cultural development of humankind from the Lower Paleolithic to the beginnings of urbanism in the Bronze and Iron Age. The course examines human development in Europe, Africa, Asia, and the New World; draws comparisons between cultures; studies the diffusion of cultural traits; and summarizes recent developments in research. No prerequisite. Every second year.
- ANTH 359: PRIMITIVE SCIENCE AND TECHNOLOGY** 3 s.h.
This course is designed to provide a better understanding of the human relationship with and the utilization of environment. It traces the development which ultimately leads to the rise of technological societies. In investigating human attempts to come to an understanding of surrounding forces, the course provides a survey of the history of scientific thought. No prerequisite. Every second year.
- ANTH 361: WITCHCRAFT, MAGIC, AND RELIGION** 3 s.h.
This course is a cross cultural comparative analysis of human environment with the supernatural. The role of religion is explored and theories dealing with the nature and function of various aspects of supernaturalism are discussed from an anthropological perspective. No prerequisite. Every second year.
- ANTH 362: HISTORY AND METHODS OF ANTHROPOLOGY** 3 s.h.
This course provides a general overview of the history of anthropology as an academic discipline, combined with a survey of anthropological theory and research methods. Every second year.
- ANTH 363: HISTORICAL ARCHAEOLOGY** 3 s.h.
Designed to provide an introduction to the problems and methods of historical archaeology with special emphasis on North America. Usually to be taken in conjunction with ANTH 356 (Field Archaeology) as an alternative to ANTH 253 (Archaeology of Eastern North America.)
- ANTH 370: PRACTICUM IN MUSEOLOGY** 3 s.h.
The course is designed to provide undergraduates with an introduction to the role and operation of museums through lectures, field trips, student projects, and individual research. No prerequisite. Every second year.
- ANTH 400: INDIVIDUAL RESEARCH** 2 s.h.
Individual research, designed as an advanced course in anthropology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of anthropology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project advisor and the departmental chair. Prerequisite: ANTH 211 On demand.
- ANTH 401: INDIVIDUAL RESEARCH: ARCHAEOLOGY** 2 s.h.
Individual research, designed as an advanced course in archaeology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of archaeology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project advisor and departmental chair. Prerequisites: ANTH 211, 356. On demand.
- ANTH 402: INDIVIDUAL RESEARCH: BIOANTHROPOLOGY** 2 s.h.
Individual research, designed as an advanced course in bioanthropology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of bioanthropology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project advisor and the departmental chair. Prerequisites: ANTH 211, 213, 356, or the consent of instructor. On demand.
- SUMMER ARCHAEOLOGICAL FIELD SCHOOL** 9 s.h.
An integrated program especially designed to provide undergraduates with a practical and theoretical background in modern archaeological research. The program combines classroom and laboratory work with field research, including excavation. All participants must register for ANTH 253: Archaeology of Eastern North

America or ANTH 363: Historical Archaeology, and ANTH 356: Field Archaeology. Pennsylvania teachers may take the program for credit toward permanent certification.

Art

- ART 110: THE VISUAL ARTS** 3 s.h.
This is an introductory art appreciation course dealing with the form and content of art as well as the processes and products of art. It is intended to enrich the student's awareness and understanding of visual art forms. Each semester.
- ART 121: DRAWING I** 3 s.h.
 An introductory course designed to develop the drawing skills of students with emphasis on observation, analysis, basic pictorial composition, and spatial organization. Students will draw primarily from direct observation as they explore a variety of drawing media processes, and attitudes. Required of all art majors. Each semester.
- ART 122: FIGURE DRAWING I** 3 s.h.
 An introductory drawing course designed to develop knowledge of human anatomy. Emphasis is on an intuitive approach to recording the figure. Students will work directly from the skeleton and models, analyzing the figure, and exploring a variety of media and pictorial problems. Required of all art majors. Spring Semester.
- ART 125: COLOR AND DESIGN** 3 s.h.
 A study of two-dimensional design concepts and their applications with an emphasis on the principles and elements of design. Required of all art majors. Fall Semester and on demand.
- ART 126: THREE DIMENSIONAL DESIGN** 3 s.h.
The exploration of three dimensional design forms in order to gain a deeper understanding of the elements and principles of design. Required of all art majors. Spring Semester.
- ART 131: PAINTING I** 3 s.h.
 An introduction to painting in oils in which the student explores basic materials and techniques of painting. Fundamentals of pictorial organization and visual expression will be stressed. Each semester.
- ART 141: SCULPTURE I** 3 s.h.
 Introductory studio course with experiences in conceiving and creating three dimensional sculptural forms in a variety of media with a variety of techniques. Each semester.
- ART 145: ILLUSTRATION I** 3 s.h.
This studio course introduces students to a variety of drawing and painting media using a controlled palette. Monochromatic as well as full color illustrations will be produced. Use of the principles of design, creative problem-solving, and the integration of illustrations into designed pieces will be encouraged. Fall Semester annually or on demand.
- ART 151: CERAMICS I** 3 s.h.
 Design and construction of clay pieces in varied techniques and approaches. Basic clay and glaze technology, hand building, throwing, turning, and firing processes. Each semester.
- ART 155: GRAPHIC DESIGN AND COMPUTER I** 3 s.h.
 An introductory course stressing graphic design, typography, and computer graphic modes and functions. Software such as Deluxepaint will be our main focus. Spring Semester annually or on demand.
- ART 161: WEAVING AND FIBER SCULPTURE I** 3 s.h.
 Woven and off-loom textile construction, applying design principles in original art making, with attention to the multicultural historical context of textile art traditions. Fall annually and on demand.
- ART 165: FABRIC SURFACE DESIGN I** 3 s.h.
 Patterning of cloth with direct printing techniques and shibori (tie-dyeing); applying design principles in original art making, with attention to the multicultural historical context of textile art traditions. Spring annually and on demand.
- ART 171: PRINTMAKING I** 3 s.h.
 Problems in composition utilizing basic techniques and principles of the printmaking processes, i.e., collagraphs, relief prints, intaglio prints, lithographs, and stencils. Each semester.
- ART 181: JEWELRY I** 3 s.h.
 Design and construction of individual pieces of jewelry from sterling silver, semi-precious stones, exotic woods, and other materials. The course deals with soldering techniques, casting techniques, methods of setting stones, chain construction, and all methods known for fabricating jewelry for human adornment. Annually.
- ART 190: TEACHING ART IN THE ELEMENTARY GRADES** 3 s.h.
 A study of the place of art in the elementary school curriculum, along with an acquisition of the skills and knowledge needed to teach art. Classroom planning, presentation, motivation methods, and lesson plans will be developed in workshops or actual teaching situations. Each semester.
- ART 211: SURVEY OF ANCIENT THROUGH MEDIEVAL ART** 3 s.h.
 A survey of the art and architecture of the western world from prehistory to the Proto-Renaissance. Fall Semester and on demand.
- ART 212: SURVEY OF RENAISSANCE THROUGH MODERN ART** 3 s.h.
 A survey of the art and architecture of Europe and America from the Renaissance to the present. Spring Semester and on demand.
- ART 214: HISTORY OF 20TH CENTURY ART** 3 s.h.
 A study of the major movements and masters of painting and sculpture in Europe and the United States in the 20th century; its relation to other elements of culture, and its place in the historical tradition of Western art. Papers, reading assignments. Annually.
- ART 215: AFRICAN TRADITIONS IN ART** 3 s.h.
 An introduction to traditional sculpture, masks, crafts, and other arts of selected Sub-Saharan African groups, and to African American artists. Students will develop an understanding of the meaning and cultural context of the art through hands-on experience in related art processes and a required museum trip. On demand.

- ART216: WOMEN IN ART** 3 s.h.
A study of the achievements of women artists; images of women in art; the role of women in art history, theory, and criticism; and the museum and gallery environments as they relate to women. On demand.
- ART 222: DRAWING II** 3 s.h.
This course will involve continued exploration of a variety of drawing media and techniques in order to solve more complex pictorial and spatial problems. The development of individualized responses will be encouraged. Offered concurrently with ART 121. Prerequisites: ART 121, 122. Each semester.
- ART223: FIGURE DRAWING II** 3 s.h.
A continued exploration of the figure and its expressive potential. A more in-depth analysis of anatomy including musculature and surface features. Expanded media and problem solving. Offered concurrently with ART 122. Prerequisites: ART 121, 122. Spring Semester.
- ART 232: PAINTING II** 3 s.h.
Continued exploration of a wide range of techniques with an emphasis on solving visual and color problems as a vehicle for personalized expression. Prerequisite: ART 131. Each semester.
- ART 242: SCULPTURE II** 3 s.h.
Continuation and expansion of experiences and directions established in Sculpture I Prerequisite: ART 141. Each semester.
- ART246: ILLUSTRATION II** 3 s.h.
Illustration II utilizes the skills and knowledge acquired from Level I to produce portfolio quality pieces. Airbrush will be emphasized in this course. Offered concurrently with ART 145. Prerequisite: ART 145. Fall Semester annually or on demand.
- ART 252: CERAMICS II** 3 s.h.
Students work with the technical aspects of ceramics-glaze formulation, glaze calculations; experiment with natural local clays and desired clay bodies, decorating methods, glazing, and firing techniques while pursuing individual interests. Students work on an independent level investigating interests leading to a final individual critique of work accomplished. Prerequisite: ART 151. Each semester.
- ART 256: GRAPHIC DESIGN AND COMPUTER II** 3 s.h.
Graphic design and computer II further explores layout, typography, and computer graphics. Students build on the skills and knowledge acquired from Level I to produce portfolio quality pieces. Software such as Pelican Press will be emphasized. Offered concurrently with ART 155. Prerequisite: ART 155. Spring Semester annually or on demand.
- ART 262: WEAVING AND FIBER SCULPTURE II** 3 s.h.
Continuing study of textile structure and processes in historical context. Development of compositional skills and expressive personal imagery. Prerequisite: ART 161. Fall annually and on demand.
- ART266: FABRIC SURFACE DESIGN I** 3 s.h.
Direct, immersion, and printed application of dyes; development of compositional skills and expressive personal imagery; attention to the historical context of textile art traditions. Prerequisite: ART 165. Spring annually and on demand.
- ART 272: PRINTMAKING II** 3 s.h.
Problems in color utilizing techniques and principles of the printmaking processes. Prerequisite: ART 171. Each semester.
- ART 282: JEWELRY II** 3 s.h.
A continuation of study in the design and construction of jewelry pieces. Students continue advancing their skills and knowledge of metals, stones, woods, and other materials. Prerequisite: ART 181. Annually.
- ART300: SPECIAL TOPICS IN ART**
Topics of interest in various areas of art. The format will be selected by the instructor. Offered when faculty available.
- ART 312: ITALIAN RENAISSANCE ART** 3 s.h.
A survey of the art and architecture of the Italian Renaissance from the Italo-Byzantine style to the advent of the Baroque. Prerequisite: None-ART 212 suggested. Alternate Fall Semesters or on demand.
- ART 313: NINETEENTH-CENTURY ART** 3 s.h.
A survey of the art and architecture of Europe and America in the 19th century from Romanticism through Art Nouveau. Prerequisite: None-ART 212 suggested. Alternate Fall Semesters or on demand.
- ART315: ORIENTAL ART** 3 s.h.
A survey of the art and architecture of the Far East from prehistory to the 20th century. Prerequisite: None-ART 110 suggested. Alternate Spring Semesters or on demand.
- ART 323: DRAWING III** 3 s.h.
This course is intended to encourage the integration of individual expressive and conceptual concerns into drawing. The course will include further expansion of media and processes applicable to drawing, including the use of color media. Investigation of current as well as historical drawing practices will be included. Offered concurrently with ART 121, 222. Prerequisite: ART 222. Each semester.
- ART 324: FIGURE DRAWING III** 3 s.h.
A course designed to integrate the student's expressive concerns with knowledge of the figure. Investigation of figures in a historical context as well as current trends in figure drawing. Continued exploration of media will be expected. Offered concurrently with ART 122, 223. Prerequisite: ART 223. Spring Semester.
- ART333: PAINTING III** 3 s.h.
Individual expression and problem solving take an increasingly important role as the student focuses on a personal aesthetic direction. Experimentation with various mediums and surfaces is encouraged. Assignments given as needed. Regular critiques. Prerequisite: ART 232. Each semester.
- ART 343: SCULPTURE III** 3 s.h.
Continuation and expansion and directions established in Sculpture II. Prerequisite: ART 242. Each semester.

- ART 347: ILLUSTRATION III** 3 s.h.
 Illustration 111 incorporates all previous knowledge acquired in Levels I and II. Students are encouraged to develop their personal aesthetic and to produce portfolio quality pieces. Offered concurrently with ART 145. Prerequisite: ART 246. Fall Semester annually or on demand.
- ART 353: CERAMICS III** 3 s.h.
 The student explores the fundamentals of glaze tests, materials test, eutectics, the calculation of glazes, ceramic kilns, and their design. The materials used will be studied, along with the design of ceramic equipment and their special uses. Production of pots will be downplayed for the concentration on the technical aspects and equipment in the production of the pot. Prerequisite: ART 252. Restricted to art majors or permission of instructor. Each semester.
- ART 357: GRAPHIC DESIGN AND COMPUTER III** 3 s.h.
 This course incorporates all previous knowledge acquired in Levels I and II including proficiency in software such as Deluxepaint and Pelican Press. Students are encouraged to develop their personal direction and to produce portfolio quality pieces. Software such as Digipaint and Digiview will be introduced. Offered concurrently with ART 155. Prerequisite: ART 256. Spring Semester or on demand.
- ART 363: WEAVING AND FIBER SCULPTURE III** 3 s.h.
 Advanced study of hand and computerized/mechanized textile construction processes in historical context. Development of portfolio and facility with the language of art. Prerequisite: ART 262. Fall annually and on demand.
- ART367: FABRIC SURFACE DESIGN III** 3 s.h.
 Advanced study of hand and computerized/mechanized surface design processes in historical context. Development of portfolio and facility with the language of art. Prerequisite: ART 266. Spring annually and on demand.
- ART 373: PRINTMAKING III** 3 s.h.
 Advanced problems in composition and color utilizing techniques and principles of intaglio, relief, planographic, or stencil processes. (The student may choose two processes.) Prerequisite: ART 272. Each semester.
- ART 424: DRAWING IV** 3 s.h.
 This course is designed to provide an opportunity for students to explore a drawing concern(s) of their own in depth. Offered concurrently with ART 121, 122, 222, 323. Prerequisite: ART 323. Each semester.
- ART 425: FIGURE DRAWING IV** 3 s.h.
 A tutorial approach allowing the student maximum freedom in exploring the figure in their own context. Offered concurrently with ART 122, 223, 324. Prerequisite: ART 324. Spring Semester.
- ART 426: SENIOR DRAWING** 3 s.h.
 This capstone course will allow students who are concentrating in drawing to develop their work for the B.F.A. exhibit. Offered concurrently with other drawing courses. Prerequisites: ART 424 and 425. Each semester.
- ART 434: PAINTING IV** 3 s.h.
 Continued investigation of aesthetic concepts and personal direction. Students work toward a portfolio or entrance into an M.F. A. program. Regular critiques. Prerequisite: ART 333. Each semester.
- ART 435: PAINTING V** 3 s.h.
 Continuation of Painting IV. Prerequisite: ART 434. Each semester.
- ART 436: PAINTING VI** 3 s.h.
 Continuation of Painting V. Prerequisite: ART 435. Each semester.
- ART 444: SCULPTURE IV** 3 s.h.
 Continuation of Sculpture III. Prerequisite: ART 343. Each semester.
- ART 445: SCULPTURE V** 3 s.h.
 Continuation of Sculpture IV. Prerequisite: ART 444. Each semester.
- ART 446: SCULPTURE VI** 3 s.h.
 Continuation of Sculpture V. Prerequisite: ART 445. Each semester.
- ART448: ILLUSTRATION IV** 3 s.h.
 Illustration IV is an intermediate level course. Students are encouraged to develop their personal aesthetic and produce portfolio quality pieces. Emphasis will be on the business aspects of illustration. Offered concurrently with ART 145. Prerequisite: ART 347. Fall Semester annually or on demand.
- ART 449: ILLUSTRATION V** 3 s.h.
 Illustration V is an advanced level course. Students entering this course should have a solid creative and technical background in illustration. They will develop a portfolio geared towards their particular skills and interests. Students can seek their own clients at this time so that they have printed pieces in their professional portfolios. Offered concurrently with ART 145. Prerequisite: ART 448. Fall Semester annually or on demand.
- ART 450: ILLUSTRATION VI** 3 s.h.
 Illustration VI is an advanced level course. Students entering this course should have a solid creative and technical background in illustration. They will develop a portfolio geared towards their particular skills and interests. Students can seek their own clients at this time so that they have printed pieces in their professional portfolios. Offered concurrently with ART 145. Prerequisite: ART 449. Fall Semester annually or on demand.
- ART 454: CERAMICS IV** 3 s.h.
 Students work and set goals in their own creative interests for a semester of work. Students who choose hand building or thrown pottery begin work toward a portfolio for a career or entrance into an M.F.A. program. Prerequisite: ART 353. Restricted to art majors or permission of instructor. Each semester.
- ART 455: CERAMICS V** 3 s.h.
 Continuation of Ceramics IV. Prerequisite: ART 454. Each semester.
- ART 456: CERAMICS VI** 3 s.h.
 Continuation of Ceramics V. Prerequisite: ART 455. Each semester.
- ART 458: GRAPHIC DESIGN AND COMPUTER N** 3 s.h.
 This is an intermediate level course. Students are encouraged to develop their personal direction and to produce portfolio quality pieces. Software such as Professional Draw will be explored in depth. Offered concurrently with ART 155. Prerequisite: ART 357. Spring Semester annually or on demand.

- ART 459:** *GRAPHIC DESIGN AND COMPUTER V* 3 s.h.
This is an advanced level course. Students entering this course should have a solid creative and technical background in computer graphics and graphic design. Software such as Professional Page will be emphasized. They will develop a portfolio geared towards their particular skills and interests. Students can seek their own clients at this time so that they have printed pieces in their professional portfolios. Offered concurrently with ART 155. Prerequisite: ART 458. Spring Semester annually or on demand.
- ART 460:** *GRAPHIC DESIGN AND COMPUTER VI* 3 s.h.
This is an advanced level course. Students entering this course should have a solid creative and technical background in computer graphics and graphic design. Their professional portfolios are reviewed at the beginning of the course and weak projects are replaced with higher quality pieces. The business skills of this outline (111. C.) are stressed, especially promotional pieces. Offered concurrently with ART 155. Prerequisite: ART 459. Spring Semester annually or on demand.
- ART 464:** *WEAVING AND FIBER SCULPTURE IV* 3 s.h.
 Advanced studio production and study of textile construction history and techniques; continued development of portfolio through regular critiques. Prerequisite: ART 363. Fall annually and on demand.
- ART 465:** *WEAVING AND FIBER SCULPTURE V* 3 s.h.
 Preparation for BFA exhibition and continued development of portfolio. Prerequisite: ART 464. Fall annually and on demand.
- ART 466:** *WEAVING AND FIBER SCULPTURE VI* 3 s.h.
 Preparation for BFA exhibition and continued development of portfolio. Prerequisite: ART 465. Fall annually and on demand.
- ART 468:** *FABRIC SURFACE DESIGN IV* 3 s.h.
 Advanced studio production and study of surface design history and techniques; continued development of portfolio through regular critiques. Prerequisite: ART 367. Spring annually and on demand.
- ART 469:** *FABRIC SURFACE DESIGN V* 3 s.h.
 Preparation for BFA exhibition and continued development of portfolio. Prerequisite: ART 468. Spring annually and on demand.
- ART 470:** *FABRIC SURFACE DESIGN VI* 3 s.h.
 Preparation for BFA exhibition and continued development of portfolio. Prerequisite: ART 469. Spring annually and on demand.
- ART 474:** *PRINTMAKING IV* 3 s.h.
 Advanced problems utilizing one technique of printmaking. Prerequisite: ART 373. Each semester.
- ART 475:** *PRINTMAKING V* 3 s.h.
 Continuation of Printmaking IV. Prerequisite: ART 474. Each semester.
- ART 476:** *PRINTMAKING VI* 3 s.h.
 Continuation of Printmaking V. Prerequisite: ART 475. Each semester.

Biology

- BIOL 111:** *BASIC BIOLOGY* 4 s.h.
This course deals with the principles of biology. Topics include cellular structure and physiology, growth and repair, reproduction and development, control, sources of food energy, inheritance, and people's interrelationship with their biological environment. The classification of plants and animals is reviewed briefly. Credit not to be applied toward biology major. Each semester.
- BIOL 153:** *INTRODUCTORY ANIMAL BIOLOGY* 4 s.h.
 A survey of the animal kingdom, emphasizing structural, physiological, and evolutionary relationships. The laboratory exercises reflect this approach; dissections and **experimental** procedures are also introduced. Three lectures and three laboratory hours weekly. Each semester.
- BIOL 154:** *INTRODUCTORY PLANT BIOLOGY* 4 s.h.
 Complementary to BIOL 153. An experimental/survey approach to the structure, function, evolution, ecology, and human uses of bacterial, fungi, algae, and higher plants, with particular emphasis on vascular plant biology. Three lecture hours and three laboratory hours weekly. Each semester.
- BIOL 200:** *SELECTED TOPICS IN BIOLOGY* 1-3 s.h.
 This course, using different learning formats selected by the **instructor** as best suited for the particular offering, provides for the focused study of a special interest topic in biology. The course may be offered in any semester, subject to demand and staff availability. Not for biology majors.
- BIOL 201:** *GENETICS* 3 s.h.
 A study of the principles of inheritance in plants and animals, including humans. Topics include: Mendelian genetics, linkage, recombination, cytogenetics, and molecular genetics. Three lectures and two laboratory hours weekly. Prerequisites: BIOL 153, 154 and CHEM 254 or consent of the instructor. Spring, annually.
- BIOL 202:** *PRINCIPLES OF ECOLOGY* 3 s.h.
 Interaction of organisms and their biotic and abiotic environment; population dynamics and interactions; the reality of communities; energy transfer with an ecological system; components of the ecosystem. Two lectures and three laboratory hours weekly. One weekend field trip costing approximately \$35 per student. Prerequisites: BIOL 153 and 154 or equivalent or consent of the instructor. Fall Semester.
- BIOL 203:** *CELL BIOLOGY* 3 s.h.
 Structure, **biochemistry**, and function of plant and animal cells. Two lectures and three laboratory hours weekly. Prerequisites: BIOL 153, 154, and CHEM 153, 154, 163, 164, and 254 or their equivalents or consent of the instructor. Each semester.
- BIOLIGS 225:** *HUMAN GENETICS* 3 s.h.
 Mendelian genetics and the inheritance of human genetic disease. The anatomical, physiological, biochemical, and genetic basis of human diseases, including diabetes, atherosclerosis and cancer. The genetic component of

mental illness. Behavioral genetics and sociobiology. Recombinant DNA, "gene therapy" and medical ethics. This is a non-majors course, for students who wish to know more about human genetics than is available in basic biology. It may be particularly useful for students in anthropology, rehabilitative sciences, psychology, sociology, and special education. Prerequisite: BIOL 111 or consent of the instructor. Fall, annually.

BIOL 257: *BIOLOGY OF AGING* 3 s.h.

A study of current views of animal aging with specific reference to the causes and effects of aging in human organ systems. Three discussion periods weekly. Prerequisite: BIOL 111 Basic Biology or BIOL 153: Introductory Animal Biology or equivalent. Not for biology majors.

BIOL 258: *ANATOMY AND PHYSIOLOGY I* 3 s.h.

A study of the normal structure of the human body and how it functions. Special attention is given to the reproductive, skeletal, muscular, nervous, and endocrine systems and their interrelationships. Two lectures and two lab hours weekly. Fall, annually. Venango Campus. Not for biology majors.

BIOL 259: *ANATOMY AND PHYSIOLOGY II* 3 s.h.

A continuation of BIOL 258, Anatomy and Physiology I This course includes the circulatory, respiratory, digestive, urinary, and integumentary systems and their interrelationships. Two lectures and two laboratory hours weekly. Prerequisite: BIOL 258, Spring, annually. Venango Campus. Not for biology majors.

BIOL 260: *MICROBIOLOGY* 3 s.h.

A study of microorganisms including viruses, bacteria, fungi, and protozoa, with emphasis on those associated with human health and disease. Consideration is given to immunity and resistance to infectious diseases and to their epidemiological and public health aspects. Laboratory emphasis is on pathogenic bacteria and the bacteriological and microscopic techniques. Two lectures and three laboratory hours weekly. Fall and Spring Semesters. Venango Campus. Not for biology majors.

BIOL 341: *GENERAL MICROBIOLOGY* 4 s.h.

A study of microorganisms including viruses, fungi, and bacteria. Culturing, isolation, classification, and ecology of microscopic life from air, water, soil, and dairy products, including beneficial and pathogenic forms. Two lectures and six laboratory hours weekly. Prerequisites: BIOL 203 and CHEM 154. Each semester.

BIOL 353: *ORNITHOLOGY* 3 s.h.

An introduction to the biology of birds. Lectures deal with internal and external adaptation for aerial travel, classification, migration, habitats, plumage changes, nesting habits, and ecologic relations. Two lectures and three laboratory or field trip hours weekly. Spring, even-numbered years.

BIOL 355: *INVERTEBRATE ZOOLOGY* 3 s.h.

A study of the biology, phylogeny, and classification of invertebrate animals. Emphasis is placed on their role in ecosystems and their relationships to humans and other vertebrates. Two lectures and three hours of laboratory weekly. Completion of one year of introductory biology or equivalent is required. Alternate years..

BIOL 360: *PROBLEMS IN BIOLOGY* 1-4 s.h.

Acquaints the student with skills and techniques used in research. The student identifies a problem for investigation and completes all phases of its study, including the writing of a research report. Approval must be secured prior to preregistration from the staff member who will direct the student.

BIOL 400: *SPECIAL TOPICS* Z-6 s.h.

Advanced topics in various areas of biology. The format used will be selected by the professors as most suitable to the study. The course may be offered on request of students, subject to the availability of staff. Enrollment by consent of the instructor. On demand.

BIOL 420: *VERTEBRATE BIOLOGY AND SYSTEMATIC* 3 s.h.

A survey course dealing with the various aspects of classification, evolutionary relationships, morphology, zoogeography, ethology, ecology, and physiology of vertebrates, with special reference to those from Pennsylvania. Prerequisites: BIOL 153 and BIOL 202 or permission of the instructor. Spring, odd-numbered years.

BIOL 424: *FRESHWATER ICHTHYOLOGY* 3 s.h.

A study of the classification, evolutionary relationships, distribution, morphology, ethology, ecology, and physiology of fishes. Lab exercises emphasize the identification of families and species of fish from the Eastern United States, with emphasis on Pennsylvania forms. Pennsylvania fishing license required. Two lectures and three lab hours weekly. Fall, even-numbered years.

BIOL 425: *FISHERIES BIOLOGY* 3 s.h.

Ecology of fish populations, including taxonomy identification, age and growth, population estimation and analysis, food habits, management, and environmental requirements. Application of microcomputers in fisheries work will be emphasized in data analysis. Five clock hours weekly, including laboratory. Prerequisites: Consent of the instructor and PA fishing license required. Fall, odd-numbered years.

BIOL 427/527: *PLANT TAXONOMY AND FIELD BOTANY* 3 s.h.

A field-based course emphasizing the identification, classification, distribution and evolutionary relationships of vascular plants with particular emphasis on the flora of western Pennsylvania and adjacent regions. Two hours lecture and three hours laboratory or field work weekly. Prerequisite: BIOL 154, BIOL 202 is highly recommended. Fall, odd-numbered years.

BIOL 443: *VIROLOGY* 3 s.h.

A study of plant, animal, and bacterial viruses with emphasis on biochemistry, structure, life cycles, and disease-causing mechanisms. Three clock hours per week. Prerequisites: CHEM 453, BIOL 341, or consent of the instructor. Fall, annually.

BIOL 444: *IMMUNOLOGY* 4 s.h.

An introduction to the fundamental concepts of immunology, immunochemistry, serology, and the role of immunology in epidemiologic studies. Three lectures and three laboratory periods weekly. Prerequisite: BIOL 341 or permission. Fall, annually.

BIOL 446: *PATHOGENIC MICROBIOLOGY* 4 s.h.

A study of the bacteria, fungi, and viruses which cause human disease. Laboratory emphasis is on isolation and identification of pathogens and on elementary immunology. Two lectures and four laboratory hours weekly. Prerequisite: BIOL 341. Spring, annually.

- BIOL 450: CELL PHYSIOLOGY** 4 s.h.
 The study of the molecular dynamics of eukaryotic cells. The major topics will include the functional and structural organization of the cell, the cell as a unit of inheritance, and the cell as a biochemical transducer. Two lecture sessions and four laboratory hours per week. Prerequisites: Completion of BIOL 153, 154, 201, 203, and CHEM 254 or permission of the instructor.
- BIOL 451: ANIMAL PHYSIOLOGY** 3 s.h.
 Study of the comparative physiology of animals, including water and ion regulations, circulation, respiration, nutrition, nervous activity, endocrine functions, and responses to temperature, light, gases, and pressure. Two lectures and three hours laboratory weekly. Prerequisites: BIOL 203 and CHEM 254. Spring, annually.
- BIOL 452: PLANT PHYSIOLOGY** 3 s.h.
 Life processes and responses of plants to the environment. Topics include water relations, transpiration, translocation, photosynthesis, respiration, metabolism, plant hormones and morphogenesis, photoperiodism, temperature responses, environmental and stress physiology. Two lectures and three hours laboratory weekly. Prerequisites: BIOL 201, 203, and CHEM 254. Fall, even-numbered years.
- BIOL 453: PA THOPHYSIOLOGY: ENDOGENOUS AGENTS** 4 s.h.
 The study of mechanisms by which disease occurs in humans. The course emphasizes responses to the disease process, and the effects of pathophysiological mechanisms on the normality of cell, tissue, organ and system functions, and the response of the body to the disease process. Prerequisites: Prior courses in Physiology desired. Two years of study in biology or permission of instructor. Spring, annually. Venango Campus. Not for biology majors.
- BIOL 454: PA THOPHYSIOLOGY: EXOGENOUS AGENTS** 4 s.h.
 The study of mechanisms by which disease occurs in humans. Emphasis in this course is on disease related to heredity, physical, chemical, and biological stressors. Prerequisite: Three semesters of biology required or permission of instructor. Fall, annually. Venango Campus. Not for biology majors.
- BIOL 455: ENDOCRINOLOGY** 3 s.h.
 A survey of the chemical and physiological principles of hormonal integrations in animals. Three hours lecture/week. Prerequisite: BIOL 450, or BIOL451, or permission of instructor. Spring, annually.
- BIOL 456: ENTOMOLOGY** 3 s.h.
 A general study of insects, including structure, physiology, classification, economic importance, and relationships. Two lectures and three hours of laboratory or field work weekly. Fall, odd-numbered years.
- BIOL 460: COMPARATIVE VERTEBRATE ANATOMY** 3 s.h.
 This course traces the most important trends in the evolution of basic structures in vertebrate lines and conveys an appreciation of how the mammals came to possess the combination of characters that make this group unique. Two lectures and three laboratory hours weekly. Prerequisites: BIOL 153, 154. Spring, even-numbered years.
- BIOL 461: VERTEBRATE EMBRYOLOGY** 3 s.h.
 A descriptive study of the development of vertebrates, including early processes and the formation of organ systems. Two lectures and three laboratory hours weekly. Prerequisite: One year of biology. Spring, odd-numbered years.
- BIOL 464: DEVELOPMENTAL BIOLOGY** 3 s.h.
 A study of the major processes in development and their underlying mechanisms. Includes a descriptive study and mechanisms such as differentiation, induction, and morphogenesis. Materials deal primarily with animal development. Two lectures and three laboratory hours weekly. Prerequisites: BIOL 153, 154, 201, and General Chemistry. Fall, annually.
- BIOL 470: ANIMAL ECOLOGY** 3 s.h.
 A course dealing with the interrelationships of animals and their environment, including physical and biological factors. Discussions and investigations will include animal distribution, predator-prey interactions, competition, species diversity, energetic, population, and community organization. Field and laboratory studies included. Prerequisite: BIOL 202. Spring, even-numbered years.
- BIOL 471: PLANT ECOLOGY** 3 s.h.
 An in-depth approach to the interaction of plants with the physical and biotic environments at population, community, ecosystem, and landscape scales. Lecture and discussion will focus on current topics in plant ecology such as disturbance, succession, herbivory, dispersal, competition, and environmental stress. Laboratory will include field-based experimental and descriptive investigations of plant population and communities. Two hours lecture/discussion and three laboratory hours weekly. Prerequisite: BIOL 202. On demand.
- BIOL 473: LIMNOLOGY** 3 s.h.
 A field oriented study of the physics, chemistry, and biology of standing and flowing inland waters. Fall, even-numbered years.
- BIOLIES 4761: SCIENCE, TECHNOLOGY, AND SOCIETY: TOPICS FOR TEACHERS** 3 s.h.
 STS is an interdisciplinary course covering topics in biology, earth science, chemistry, and physics. It is designed to acquaint students with information, curricula, and teaching methodologies appropriate for teaching STS topics in traditional science courses. Students will be involved in studies and hands-on activities concerning science computer software, testing water for chemical and biological agents, and remote sensing techniques in geology, geography, physics, and medicine. Ethical issues and scientific principles concerning computers, energy, nuclear waste, biotechnology, and others, will be investigated and discussed. Participants will develop curriculum activities for implementation in their science discipline. This course is required for environmental biology, general science, and earth science certification. Prerequisite: junior standing. Each spring.
- BIOL 478: BIOME STUDIES** 3 s.h.
 A travel-study program which offers opportunities for study in the various biomes, e.g., grasslands, montane, seashore, etc. Summers, on demand.
- BIOL 481: MICROBIAL GENETICS** 3 s.h.
 A study of bacterial and viral genetics with emphasis upon mutation, mutant selection, gene action, recombination genetic mapping, gene regulation, and recombinant DNA technology. Laboratory sessions are on an arranged basis. Prerequisite: Permission of instructor. Two lecture and three lab hours per week. Fall, annually.

- BIOL 482: EVOLUTION AND POPULATION GENETICS** 3 s.h.
 A study of the principles of evolution and its links with other areas of biology. Topics include the history of evolutionary thought, species concepts and speciation processes, phylogenetic patterns and their reconstruction, diversity of life, and the mechanisms of evolution. Completion of core **curricula** in biology or equivalent is required. Three lecture hours weekly. Spring, even-numbered years.
- BIOL 483: MOLECULAR BIOLOGY** 4 s.h.
 A study of the structural and functional relationships of the major biological macromolecules, with emphasis on nucleic acid biology. Current systems, methods, and applications of biotechnology, including recombinant DNA techniques, will be emphasized in the laboratory. Two lectures and four laboratory hours weekly. Spring, annually.
- BIOL 485: BIOTECHNOLOGY I** 4 s.h.
 Advanced topics in the current systems, methods, and applications of recombinant DNA and protein biotechnology. Three hour lecture/discussion and three hours laboratory each week. Prerequisite: BIOL 483 or consent of instructor. Fall, annually.
- BIOL 491: BIOGEOGRAPHY** 3 s.h.
The subject matter will cover aspects of the distribution of plants and animals. Main topics of concern will include interpretive approaches to biogeography, paleobiogeographic evidence of past distributions, the centers of origin of various groups, mechanics and routes of dispersal and colonization, and the dynamics of extinction. Prerequisites: BIOL 201 and BIOL 202 or permission of the instructor. Fall, odd-numbered years.
- BIOL 492: ETHOLOGY** 3 s.h.
 A study of the biological concepts of animal behavior. An investigation of topics such as sensory receptors, internal mechanisms, genetics, learning and habituation, social organization, and communication. Laboratory exercises involve techniques of observation and experiments in animal behavior. Two lectures and three hours laboratory or field work weekly. Prerequisite: BIOL 202 or permission of the instructor. Fall, odd-numbered years.
- BIOL 493: COMMUNITY AND ECOSYSTEM DYNAMICS** 4 s.h.
 An in-depth approach to the structure, function, and dynamics of ecological systems at community, ecosystem, and landscape scales. Lecture and discussion will focus on current topics such as niche theory, the regulation of community structure, food webs, ecological stability, diversity, succession, and energy and material cycles. Laboratory will emphasize field-based descriptive and investigative studies of local communities and ecosystems. Three hours lecture and three hours laboratory weekly. Prerequisites: BIOL 202 or equivalent is required; a basic statistic course is highly desirable. Fall, even-numbered years.
- BIOL 494: POPULATION BIOLOGY** 4 s.h.
 A course dealing with the empirical, experimental, and theoretical aspects of the structure, growth, and evolution of biological populations. The course will take a holistic approach to how population genetics and population ecology interact to produce observed population structure and dynamics. Three hours lecture/discussion and three laboratory hours weekly. Prerequisites: BIOL 202, MATH 260, or permission of the instructor. Spring, odd-numbered years.
- BIOL 499: UNDERGRADUATE RESEARCH IN BIOLOGY** I-4 s.h.
This course is intended to give upper-level undergraduate students an experience in biological research. The student will identify a problem for investigation and complete all phases of its study, including the writing of a research report. Prerequisites: Second semester junior or senior standing with a 3.0 QPA overall, a 3.0 QPA in biology or the consent of the department. Limited to a total of four credits during an undergraduate career. Students seeking approval for a BIOL 499 project must complete the BIOL 499 registration form securing signatures of the academic advisor and project director. BIOL 360 and 499 may not be used for the same project.

Business Administration

- BSAD 239: FAMILY LAW** 3 s.h.
 An in-depth study of all of the area of family law encountered by a legal assistant. The course will include divorce, custody, child and spousal support, adoptions, termination of parental rights, and abuse of family members. The student will learn both substantive law and procedure. The course will include the creation of legal pleadings in the family law area. Offered at Venango.
- BSAD 240: LEGAL ENVIRONMENT I** 3 s.h.
 Legal Environment I is a survey course of law and society. Its purpose is to orient students to the judicial systems of the United States and the legal remedies and mechanisms at their disposal. It compares and contrasts both civil and equitable court functions through the illustrations of common law contracts, torts, criminal law, property law, and the administration of decedents' estates. Each semester at Clarion Campus. Spring, annually at Venango.
- BSAD 241: LEGAL ENVIRONMENT II** 3 s.h.
This course is an application of the concepts attained in BSAD 240, Legal Environment I in a business context. Emphasis is placed on general substantive business law topics; i.e.: agency, partnerships, corporations, sales, negotiable instruments, and real property. Prerequisite: BSAD 240. Each semester at Clarion Campus. Fall, annually at Venango.
- BSAD 242: METHODS OF LEGAL RESEARCH** 3 s.h.
 Students learn the traditional legal research materials and brief writing techniques, including use of digests and citators. The course also emphasizes legal research in the area of administrative law. Prerequisite: BSAD 240. Fall, annually, only at Venango.
- BSAD 243: WILLS, TRUSTS, AND ESTATES** 3 s.h.
This course will provide instruction regarding the administration of the probate estate as well as necessary documentation and filing requirements. The student will come to understand the various laws governing the transfer of property at death as well as the tax consequences of such a transfer. The student will also study the creation of trusts and transfers during life. This knowledge will then be applied to the actual drafting of wills, trusts, codicils, and ancillary documents. Once annually.

- BSAD 244: ADMINISTRATIVE LAW** 3 s.h.
An in-depth study of various administrative law topics. The student will become familiar with the statutes and regulations supporting social security, unemployment compensation, and workman's compensation. The course will also involve study of judicial precedent and mock hearing practice. Once annually.
- BSAD 246: CIVIL LITIGATION** 3 s.h.
An in-depth study of various court procedures, including discovery, that the legal assistant will use in supporting an attorney during litigation. The student will become familiar with the rules of court, including both criminal and civil practice. The course will instruct the legal assistant on how to prepare various court documents. Prerequisite: BSAD 240. Offered at Venango
- BSAD 247: REAL ESTATE LAW FOR THE PARALEGAL** 3 s.h.
This course will include estates in land, property sales contracts, deed preparation, title abstracts, searching court house records, adverse possession, easements, judgments and liens, tax sales, and the Real Estate Settlement Procedures Act. The student will learn to complete all necessary documents involved in all real estate transactions and to prepare all histories of title so that the attorney may certify the title and complete closing. Offered at Venango
- BSAD 248: LEGAL WRITING** 3 s.h.
This course will be a detailed study of the various writing tasks performed by a legal assistant. The student will become proficient at writing pleadings, trial briefs, appellate briefs, legal memoranda, demand letters, and informational requests. The student will also become familiar with the various briefing techniques and rules of style. The required briefing forms of various courts and administrative appeal agencies will be discussed. Prerequisites: BSAD 240 and 242. Offered at Venango
- BSAD 249: FIELD EXPERIENCE** 1 s.h.
An early exposure to types of legal practices for various types of legal programs including community programs, institutions, and courts. The course will also contain instruction and orientation relative to professional responsibilities, ethics, and practical career considerations for a legal assistant. Prerequisites: BSAD 240 and 242. Spring, annually. Only at Venango
- BSAD 437: INTERNATIONAL BUSINESS SEMINAR** 3-6 s.h.
The focus on this course is on developing an understanding of the problems and opportunities faced by international organizations. In order to best achieve both micro and macro perspectives in the study of international aspects of the business, students enrolled will visit businesses abroad for discussions with top-level executives. In addition to the international travel, the students will meet with the instructor for a series of briefing and debriefing sessions. An additional three credits may be taken (for a total of six) on an individualized basis. Prerequisite: MGMT 320. Junior standing.
- BSAD 490: ADMINISTRATIVE DECISION MAKING** 3 s.h.
This course requires the student to synthesize what had been learned in the separate business fields and to utilize this knowledge in the analysis of complex problems of various businesses—from single proprietorships to multinationals. This is the capstone course for a degree in business administration. Prerequisites: MGMT 320, MKTG 360, and FIN 370. Each semester.
- BSAD 491: INDEPENDENT STUDIES IN BUSINESS** 1-3 s.h.
Opportunity to explore in depth a problem or area of business under the direction of a faculty member of the college. Prerequisites: 2.75 grade-point average and consent of both instructor and department head. Maximum credit granted in BSAD 491 is six credits.
- BSAD 494: BUSINESS EXECUTIVE'S LECTURE** 1 s.h.
The course is designed to introduce the student to successful business practices. The course will call upon several prominent business men and women from the local area to give a series of lectures concerning their business philosophies and practices. An objective of the course is to assist the student in bringing together knowledge attained from the business curriculum and to suggest practical applications of that knowledge. Prerequisite: MGMT 320.

Chemistry

*Signifies that no student may take for credit a chemistry course at the 100 level after having successfully completed any chemistry course numbered 300 or above.

- CHEM 050: PREPARATION FOR CHEMISTRY** 3 s.h.
This course is intended for students who may not have sufficient background for college chemistry. Placement is recommended by the Department of Chemistry or it may be taken by students who feel a need to strengthen their skills prior to entering the normal sequence of chemistry courses. Emphasis is on developing verbal, mathematical, and abstract reasoning skills, and a basic scientific vocabulary needed to more fully explore the science of chemistry. The credits for this course do not count toward graduation. The credits for this course will not count toward the general education science requirement. Spring, annually.
- PHSC 111: BASIC PHYSICAL SCIENCE: CHEMISTRY** 3 s.h.
This course is intended for non-science majors and does not assume familiarity with chemistry. It does not count toward requirements for science majors, but can be applied to fulfill the general education math-science requirements for non-science majors.
- Selected chemical principles are explored with the purpose of providing a background that will enable the student as a citizen to understand issues involving the interaction of science and society; brief experiments are often included. Students who prefer a more traditional chemistry course may elect either CHEM 151 or 153 to fulfill their general education requirements. No prerequisites. Each semester.
- CHEM 151: CHEMICAL PRINCIPLES I** 4 s.h.
Intended for chemistry majors, pre-medical students, and others who desire a rigorous introductory course. CHEM 151 and 152 comprise the foundation for all subsequent courses in the major sequence. principal topics include atomic theory, gases, solids, and liquids. A strong background is desirable but not required. Students must concurrently schedule CHEM 161. Four hours lecture. Fall, annually.

- CHEM 152: CHEMICAL PRINCIPLES II*** 4 s.h.
Continuation of CHEM 151. Principal topics include second law, equilibrium, acids and bases, electrochemistry, kinetics, radiochemistry, and descriptive chemistry. Prerequisite: CHEM 151. Students must concurrently schedule CHEM 162. Four hours lecture. Spring, annually.
- CHEM 161: CHEMICAL PRINCIPLES LABORATORY I** 1 s.h.
Laboratory exercises to exemplify and augment the material in CHEM 151. This course must be taken concurrently with CHEM 151 unless it is being repeated. Three hours laboratory. Fall, annually.
- CHEM 162: CHEMICAL PRINCIPLES LABORATORY II** 1 s.h.
Laboratory exercises to exemplify and augment the material in CHEM 152. This course must be taken concurrently with CHEM 152 unless it is being repeated. Three hours laboratory. Spring, annually.
- CHEM 153: GENERAL CHEMISTRY I** 3 s.h.
This is the initial course in the fundamental concepts of chemistry for students not majoring in chemistry; it can serve as a preparation for CHEM 254 or as a general education elective. The major topics included are atomic theory and structure, stoichiometry, chemical bonding, and the physical states of matter. Must be taken concurrently with CHEM 163. Three hours lecture. Fall, annually.
- CHEM 154: GENERAL CHEMISTRY II*** 3 s.h.
Continuation of CHEM 153. This course includes a discussion of mixtures, thermodynamics equilibria, kinetics, acids and bases, oxidation-reduction, and radioactivity. Must be taken concurrently with CHEM 164. Prerequisite: CHEM 153. Three hours lecture. Spring, annually.
- CHEM 163: GENERAL CHEMISTRY LABORATORY I** 1 s.h.
Laboratory exercises to exemplify and augment the material in CHEM 153. This course must be taken concurrently with CHEM 153 unless it is being repeated. Three hours laboratory. Fall, annually.
- CHEM 164: GENERAL CHEMISTRY LABORATORY II** 1 s.h.
Laboratory exercises to exemplify and augment the material in CHEM 154. This course must be taken concurrently with CHEM 154 unless it is being repeated. Prerequisites: CHEM 153, 163. Three hours laboratory. Spring, annually.
- CHEM 205: NUTRITION** 3 s.h.
An introduction to the basic principles of human nutrition. The structure of proteins, fats, carbohydrates, vitamins, and minerals and their role in metabolism are explored. Nutritional needs of various age groups, nutrition and disease, and recent research in nutritional problems are discussed. Required of all B.S. nursing majors. Prerequisite: One semester of general chemistry or consent of instructor.
- CHEM 211/GS 411: SCIENCE AND SOCIETY** 3 s.h.
A major goal of this course is to equip the citizen to make intelligent choices and to take effective action in areas where science or technology appear to pose threats, offer benefits, demand funding, or require regulation. For this purpose, and for the additional goal of achieving a minimum level of scientific literacy, the needed technical principles are presented in non-mathematical fashion. Emphasis is placed on the similarities and differences between life and other chemical processes, and on the consequences of the Second Law of Thermodynamics. Open to students in all academic areas. Prerequisite: Sophomore standing. Three hours lecture. Offered occasionally.
- CHEM 251: ORGANIC CHEMISTRY I** 3 s.h.
The study of bonding, structure, stereochemistry, nomenclature, and the mechanisms of free radical substitution, nucleophilic substitution, electrophilic addition and electrophilic aromatic substitution. Organic syntheses, reactions, and methods will be emphasized. Students must concurrently schedule CHEM 261. Prerequisites: CHEM 151, 152 or 153, 154. Three hours lecture. Fall, annually.
- CHEM 252: ORGANIC CHEMISTRY II** 3 s.h.
A continuation of CHEM 251. A discussion of functional groups, their preparation and reactions. Synthesis and mechanisms will be emphasized. Students must concurrently schedule CHEM 262. Prerequisite: CHEM 251. Three hours lecture. Spring, annually.
- CHEM 261: ORGANIC CHEMISTRY LABORATORY I** 1 s.h.
The laboratory will consist of experiments using important techniques, natural product isolation, and synthesis using modern instrumental methods. This course must be taken concurrently with CHEM 251 unless it is being repeated. Three hours laboratory. Fall, annually.
- CHEM 262: ORGANIC CHEMISTRY LABORATORY II** 1 s.h.
This laboratory will consist of complex synthesis and organic qualitative analysis, both using modern instrumentation. The important spectroscopic methods of infrared and nuclear magnetic resonance spectroscopy and mass spectrometry will be emphasized. This course must be taken with CHEM 252 unless it is being repeated. Prerequisite: CHEM 261. Three hours laboratory. Spring, annually.
- CHEM 254: INTRODUCTORY ORGANIC CHEMISTRY** 3 s.h.
A course which surveys the field of elementary organic chemistry with emphasis on nomenclature, simple reactions and mechanisms, and the structure of organic compounds, together with their relation to biology. This course does not count toward the requirements for a major in chemistry and must be taken concurrently with CHEM 264 unless it is being repeated. Prerequisite: CHEM 152 or 154. Three hours laboratory. Each semester.
- CHEM 264: INTRODUCTORY ORGANIC CHEMISTRY LABORATORY** 1 s.h.
Important techniques, synthesis, and functional group analyses of organic compounds. This course must be taken concurrently with CHEM 254 unless it is being repeated. Three hours laboratory. Each semester.
- CHEM 257: ORGANIC SPECTROSCOPY** 2 s.h.
The application of modern spectroscopic techniques to the determination of the structures of organic compounds. The techniques of infra-red, nuclear magnetic resonance, and mass spectroscopy are discussed with emphasis on their application toward the elucidation of structures of organic compounds. Necessary theoretical background and applications are presented. Required of all chemistry majors and must be taken concurrently with CHEM 252. Prerequisites for other students: CHEM 254, 264 and consent of instructor.
- CHEM 270: CHEMICAL INFORMATION** 1 s.h.
This course covers sources, organization, and the effective use of chemical information. Aspects of both printed and computer based chemical information sources will be discussed. Problem assignments will provide illustration and practice in effective searching of the chemical literature. Co-requisites: CHEM 251, 261. Fall, annually.

- CHEM 351: INTRODUCTION TO ANALYTICAL CHEMISTRY 3 s.h.**
The theory and applied techniques and instrumentation of analytical chemistry for majors in the allied health and other biological professions. Major topics included are separation procedures and spectrophotometric, volumetric, and electroanalytical methods and are slanted toward the analytical chemistry needs of the allied health and biological professions. This course does not count toward the requirements for a major in chemistry. Students must concurrently schedule CHEM 361. Prerequisite: CHEM 152 or 154. Three hours lecture. Spring, annually.
- CHEM 361: INTRODUCTION TO ANALYTICAL CHEMISTRY LABORATORY 1 s.h.**
Laboratory exercises to exemplify and augment topics included in CHEM 351. This course must be taken concurrently with CHEM 351 unless it is being repeated. Three hours laboratory. Spring, annually.
- CHEM 353: ANALYTICAL CHEMISTRY I 3 s.h.**
This course serves students both in chemistry and in related fields. Major topics included in this course are spectrophotometric and volumetric methods of chemical analysis. Students must concurrently schedule CHEM 363. Prerequisite: CHEM 152 or 154. Three hours lecture. Fall, annually.
- CHEM 363: ANALYTICAL CHEMISTRY I LABORATORY 1 s.h.**
Laboratory exercises to exemplify and augment topics included in CHEM 353. This course must be taken concurrently with CHEM 353 unless it is being repeated. Three hours laboratory. Fall, annually.
- CHEM 358: ANALYTICAL CHEMISTRY II 3 s.h.**
Major topics included in this course are separation procedures and electroanalytical and automated methods of chemical analysis. Students must concurrently schedule CHEM 368. Prerequisites: CHEM 354, 355; CHEM 355 concurrently, or consent of department. Three hours lecture. Spring, annually.
- CHEM 368: ANALYTICAL CHEMISTRY II LABORATORY 1 s.h.**
Laboratory exercises to exemplify and augment topics included in CHEM 358 and the analytical techniques of nuclear magnetic resonance and mass spectroscopy. This course must be taken concurrently with CHEM 358 unless it is being repeated. Three hours laboratory. Spring, annually.
- CHEM 354: PHYSICAL CHEMISTRY I 4 s.h.**
This course is concerned primarily with the principles of thermodynamics. Kinetics is discussed in the latter portion of the term. The laws of thermodynamics are applied to many problem solving situations. Calculus is used heavily, and a basic familiarity with the handling of simple differentials and integrals is necessary. Kinetics is treated from experimental and mechanistic points of view. Prerequisites: CHEM 152, 162; PH 252 or 259; MATH 271. Four hours lecture. Fall, annually.
- CHEM 355: PHYSICAL CHEMISTRY II 4 s.h.**
Both the classical wave formulation and the concept of operators are developed as approaches to the study of quantum mechanics, and simple one-electron problems are solved. This groundwork is then extended to molecular problems. Spectroscopy is examined in detail, particularly as a tool in the determination of molecular structures. Powder and single-crystal x-ray diffraction techniques are discussed and their use as research tools investigated. Prerequisite: CHEM 354. Four hour lecture. Spring, annually.
- CHEM 364: PHYSICAL CHEMISTRY I LABORATORY 1 s.h.**
This laboratory course is designed to be taken concurrently with CHEM 354 and will involve experiments in the areas of thermodynamics and kinetics, to reinforce what is taught in the lecture course. Such experiments as bomb calorimetry, construction of a simple two-component phase diagram, and stopped-flow fast action kinetics will be performed. Prerequisite: CHEM 355. Three hours laboratory. Fall, annually.
- CHEM 365: PHYSICAL CHEMISTRY II LABORATORY 1 s.h.**
This laboratory course is designed to be taken concurrently with CHEM 355 and will involve experiments in the areas of quantum mechanics, molecular spectroscopy, and crystallography. Such experiments as obtaining rotational-vibrational spectra of a diatomic molecule utilizing Fourier Transform Infrared Spectroscopy (FTIR) and analyzing a powdered crystalline sample using X-ray diffraction will be performed. Prerequisite: CHEM 355 and 364. Three hours laboratory. Spring, annually.
- CHEM 359: ADVANCED ORGANIC CHEMISTRY 3 s.h.**
A study of reaction mechanism, synthetic methods, and structure elucidations. Emphasis is placed on correlation of structure and reactivity and on stereochemistry. Prerequisites: CHEM 252, 355. Three hours lecture. Spring, annually.
- CHEM 461: ADVANCED INORGANIC LABORATORY 2 s.h.**
This laboratory course will involve complex synthesis of inorganic and organic compounds. Sophisticated techniques and contemporary instrumentation are used in the synthesis, analysis, and characterization of these inorganic and organic compounds.
- CHEM 453: BIOCHEMISTRY 3 s.h.**
An introduction to modern cellular biochemistry. A study of proteins, enzymes, nucleic acids, and fats; the metabolic transformations of amino acids, carbohydrates, lipids, protein synthesis, and photosynthesis; and the respiratory chain and oxidation phosphorylation. Prerequisite: CHEM 25 I or 254. Three hours lecture. Spring, annually.
- CHEM 455: ADVANCED PHYSICAL CHEMISTRY 3 s.h.**
This course is concerned primarily with statistical mechanics and additional aspects of quantum mechanics such as molecular modeling and potential energy surfaces. Prerequisite: CHEM 355. Offered occasionally.
- CHEM 456: ADVANCED INORGANIC CHEMISTRY 3 s.h.**
Various concepts of bonding and molecular structure, encountered in previous courses, are extended and compared to gain appreciation of their uses and shortcomings. Other topics include: acid-base theory, nonaqueous solvents, and coordination chemistry. The descriptive chemistry includes recently discovered compound types as well as classical periodicity and periodic anomalies. Prerequisite: CHEM 355 (may be taken concurrently) or consent of the department. Three hours lecture. Spring, annually.
- CHEM 459: DEMONSTRATIONS IN CHEMISTRY 3 s.h.**
Studies are made of various demonstration techniques with students devising and applying each with many examples. Special attention is given to the study of the material of the Chem. Study Committee of the American Chemical Society prepared for the purpose of vitalizing high school chemistry courses. Prerequisites: CHEM 151, 152, and at least one other major course. Offered occasionally.

- CHEM 463: BIOCHEMISTRY LABORATORY** 1 s.h.
A laboratory course consisting of experiments involving the major techniques in modern biochemistry. Emphasis will be on separation and purification techniques, kinetic studies, quantitative determinations, and analytical instrumentation in biochemistry and biotechnology. Must be taken concurrently with CHEM 453. Prerequisite: CHEM 251 or 254. Spring, annually.
- CHEM 465,466: CHEMICAL RESEARCH** 1-3 s.h. each
An independent laboratory problem in some field of chemistry of special interest to the student. Admission only by consent of the instructor and the approval of the department chair. Prerequisites: CHEM 355, 358. Each semester.
- CHEM 470: CHEMISTRY SEMINAR** 1 s.h.
Search of the chemical literature on a topic of current interest, compilation of a bibliography, preparation of an abstract, and presentation of a seminar. Prerequisites: CHEM 252, 355. Spring, annually.
- CHEM 471: ADVANCED TOPICS IN CHEMISTRY** 1-3 s.h.
Topics of current interest in the field of chemistry will be presented. The choice of topics will vary from year to year, but the subject areas each year will include topics from three different areas. Topics such as non-aqueous solvents, solid state chemistry, polymers, chemical physics, group theory, stereochemistry, organometallics, and recent developments in spectroscopy will be discussed. Prerequisite: CHEM 355 (may be taken concurrently). Fall, annually.
- CHEM 485: PROBLEMS IN CHEMISTRY EDUCATION** 1-3 s.h.
An opportunity to explore in depth a problem area in chemistry education according to the student's need or interest under the direction of a faculty member. Admission only by consent of the instructor and the approval of the department chair. Prerequisite: Junior standing or consent of the department. Not open to chemistry majors in the liberal arts or Bachelor of Science curriculum. Each semester.

Communication

- COMM 100: EXPLORATIONS IN MASS COMMUNICATION** 3 s.h.
A systematic study of the field of communication. Content includes historical perspectives, characteristics and functions of various media and communication fields, a study of career options, and competencies required of a professional in each area. Current issues, trends, and employment opportunities will be examined as they relate to career areas. Fall, annually.
- COMM 152: MESSAGE DESIGN** 3 s.h.
Investigates the elements of effective communication, including the dimensions of sensory perception, meaning, environment, attitude, and technology. Students shall be required to apply theoretical concepts to practical problems. Each semester.
- COMM 171: WRITING FOR MEDIA** 3 s.h.
Develops fundamental skills in writing and/or visualizing for a variety of media forms. Emphasis will be placed on print and broadcast newswriting, advertising copywriting, and public relations writing. Prerequisite: ENG 111 or consent of instructor. Each semester.
- COMM 200: TELEVISION FIELD Production** 3 s.h.
This course covers the visual grammar of ENG and EFP television and field techniques for shooting television news, sports reporting, the interview, and the mini-documentary. Two important elements incorporated within the concept of field techniques are audio and lighting techniques. Students who take both this course and COMM 201 may not take COMM 351. Prerequisites: COMM 152 and COMM 171.
- COMM 201: TELEVISION STUDIO TECHNIQUES** 3 s.h.
This course covers television techniques that are used to produce live in-studio productions. Students will learn how to operate equipment at the various crew stations, and function as a member of a studio production crew. The students will select and place props, establish good lighting and audio, and set the cameras in appropriate expressive locations. Furthermore, the students will learn the role and the responsibilities of a producer which includes coordinating the creative and the technical aspects of production. Students who take both this course and COMM 200 may not take COMM 351. Prerequisites: COMM 152 and COMM 171.
- COMM 251: INTRODUCTION TO IMAGES** 3 s.h.
Develops an awareness of the perceptual cues in the environment with the goal of enabling the student to use this awareness in the design of graphics, films, and electronic and sound images. An introduction to the production process. Camera required. See specifications under Department of Communication section.
- COMM 271: REPRODUCTION GRAPHICS** 3 s.h.
Develops basic skills in graphic arts processes, layout design, preparation of copy for reproduction with emphasis on offset lithography and use of computers with desktop publishing. Camera required. See specifications under Department of Communication section. Prerequisites: COMM 152, 171, and 251.
- COMM 291: MEDIA ETHICS AND RESPONSIBILITIES** 3 s.h.
This course prepares the future professional communicator to make informed media decisions. The course work provides a historical, legal, cultural, and philosophical context for judgment of continuing and emerging issues in mass media fields, and it also creates an experimental frame through discussion, simulation, and modeling. No prerequisites.
- COMM 300: NEWSWRITING** 3 s.h.
Principles and practice of evaluating, gathering, and writing the fundamental news story and news feature; preparation of copy for publication, interviewing, and laboratory experience.
- COMM 315: PHOTOGRAPHY** 3 s.h.
Provides basic principles of photography and intermediate principles of photojournalism. Study of camera and darkroom techniques; the production of photographs for news, advertising, scientific, and instructional use. Camera required. See specifications under Department of Communication section.

- COMM 351: PRODUCTION APPLICATION 6 s.h.**
 Provides the student with training in television production and experience in the application of communication theory and production techniques. Integrates skills in writing, photography, audio and graphics in a total production context. Camera required. See specifications under Department of Communication section. Prerequisite: COMM 271.
- COMM 352: COMMUNICATION RESEARCH METHODS 3 s.h.**
 Develops entry level skills in use of the research process to the study of human behavior. Emphasizes the role of research in the various communication professions. Requires the possession of a hand calculator with square root and preferably with Algebraic Operating System (AOS) logic. Prerequisites: COMM 152, 271.
- COMM 360: PUBLICATIONS EDITING 3 s.h.**
 Provides fundamental instruction in editing skills, copy editing, headline writing, typography, photographs, copy control, and layout. It also examines the role and responsibilities of the editor. Prerequisite: COMM 271.
- COMM 400: MEDIA ADVERTISING 3 s.h.**
 Introduces the student to media strategies, creative development, and budgeting of advertising plans for national and major-market media. The course includes a review of basic concepts in advertising.
- COMM 402: INTERNSHIP 5-12 s.h.**
 Provides experience during which the student applies theory and techniques to communication tasks of a cooperating business, industry, agency, or institution. The student will be required to obtain approval of a detailed proposal before registering for the course. The determination of credit hour production is to be made in consultation with the internship advisor, in compliance with the media organization's policies, and in consideration of the intensity of the internship experience. Prerequisites: COMM 352, 80 credits completed, and a minimum of 2.5 QPA.
- COMM 405: PRESENTATION GRAPHICS 3 s.h.**
 Design and production of graphic materials for the presentation of information in training sessions, sales and stockholder meetings, and other small and large group situations. Must be taken concurrently with SCT 214.
- SCT 411: FOUNDATIONS OF BROADCASTING 3 s.h.**
 An overview of the broadcasting industry, including history, technical aspects, station and network organization, sales, ratings, programming and social influences. A foundation course for radio-TV career preparation, related fields of communication, and the development of knowledgeable consumers of broadcast media.
- COMM 415: LOCAL ADVERTISING 3 s.h.**
 A professional course in planning, scheduling, producing, and buying and selling advertising at the local level, with specific attention to the small business client.
- COMM 428: MASS MEDIA PROGRAMMING ANALYSIS 3 s.h.**
 Develops advanced skills in programming, comparing, and analyzing media content for broadcast and print media professionals. Emphasis is placed on applying research skills to analyze audience needs and evaluating message effectiveness applicable in a wide variety of mass communication programming campaigns. Prerequisite: COMM 352.
- COMM 431: PUBLIC RELATIONS PRINCIPLES AND PRACTICE 3 s.h.**
 This course is designed to provide fundamental instruction in public relations practices, including program planning and evaluation, working with the media, writing for public relations, and coordinating special events and functions. The structure and process of public relations in business, institutions, and American society will be explored through readings and discussion.
- COMM 441: ADVANCED MEDIA WRITING 3 s.h.**
 Extensive work in research, writing, and marketing of written products for magazines, newspapers, and other publications. The course work also requires the selection and acquisition of appropriate photographs and graphics to complement the articles. Prerequisites: COMM 171 and 251.
- COMM 442: BROADCAST NEWS AND CONTINUITY WRITING 3 s.h.**
 Provides students with advanced instruction and experience in writing news, commercials, public service announcements, and promotional copy for the broadcast media. Prerequisites: COMM ICM3, 152, and 171.
- COMM 443: PROMOTIONAL WRITING 3 s.h.**
 Provides students with advanced instruction and experience in public relations and advertising writing. Prerequisites: COMM 100, 152, and 171.
- COMM 451: COMMUNICATION EVALUATION 3 s.h.**
 Develops skills in the selection, development, and use of specific evaluation tools for various communication professions. Both qualitative and quantitative procedures are applied. Emphasis is placed on formative evaluation and the role of objectives. Prerequisite: COMM 352.
- COMM 452: COMMUNICATION LAW 3 s.h.**
 Introduces the student to various laws such as those of libel, privacy, copyright, access, and FTC and FCC rules and regulations governing the fields of communication.
- COMM 460: TELEVISION DIRECTING 3 s.h.**
 Develops the skills needed to direct a variety of television studio productions, including news, interview, demonstration, and dramatic programs. Emphasis is on both technical and aesthetic directing skills. Prerequisites: COMM 35 I or other television production experience and permission of the instructor. Four contact hours.
- COMM 488: MEDIA PROGRAM DESIGN FOR ORGANIZATIONS 3 s.h.**
 Develops skills in devising communication strategies to design and develop an organization's media programs for training purposes. Skill areas include drafting communication objectives, developing plans for using communication media for training, and evaluating communication media used for effectiveness. Emphasis is placed on applying these skills to produce communication media for training programs. Prerequisite: COMM 352 or permission of instructor.
- COMM 489: GLOBAL MASS COMMUNICATION 3 s.h.**
 This course is intended to enable the student to effectively interact with the new culturally diverse audience and workforce in the American business and industry. The contents will consist of the latest innovatively designed resources on cultural diversity, global mass communication competencies, and positive attitudes. Also included

will be imaginative conceptualization techniques of designing mass media messages suited to the new realities of cultural diversity. Prerequisite: junior standing.

COMM 491: **INDEPENDENT STUDY** 1-3 s.h.

Allows the imaginative student to structure an independent research project in the area of communication with a minimum of faculty supervision. A proposal specifying objectives, methods, and evaluation techniques must be submitted to and approved by the student's advisor and dean.

COMM 499: **SPECIAL TOPICS IN COMMUNICATION** 1-3 s.h.

Focuses on a single, broad contemporary topic of current interest in communication and related fields. Course content varies from semester to semester. Topics to be considered will be announced in advance. May be taken three times for credit.

Computer Information Science

CIS 110: INTRODUCTION TO COMPUTER INFORMATION SYSTEMS 3 s.h.

This is an introductory survey of the needs for and roles of computer information systems in contemporary society. It is intended as a first course for the non-computer major to satisfy the need of students from every discipline to be "computer literate," as well as providing the necessary basis for further computer related studies. Emphasis is on computer requirements in organizations, history, hardware concepts, programming, application software, systems development, and computer operations. Introductory level programming will utilize the BASIC language and time sharing facilities of the university's VAX computer system. This should not be taken by any CAIS major, and will not count toward graduation for any student who has also taken CIS 120. Each semester.

CIS 120: PRINCIPLES OF APPLIED INFORMATION SYSTEMS 3 s.h.

This is the first course for CAIS majors and is intended to be taken by those majors only during the first semester of their freshman year. It is an introduction to the tools, techniques, and processes utilized by computer professionals in developing and utilizing applied computer information systems. Heavy emphasis is placed on logical and communication skills utilized in the field and on the development of elementary programming proficiency. This course open to CAIS majors only and will not count toward graduation for any student that has taken CIS 110. Fall Semester.

CIS 151: FORTRAN I 3 s.h.

Introductory course in programming using FORTRAN. The FORTRAN language exemplifies the use of a high level language processor which can solve problems requiring scientific methods as well as commercial applications. All material is presented in an orderly fashion designed to aid the student in understanding the various algorithms underlying solutions to a variety of problems. Each semester.

CIS 163: INTRODUCTION TO PROGRAMMING AND ALGORITHMS I 3 s.h.

Required of all CS majors (but not of CAIS majors). An introduction to the concepts of algorithms and problem solving. A computer programming language is presented as a tool in examining these concepts. Each semester.

CIS 164: INTRODUCTION TO PROGRAMMING AND ALGORITHMS II 3 s.h.

Required of all CS majors (but not of CAIS majors). An examination of complex problem solving techniques, top down design, and program debugging and testing. Prerequisite: CIS 163. Each semester.

cm 211: RPG 1 REPORT PROGRAM GENERATOR 3 s.h.

This computer course introduces the theory and application of the report program generator language utilized by commercial users with small configurations of computer equipment. prerequisite: Sophomore standing or consent of instructor. Spring Semester.

CM 217: APPLICATIONS OF MICROCOMPUTERS 3 s.h.

An introduction to the basic concepts of microcomputers and softwm applications. Topics include microcomputer hardware, commonly available software packages, graphics, and programming. No prerequisite. Each semester.

CIS 223: COMPUTER PROGRAMMING COBOL 3 s.h.

This is designed to be the first programming course for the CAIS major (but not for the CS major). Emphasis is on structured programming concepts and the COBOL language. Programs written in the course emphasize commercial, industrial, and governmental applications. Prerequisite: CIS 110, CIS 120, or CIS 163. Each semester.

CIS 226: COMPUTER SYSTEMS DEVELOPMENT WITH HIGH LEVEL TOOLS 3 s.h.

This is a study of the process of developing a computer-based solution to an information management problem. The student will study the methods of system analysis and design with emphasis on practical solutions to real problems. Course content will be directed toward existing, available systems development tools for both large computers and micro-computers. "Fourth-generation" tools will be used to develop an underlying data base and generate programs to implement a business application. Offered in the Spring Semester at Venango Campus only. Prerequisites: CIS 110 and CIS 217 or permission of the instructor.

CIS 230: PRACTICUM IN COMPUTER INFORMATION SCIENCE 1-2 s.h.

The course is designed to provide undergraduates with an introduction to the role of computer specialists in the everyday operation of a computer machine room and user area. The course provides real experience in such routine exercises as machine event logging; backup/restoration of on-line information; preparation, organization, and revision of system documentation; allocation of user accounts; monitoring of system resources; and fielding of user problems and complaints. A maximum of six credits of the practicum may be applied toward graduation. Students enrolled in the course are required to gain actual experience in everyday machine operation by acting as machine room supervisors and interacting with computer users. Prerequisite: CIS 164 or CIS 223. Each semester.

CIS 253: COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE 3 s.h.

This course consists of two major parts. The first part is an introduction to assembly language programming and the second part concentrates on an introduction to computer organization and the structuring of major hardware components. It develops a basic understanding of the mechanics of information transfer and control and the fundamentals of logic design. Prerequisite: CIS 164 or CIS 223. Fall Semester.

- CIS 254: INFORMATION STRUCTURE 3 s.h.**
 An introduction to the representation of information in both primary and secondary storage and a foundation for further study in data structures. Topics include sequential and random access, searching, sorting, linked lists, hashing, and trees. The major concepts of the course are reinforced through the use of programming assignments. Prerequisite: CIS 164. Fall Semester.
- CIS 255: SURVEY OF LANGUAGES 3 s.h.**
 A survey of several popular programming languages, with emphasis on the types of problems for which each language was designed. Students are exposed to both the syntax and semantics of the languages and are expected to complete several small programming projects in each of them. Prerequisite: CIS 164 or CIS 223. Spring Semester.
- CM 301: COMPUTER SYSTEMS ANALYSIS 3 s.h.**
 This computer course studies informational needs and patterns of information flow within a large organization. The primary emphasis is on the analysis and design of computer software systems. Prerequisite: CIS 217, 223. Each semester.
- CIS 302: EDP AUDITING AND SECURITY 3 s.h.**
 EDP Auditing and Security is concerned with the EDP audit process, provision and evaluation of controls in all aspects of EDP system operation, and the provision and maintenance of computer security. Internal control is stressed as specific controls and security are studied. Prerequisites: ACTG 252 and CIS 223. Each semester.
- CIS 305: ARTIFICIAL INTELLIGENCE IN DECISION MAKING 3 s.h.**
 This course surveys the thinking and some of the pioneering efforts in the area of artificial intelligence (AI), integrated with more traditional approaches to decision making. Application of AI principles will be made through the use of logic programming languages such as PROLOG or with successors that may appear. Prerequisite: CIS 324 or CIS 254. Spring Semester.
- CIS 317: ADVANCED MICROCOMPUTING 3 s.h.**
 This course is designed to follow CIS 217, Applications of Microcomputers, for those students with a need for more than the fundamentals. Topics will include (but not be limited to) microcomputer architecture, local area networks (LANs), desktop publishing, and microcomputer operating systems (MS-DOS, OS/2, WINDOWS). It is a suitable elective for a CAIS major or minor elective, a CS major or minor elective, or noncomputer majors with the necessary prerequisite. Prerequisite: CIS 217 or department approved equivalent. Each semester.
- CIS 324: DATA STRUCTURE AND FILE UTILIZATION COBOL 3 s.h.**
 Primary consideration is given to the concepts of file structure, file processing, and COBOL programming in relationship to organizational processes and needs. COBOL is used to implement, test, and explore systems concepts, including simulations and data base design. Prerequisite: CIS 223. Each semester.
- CIS 340: DISCRETE MATHEMATICAL STRUCTURES 3 s.h.**
 An introduction to sets, relations, functions, combinations, graphs and trees emphasizing concrete models. Includes computer algorithms and mathematical structures useful in computer science. Designed for students in both mathematics and computer science. Prerequisites: MATH 27 I and CIS 151 or CIS 163. Each semester.
- CIS 350: MACHINE ARCHITECTURE AND SYSTEMS SOFTWARE 3 s.h.**
 This course investigates the basic concepts of machine architecture together with their realization and software implications in various categories of computer systems. Prerequisite: CIS 253. Spring Semester.
- CIS 355: OPERATING SYSTEMS I 3 s.h.**
 Topics covered are the functions of operating systems, the design of operating systems at the register transfer and programming levels, and the important relationships between operating systems and computer hardware. Prerequisites: CIS 350 and CIS 254. Fall Semester.
- CIS 356: DATA STRUCTURES AND ALGORITHM ANALYSIS 3 s.h.**
 This course develops skills in the application of algorithmic methods to the solution of decision problems in the use of data structures. Prerequisites: CIS 253 and CIS 254. Spring Semester.
- CIS 357: STRUCTURE OF PROGRAMMING LANGUAGES 3 s.h.**
 This course investigates the programming features of several common languages from the point of view of implementation of these languages. The student is exposed to the language characteristics along with the details (difficulties) in the implementation of them. The desired effect is to train the student to choose and use languages in a competent manner. Prerequisites: CIS 253, CIS 254, and CIS 255. Fall Semester.
- CIS 375: SOFTWARE ENGINEERING USING THE ADA PROGRAMMING LANGUAGE 3 s.h.**
 This course seeks to introduce the student to the basic concepts and ideas surrounding the relatively new discipline of software engineering. The Ada language, the choice of the Department of Defense as the language of the future, will be used in this course since it embodies many of the goals of software engineering. Prerequisites: CIS 254 or permission of instructor. Spring, even-numbered years.
- CIS 377: COMPUTER GRAPHICS 3 s.h.**
 This course provides an overview and application of the principles and tools of computer graphics. Topics include characteristics of graphical display devices, graphics software primitives, representation, manipulation, and display of 2 and 3 dimensional objects, interactive graphics and the graphical user interface, and animation. Graphics programming projects will be assigned. Prerequisites: CIS 254 and MATH 370 or permission of instructor. Spring, odd-numbered years.
- CLS 402: DATA BASE MANAGEMENT SYSTEMS 3 s.h.**
 A study of data base management systems with "hands on" experience. The student will investigate the analysis, design, implementation, and maintenance of a modern data base management system. Prerequisite: CIS 301. Each semester.
- CIS 403: DATA COMMUNICATIONS 3 s.h.**
 Data communications cover fundamental communication concepts such as synchronous/asynchronous transmission, modulation, and half and full duplex; hardware of data communications; techniques such as multiplexing, multipoint line control, and switching; error detection and correction, tariffs, and costs; and the design of a basic data communication network. Prerequisite: CIS 223. Each semester.

- CIS 411: SYSTEMS DEVELOPMENT PROJECT** 3 s.h.
 A student in this course will develop a computer-based solution to a real problem obtained from the university or the community. Working as a member of a group/team, the student will evaluate an existing system; identify alternative solutions; select a solution; develop a project plan; and design, implement, test, and document the system. Current technology will be used whenever possible, including microcomputers, word processing, and a relational database. prerequisites: CIS 217, CIS 301, and CIS 402, or consent of instructor. Spring Semester.
- CIS 422: INTERNSHIP IN COMPUTERS**
 The internship provides the student with the opportunity for practical computer experience in commercial, industrial, governmental, or other participating organizations. Prerequisite: CIS 253 or CIS 324. Junior or senior standing. Each semester.
- CIS 460: INTRODUCTION TO THEORY OF COMPUTATION** 3 s.h.
 An introduction to the theory underlying the design, use, and limitations of computers. Includes finite state and infinite machines, computability, formal systems. Prerequisites: CIS 164, 254, and 340. Spring Semester.
- CIS 462: SIMULATION AND MODELING** 3 s.h.
 This course covers the advantages and disadvantages of using computer simulation in modeling. Students will learn and practice techniques of computer simulation. Prerequisites: CIS 164 or CIS 324 and either MATH 221 or MATH 421, or consent of instructor. Fall Semester.
- CIS 469: SEMINAR IN COMPUTER AND INFORMATION SCIENCE** 1 s.h.
 A brief look at diverse subjects in computing and information systems. Each student will research an approved topic and offer a related verbal presentation to the class. Prerequisite: Senior standing. Spring Semester.
- CIS 499: INDEPENDENT STUDY IN COMPUTERS** 1-3 s.h.
 This course permits students to explore an area of special interest using computers. The special project must be under the direction of a department faculty member. Prerequisites: CIS 164 or CIS 324, junior or senior standing.

Earth Science

NOTE: Earth Science (ES) courses carry natural science credits only.

- ES 111: BASIC EARTH SCIENCE** 3 s.h.
 A survey of the earth sciences, including Earth-space relations. Earth motions, development of land forms, weather and climate, soils and related vegetation, water as a resource of the land, oceans. Emphasis is on the lithosphere (mountain building and erosion) and the atmosphere. Each semester.
- ES 150: PHYSICAL GEOLOGY WITH LABORATORY** 4 s.h.
 A study of the earth, including minerals and rocks, and the processes, both constructional and destructional, which have shaped it since it was formed. Constructional processes include volcanism, mountain building, and sedimentation. Destructional processes include the erosional activity of streams, glaciers, ground water, waves, and wind. In connection with these topics, an effort is made to acquaint the student with the methods and work of geologists and with some of the research at the frontiers of geology. Two hours lecture, two hours laboratory. No prerequisites. Each semester.
- ES 200: SOLAR SYSTEM ASTRONOMY** 3 s.h.
 The course topics include the motions of Earth, moon, and the planets and their effects on the appearance of the sky; the nature of the sun and the planets; the instruments of the astronomer; and the role that the history of astronomy played in the development of our understanding of the sky. The course also includes constellation identification through the use of the planetarium. Each semester.
- ES 201: STELLAR ASTRONOMY** 3 s.h.
 The objectives of this course are to study human understanding of the nature, formation, and evolution of those celestial objects that lie beyond the solar system. Topics included are stellar properties and spectra, stellar evolution, special stars and star systems, the milky way and other galaxies, cosmology, and cosmogony. The planetarium is used for constellation study and the development of co-ordinate systems. Prerequisite: ES 200. Spring, annually.
- ESIGEOG 225: CARTOGRAPHY I WITH LABORATORY** 3 s.h.
 A systematic study of the basic concepts and components of thematic map making. Emphasis is placed upon familiarization with and utilization of drafting instruments and equipment essential to map design and construction. Techniques of photographic reproduction of student map projects are also presented. Two lectures and three hours of laboratory weekly. Prerequisite: GEOG 125 or consent of instructor. Offered annually.
- ES 250: HISTORICAL GEOLOGY WITH LABORATORY** 4s.h.
 The course deals with the interpretation of the record of the rocks and the geologic history of the earth with emphasis on North America. The physical history of the continent and the development of life, both vertebrate and invertebrate, are discussed. Regional geologic history of selected areas, notably Appalachia, will be included. Three hours lecture, two hours laboratory. Prerequisite: ES 150 (maybe taken concurrently). Offered annually.
- ES 255: LAND FORMS WITH LABORATORY** 4 s.h.
 A study of the physical forces that sculpture and modify the landforms of the earth, including chiefly weathering, streams, glaciation, and shore processes. Some preliminary work on topographic and geologic maps and rocks is included. Called geomorphology in older catalogs. Prerequisite: ES 150. Offered annually.
- ES 260: ENVIRONMENTAL GEOLOGY** 3 s.h.
 A study of the uses of geology in the solution of human problems with the physical environment. Topics include hazardous geologic environments, mineral and energy resources, water supply, waste disposal, and the uses of geology in urban and regional planning. Many examples are drawn from Western Pennsylvania. Prerequisite: ES 150 or ES 111. Every third semester.
- ES 270: OCEANOGRAPHY** 3 s.h.
 A study of the physical properties, marine biology, chemistry, and geology of the oceans and to a minor extent, the role of the sea in the history, culture, and technical developments of humankind. Once annually.

- ES 280: METEOROLOGY 3 s.h.**
A systematic study of the atmosphere, analyzing the laws and underlying principles of atmospheric change. Students have the opportunity to become familiar with the common weather instruments, to observe and record weather data, to read and interpret weather maps, and to consider the problems of aviation growing out of atmospheric conditions. Offered annually.
- ES 300: SPECIAL TOPICS**
Topics of special interest in various areas of earth science. The format used will be selected and designed by the professor as the most suitable to the study. Enrollment by consent of the instructor. Offered occasionally.
- ES 310: INTRODUCTION TO GEOPHYSICS 3 s.h.**
A systematic study of theoretical and exploration geophysics including physical characteristics of the earth such as its shape, rotation, and procession; seismology and the interior conditions of the earth; geomagnetism and paleomagnetism; radioactivity and dating techniques; gravity and tides; internal heat; well logging; electrical techniques, such as resistivity; and plate tectonics and its mechanisms. Prerequisites: ES 150, 250, PH 251, 252; or permission of instructor. Every other year.
- ESIGEOG 325: CARTOGRAPHY II WITH LABORATORY 3 s.h.**
A systematic study of the three dimensions of cartography in use today. Emphasis placed upon the techniques used in the construction of three-dimensional maps and models of statistical surfaces, diagrams, cartograms, negative scribing, and color separation. Two lectures and three hours of laboratory weekly. Prerequisites: Cartography I and consent of instructor. Every other year.
- ES 330: HYDROGEOLOGY WITH LABORATORY 4 s.h.**
An introduction to both surface and subsurface waters. Topics to be covered include: water use and availability, water law, water quality (both surface waters and ground waters), hydrology of ground water and surface waters, hydrology and water quality of Impounded waters, and water resource management.
The course is designed for upper division students in the geology-track of the B. S./B.A. in earth science. Upper level students in biology, especially those with interests in water quantity and quality, may also be interested in this course. Prerequisite: ES 150, MATH 171 or equivalent. Every third semester.
- ESIGEOG 345: COMPUTER CARTOGRAPHY WITH LABORATORY 4 s.h.**
A systematic study of the newest dimension of cartography in use today. Designing and constructing computer maps is an integral part of the course. The student will gain experience in creating computer maps with a number of programs including Atlas Graphics, Atlas Draw, Microam, Map Info, PC Globe, PS USA, Systate, etc. In addition, the student will be introduced to the use of the digitizer. Prerequisite CIS 110 or equivalent course, or consent of the instructor. Every other spring.
- ES 350: STRUCTURAL GEOLOGY WITH LABORATORY 4 s.h.**
A study of the geometry, origin, and recognition of the main structural features of the rocks of the earth's crust, including folds, faults, Joints, unconformities, larger igneous bodies, cleavage, lineation, etc. Attention is given to interpreting structure from geologic maps, and an introduction to structural petrology and geophysical methods used in structural geology is included. Prerequisite: ES 150. Every other year.
- ES 355: INVERTEBRATE PALEONTOLOGY 3 s.h.**
A study of the outstanding invertebrate animals preserved in the fossil record. Also treated in the nature of the fossil record itself, evolution as shown by fossils, and classification problems in paleontology. Prerequisite: ES 250. Every third semester.
- ES 360: MINERALOGY (MINERALS) WITH LABORATORY 4 s.h.**
The identification, uses, physical and chemical properties, occurrence, origin, and crystallography of the common minerals. Prerequisite: at least high school chemistry. Every other year.
- ES 370: PETROLOGY (ROCKS) WITH LABORATORY 4 s.h.**
The identification, occurrence and origin, classification, physical and chemical properties, and uses of the common rocks. Includes a brief study of the important rock forming minerals. Prerequisite: ES 150. Every other year.
- ES 375: MODERN DEPOSITIONAL SYSTEMS 3 s.h.**
An overview of the major sedimentary depositional systems, with primary emphasis upon modern environments and processes. The course will address the dynamic processes at work in the major environments and upon the sedimentary features that result, which, in turn, may permit recognition of each environment in the geological record. Prerequisites: ES 150, 250, and 360. ES 370 strongly recommended. Every other spring.
- ES 380: ADVANCED METEOROLOGY 3 s.h.**
Students study and interpret weather data which are received directly from NOAA by way of a weather facsimile recorder. Also, local meteorological data are used to study and compare atmospheric characteristics and trends. Prerequisite: ES 280. Every other year.
- ES/GEOG 385: CLIMATOLOGY 3 s.h.**
A systematic study of three major components of climatology. Physical aspects of the atmosphere are analyzed as a series of long-term weather phenomena. Regional characteristics of climate are studied on the basis of worldwide patterns. Applied aspects of climate demonstrate the interrelationship and importance of both physical and regional climatology to humankind. Acceptable for social science or natural science credit. Prerequisite: ES 11 I or 280. Every other year.
- ES 390: STRATIGRAPHY AND SEDIMENTARY PETROLOGY 4 s.h.**
A systematic study of the stratigraphy of ancient sedimentary basins, with detailed emphasis on interpretation of lithofacies, biofacies, and petrofacies relationships. Concepts of event/sequence stratigraphy and sedimentary cycles will be introduced. Laboratories will include the study of petrologic/diagenetic characteristics of sedimentary strata, as well as recent advanced in seismic stratigraphy, petrophysics, and magnetic stratigraphy. Prerequisites: ES 150, 250, 360, and ES 370 recommended. Every third semester.
- ESIGEOG 400: AIR PHOTO INTERPRETATION WITH LABORATORY 3 s.h.**
A systematic study of aerial photographs for geographic investigation of physical and cultural features of the landscape; the application of remote sensing to topographic and planimetric map construction, agricultural and land use identification, landform study, and forestry. Prerequisite: Consent of instructor. Every other year.

- ES/GEOG 404: SOILS WITH LABORATORY** 4 s.h.
 This course is designed to provide students with a comprehensive examination of the classification, formation, and interpretation of soils. Students will examine the processes of soil classification (both the zonal classification and the soil taxonomy classification). Soil formation (parent material, climate, slope, time and organic activity) and the interpretation of pedogenic sequences (as it relates to deposition, diagenesis, and climate change). The laboratory portion of the course (one credit, two hours) will complement the lecture portion of the course. Special emphasis will be placed on the field interpretation of soils as well as the geochemistry and textual classification of soils. Prerequisites: ES 150 and 255 or permission of the instructor.
- ES 410: THE EARTH SCIENCES: A SYNTHESIS** 3 s.h.
 This is a capstone course designed to provide an overview of the history and development of the earth sciences, address current issues in the earth sciences, provide intensive hands-on experience with minerals, rocks and fossils, review the geology of Pennsylvania, discuss the impact of man on the earth sciences and vice versa, and place all of these in the perspective of the student about to enter into student teaching. Field trips are required. Prerequisites: Junior standing, secondary education major; ES 250. Fall, annually.
- ES/GEOG 425: REMOTE SENSING WITH LABORATORY** 3 s.h.
 A study of modern satellite-based earth imaging instruments, data sources, and products, and their applications to land use management, geologic assessments, agriculture, forestry, soil resources, archeology, meteorology, and oceanography. Both visual and digital data will be utilized. Prerequisite: GEOG 400. Every other year.
- ESIGEOG 450: FIELD GEOGRAPHY WITH LABORATORY** 3 s.h.
 A systematic study of the techniques essential to geographic field investigation. Emphasis is placed upon practical, first-hand *experiences* in the field where students learn the techniques and procedures of compass traversing, plane tabling, rural and urban land use surveying, and field research. Prerequisites: Canography I and consent of instructor. Offered occasionally.
- ESIBIOL 476i SCIENCE, TECHNOLOGY, AND SOCIETY:**
SCED 576: TOPICS FOR TEACHERS 3 s.h.
 STS is an interdisciplinary course covering topics in biology, earth science, chemistry, and physics. It is designed to acquaint students with information, curricula, and teaching methodologies appropriate for teaching STS topics in traditional science courses. Students will be involved in studies and hands-on activities concerning science computer software, testing water for chemical and biological agents, and remote sensing techniques in geology, geography, physics, and medicine. Ethical issues and scientific principles concerning computers, energy, nuclear waste, biotechnology, and others, will be investigated and discussed. Participants will develop curriculum activities for implementation in their science discipline. This course is required for environmental biology, general science, and earth science certification. Prerequisite: junior standing. Each spring.
- ES/GEOG 480: GEOGRAPHIC INFORMATION SYSTEMS WITH LABORATORY** 4 s.h.
 Geographical Information Systems (GIS) involves the collection, storage, manipulation, and presentation of geographical data for the purpose of analyzing and solving of problems. GIS requires the integration of data and programs into large comprehensive systems. Students will use functional GIS that utilize an integrated collection of computer hardware, computer software, and geographical data. Examples of specific application that the student will be exposed to include: Land Information Systems (LIS), Natural Resource Information Systems (NRIS), and Soil Information Systems (SIS). Prerequisite: GEOG/ES 345. Every other fall.

Economics

- ECON/GS 140: CONSUMER ECONOMICS** 3 s.h.
 Major aspects of personal financial management including budgeting of income and expenditures, transactions, and relations with banks and other lending institutions, insurance and retirement plans, home ownership, personal taxes, savings, and investment plans. B. S.B.A. majors may apply this course only as a free elective. Alternate years.
- ECON 150: ECONOMIC ASPECTS OF AGING** 3 s.h.
 An introductory analysis of economic factors associated with an aging population. Topics include the economics of providing for income maintenance, housing, health care, social service, and leisure activities. The economic implications of individuals and the economy will be discussed. Spring, biennially.
- ECON 175: ECONOMICS OF FREE ENTERPRISE AND PUBLIC POLICY** 3 s.h.
 A basic introduction into the history of economics as a social science, the theory and application of macroeconomics and macroeconomics, international economics, and economic alternatives in current social problems. This is a **freshman** level course and can be used only as general education elective in either the associate degree program or the baccalaureate degree programs. Majors in the College of Business Administration are excluded from the course. Each semester.
- ECON 211: PRINCIPLES OF MACROECONOMICS** 3 s.h.
 Introduction to macroeconomics, national income analysis, money and banking, monetary and fiscal policies, inflation, unemployment, and international finance. Note: ECON 211 and 212 may be taken in either sequence. Each semester. Fall, annually at Venango.
- ECON 212: PRINCIPLES OF MICROECONOMICS** 3 s.h.
 Introduction to macroeconomics, consumer behavior and demand, organization of production, market structures, the pricing of inputs and outputs, and international trade. Note: ECON 211 and 212 may be taken in either sequence. Each semester.
- ECON 221: ECONOMIC AND BUSINESS STATISTICS I** 3 s.h.
 Topics covered are descriptive statistics, probability, probability distributions, mathematical expectation, sampling distributions, and confidence intervals. Application of these statistical techniques in the areas of business and economics will be emphasized. (This course cannot be used to meet general education requirements.) Prerequisites: College algebra or equivalent and sophomore standing. Each semester. Fall, annually at Venango.

- ECON 222: ECONOMIC AND BUSINESS STATISTICS II** 3 s.h.
Topics covered are hypothesis testing, the analysis of variance, regression and correlation analysis, non-parametric statistics, and time series and index numbers analysis. Applications of these techniques in the area of business and economics are emphasized. Students are introduced to the use of a prewritten computer statistical estimation program. (This course cannot be used to meet general education requirements.) Prerequisite: ECON 221. Each semester.
- ECON 310: INTERMEDIATE MICROECONOMIC THEORY** 3 s.h.
The behavior of consumers, producers, and the economic theory of production and output determination in commodity and resource markets. Prerequisite: ECON 212. Each semester.
- ECON 311: INTERMEDIATE MACROECONOMIC THEORY** 3 s.h.
National income accounting and analysis, theories of consumption and investment expenditures, the role of money in a dynamic economy, economic growth, and public policy. Prerequisite: ECON 211. Fall, annually.
- ECON 312: COMPARATIVE ECONOMIC SYSTEMS** 3 s.h.
Analysis of alternative patterns of economic control, planning, and market structure. Experiences under capitalism, socialism, and mixed economics are compared and evaluated. Prerequisites: ECON 211 and 212. Spring, annually.
- ECON 314: URBAN AND REGIONAL ECONOMICS** 3 s.h.
Introductory subnational economics. Includes elementary trade theory, location theory, systems of cities, land use changes, and the employment and income generating activities of cities. The economics of housing, transportation, poverty, discrimination, and public sector activity are emphasized. Prerequisites: ECON 211 and ECON 212. Spring, biennially.
- ECON 340: INDUSTRIAL ORGANIZATION AND PUBLIC POLICY** 3 s.h.
A theoretical and empirical analysis of the effects of market structure, business behavior, and government policy on economic performance and consumer welfare. Topics include welfare economics, market structure, pricing, technological change, regulation, and antitrust policy. Prerequisites: ECON 211 and 212. Spring, biennially.
- ECON 341: THE ECONOMICS OF REGULATED INDUSTRIES** 3 s.h.
A theoretical and empirical study of regulated industries, with emphasis on transportation, energy and communications. Topics include regulatory theory, deregulation, and public utilities. Prerequisites: ECON 211 and 212. Spring, biennially.
- ECON 351: LABOR ECONOMICS** 3 s.h.
Theory of the market is applied to labor. The evolution of labor law, collective bargaining, labor unions, and government policy are stressed. Prerequisites: ECON 211 and 212. Fall, annually.
- ECON 361: INTERNATIONAL ECONOMIC RELATIONS** 3 s.h.
Theory and practice of international trade. Balance of payments, foreign exchange, national commercial policies, international investment, and foreign aid are considered. Prerequisites: ECON 211 and 212. Fall, annually.
- ECON 363: ECONOMIC DEVELOPMENT** 3 s.h.
Survey of development models, development policies, and problems of development in the developing countries. The course is aimed at identifying major economic questions relevant to less developed economies and to showing how economic analysis can be used to further understanding of the obstacles to development and to formulating appropriate policies. Prerequisites: ECON 211 and ECON 212. Spring, annually.
- ECON 370: MONEY AND BANKING** 3 s.h.
Nature and origins of money; the commercial banking system and money creation; central banking and the Federal Reserve System; monetary policy and domestic and international economic stability. Prerequisites: ECON 211 and 212. Spring, annually.
- ECON 371: PUBLIC FINANCE** 3 s.h.
Public sector activity and its impact upon resource allocation and income distribution. Topics include the theory of public expenditures, public choice, cost-benefit analysis, and fiscal federalism. The structure, incidence, and incentive effects of the personal income tax, corporate income tax, and various consumption and wealth taxes are investigated. Prerequisites: ECON 211 and 212. Fall, annually.
- ECON 410: MANAGERIAL ECONOMICS** 3 s.h.
Use of economic analysis in the formulation of business policies. Decision theory and criteria for decision-making by the firm; output and "scale" decisions; linear programming; profits, production functions, and cost functions; competitive equilibrium (industry and firm); demand theory, pricing policies, capital budgeting, and investment; uncertainty; inventory management. Prerequisites: ECON 222, 310 and ACTG 252. On demand.
- ECON 423: STATISTICAL TOOLS FOR QUANTITATIVE ANALYSIS** 3 s.h.
Application of the statistical methods of probability, sampling, estimation, analysis of variance, regression, and correlation in the areas of economics and business. Prerequisite: ECON 222. Spring, biennially.
- ECON 470: BUSINESS CYCLES AND FORECASTING** 3 s.h.
Theories of business fluctuations; applications of modern income theory to business cycles; examination of business cycle indicators and forecasting techniques. Prerequisites: ECON 211 and 222, or consent of the instructor. Spring, annually.
- ECON 490: HISTORY OF ECONOMIC THOUGHT** 3 s.h.
Development of economic ideas from ancient times to the present. Emphasis upon the period from Adam Smith onward. Considers the economic and political environment in which ideas emerged as well as the leading economists advancing or defending the ideas. Prerequisites: ECON 211 and 212 and senior standing. Spring, annually.
- ECON 491: INDEPENDENT STUDIES IN ECONOMICS** 1-3 s.h.
Opportunity to explore in depth a problem or area of economics, according to the student's interest, under the direction of a faculty member of the department. Prerequisites: 2.75 grade-point average and consent of both instructor and department chair. Maximum credit granted in ECON 491 is six credits.
- ECON 492: SPECIAL TOPICS IN ECONOMICS** 3 s.h.
An opportunity for students to investigate specific topics or current issues. Prerequisites depend upon the subject to be covered.

Education

- ED 110: INTRODUCTION TO EDUCATION** 3 s.h.
Familiarize students with education and the role of the school in **multicultural** society. Topics covered include: historical and philosophical perspectives of education; school organization, governance, and finance; teaching and curriculum in a pluralistic society, and the implications of the schools as an agent for social change. Students will also explore their career commitment in terms of opportunities and requirements for teaching. Planned visits to school board meetings, interviews with school board members and/or school personnel, and observation/participation in an elementary or secondary school are required.
- ED 121: HUMAN DEVELOPMENT AND LEARNING** 3 s.h.
Acquisition of understanding and appreciation of the cognitive, psychosocial, ecological-systems, and physical-psychomotor dimensions of human growth and development (birth through adolescence). Emphasis on cognition, learning theories, individual differences, personality, growth, abilities, and interests. Emphasis on holistic development of children and adolescents; involvement with and observation of children.
- ED 122: EDUCATIONAL PSYCHOLOGY** 3 s.h.
Examination of instructional strategies and education environments in a multicultural society from the perspective of educational psychology. Emphasis on learning theory and student characteristics, including development and motivation as they impact on teacher decision-making. Consideration given to inquiry techniques and statistics in developing empirical data and knowledge.
- ED 217: MICROCOMPUTER APPLICATIONS IN THE CLASSROOM** 3 s.h.
An introduction to the basic concepts of microcomputers and software applications. Topics include an introduction to programming, word processing, microcomputer applications in the classroom, and software evaluations.
- ED 221: DEVELOPMENTAL READING** 3 s.h.
A broadly based course which emphasizes improvement in rate, comprehension, reading taste, and independence in reading. Students are introduced to wide and varied sources of reading and numerous means of improvement in reading skills. Instruction in theory and an introduction to the possibilities of a supplementary mechanical program for reading improvement are included. Not recommended for students who have taken GS 100: College Reading/Study Skills.
- ED 225: MULTICULTURAL EDUCATION** 3 s.h.
This course is designed to provide the prospective teachers with a comprehensive understanding of the complexity of ethnic diversity and pluralism in the United States, and to explore pluralism from a global perspective. The goals, rationale, meaning, assumptions, and necessary school conditions for effective teaching and learning in multicultural multiethnic schools are analyzed, fostering multicultural competencies, and preparing prospective teachers for multicultural multiethnic classrooms. Emphasis is also placed upon interpersonal and pedagogical skills needed for the success of teacher and learner.
- ED 227: CLASSROOM MANAGEMENT** 3 s.h.
This course prepares pre-service professional educators to organize and manage instructional environments through a variety of instructional formats, and classroom organizational methods, as well as teacher leadership roles. The course will provide the competencies necessary to plan positive instructional activities, organize classroom space and time, direct the acquisition of knowledge and appropriate social behavior, and apply a range of classroom control techniques. Participation experiences in the schools are required.
- ED 327: INSTRUCTIONAL STRATEGIES AND MANAGEMENT** 3 s.h.
Exploration of the basic skills of planning, designing, implementing, and evaluating the teaching-learning and management process through a clinical approach to teaching. Focus on teacher effectiveness research and its application to instructional strategies and materials, classroom and behavior management, and educational technology. Inclusion of microteaching and simulations as integral components of the course. Incorporation of a variety of instructional strategies: lecture, discussion groups, simulations, microteaching and group and individual analysis of microteaching experiences. Prerequisite: ED 121 or ED 122.
- ED 328: METHODS OF TEACHING AND EVALUATING COMMUNICATION ARTS** 3 s.h.
The course is designed to prepare the aspiring secondary school teacher in the methods of teaching such language based subjects as speech, composition, **literature**, grammar, and reading, and in such language-related, communication-oriented activities as dramatics, journalism, yearbook production, and media use. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.
- ED 329: EDUCATIONAL EVALUATION** 3 s.h.
Examination of the construction, selection, administration, interpretation, and utilization of evaluation techniques and instruments, including their statistical interpretations. Emphasis on the analysis of standardized tests applicable to various content areas, as well as the construction and utilization of qualitative assessment techniques. Taken concurrently with the methods course(s). Each semester.
- ED 332: BIOMETHODS** 3 s.h.
A course designed to prepare biology teachers for the secondary schools. Emphasis is on formulating objectives, selecting and organizing content, developing skill in using a variety of teaching strategies, and evaluating pupil progress. The investigatory approach to teaching biology is stressed in laboratory, field, and simulated teaching experiences. Observations and teaching experiences in area schools are included. prerequisite: ED 327. Fall, annually.
- ED 333: TEACHING READING IN THE SECONDARY CONTENT AREAS** 3 s.h.
An examination of the techniques for helping secondary students develop the reading skills needed to comprehend content-area textbooks. Students will examine those skills in their certification area. Skills and competencies developed in ED 225: Multicultural Education will be applied. A required course for secondary education majors. Participation experiences in the schools are required. Prerequisite: ED 327.
- ED 334: METHODS OF TEACHING THE PHYSICAL SCIENCES** 3 s.h.
Modern concepts of chemistry, physics, and general science teaching and evaluating, with emphasis on a laboratory oriented approach. The philosophy, laboratory techniques, curriculum testing, and extracurricular aspects of secondary school chemistry, physics, and general science teaching will be presented. Prerequisite: For secondary

chemistry majors—16 s.h. in chemistry; for physics majors—10 s.h. in physics. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.

ED 335: **METHODS OF TEACHING AND EVALUATING PHYSICS AND MATHEMATICS** 3 s.h.

This course is designed for those students desiring to become certified in both physics and mathematics. It contains the modern methods of teaching and evaluating in both these disciplines, as described in the courses listed as ED 334 and 339, in that students will divide their time between these two methods courses according to schedule presented in consultation with the instructors in these courses. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.

ED 337: **METHODS OF TEACHING AND EVALUATING SOCIAL STUDIES** 3 s.h.

This course is geared to coordinate knowledge of the social sciences with various strategies of teaching in a social studies program in the secondary schools. Emphasis is placed on the inquiry method. Students are expected to develop competencies in formulating objectives, in questioning, in planning lessons, in evaluation of materials, programs, and student performance and in designing learning activity packets. Students are afforded the opportunity to observe and to engage in clinical teaching experiences. Open to juniors and seniors. Prerequisite: ED 327. Fall, annually.

ED 338: **METHODS OF TEACHING AND EVALUATING MODERN LANGUAGES (French, German, Spanish, as applicable to major.)**

Introduction to the psychological and linguistic foundations of modern language acquisition. Techniques of teaching modern languages and cultures. Evaluative techniques for testing modern language acquisition. Long-range and short-range planning in modern language teaching. Prerequisite: ED 327: Instructional Strategies and Management.

ED 339: **METHODS OF TEACHING AND EVALUATING MATHEMATICS** 3 s.h.

Place and function of mathematics in secondary education; content improvement and evaluation of instruction in mathematics; acquaintance with current literature and research; observation in secondary schools. Observations and teaching experiences in area schools are included. Prerequisites: ED 327 and nine hours of college mathematics. Fall, annually.

ED 403: **FIELD EXPERIENCE AND METHODS IN ENVIRONMENTAL EDUCATION** 3 s.h.

This course focuses on methods used to teach environmental knowledge, concepts, and concerns, including the history and research in environmental education. The relationship of all curriculum areas to environmental education is examined and practiced. The course may be taken for graduate credit with the approval of the Education Department chair and the instructor. McKeever Center in Sandy Lake, PA, will be a site for this course. Offered for two weeks at a time between the end of the Spring Semester and the beginning of regular summer school only.

ED 404: **THEORY AND PRACTICE OF HUMANE EDUCATION** 3 s.h.

The study and strategies of teaching humane treatment of animals, people, and the environment, integrated into existing curricula. The course may be taken for graduate credit with the approval of the Education Department chair and the instructor. No prerequisites. Summers only.

ED 414: **VOLUNTEERS FOR LITERACY** 3 s.h.

This course enables student volunteers to teach in literacy programs aimed at adult and secondary school learners in different settings. Basic methods for instruction in vocabulary, comprehensive, study skills, and writing are integrated with the aim of fostering an appreciation for reading. Open to all university students regardless of major. Prerequisites: QPA 2.50 minimum, sophomore or above standing, and consent of instructor.

ED 418: **EXCEPTIONALITIES [IN THE REGULAR CLASSROOM]** 3 s.h.

This course is designed to prepare students to deal with the nature and needs of the exceptional person in a regular classroom. Contemporary methods of identification, services for the exceptional individual, and legal aspects of the least restrictive environment are examined. Each semester.

ED 421: **MODERN LANGUAGES STUDENT TEACHING** 6 s.h.

A professional practicum requiring the integration and application of instructional, management and professional knowledge and competencies in elementary and secondary school settings. After an orientation to the school setting, the student will teach under the direction of a cooperating professional and university supervisor. Two field assignments will offer diversity in grade levels (K-12), ability levels of pupils, content areas, school and community size, multicultural settings, and/or cooperating professionals. Prerequisites: Completion of 90 semester hours, satisfactory standing in admission and retention standards in college, completion of all required professional courses in certification area with a minimum grade of "C," a cumulative QPA of 2.50, and meets university residence requirements. Each semester.

ED 423: **LIBRARY PRACTICE IN THE SECONDARY SCHOOL** 6 s.h.

A professional practicum requiring the integration and application of instructional, management, and professional knowledge and competencies in library settings in secondary schools. After an orientation to the school and library, the student will participate in management, technical services, literary enrichment, and instructional activities under the direction of a cooperating professional and university supervisor.

ED 424/425: **SECONDARY STUDENT TEACHING** 6,6 s.h.

A professional practicum requiring the integration and application of instructional, management, and professional knowledge and competencies in library settings in secondary schools. After an orientation to the school and library, the student will participate in management, technical services, literary enrichment, and instructional activities under the direction of a cooperating professional and university supervisor. Two field assignments will offer diversity in grade levels, ability levels of pupils, content areas, school and community size, multicultural settings, and/or cooperating professionals. Prerequisites: Completion of 90 semester hours, satisfactory standing in admission and retention standards in the college, completion of all required professional courses in certification area with a minimum of grade of "C," a cumulative QPA of 2.50, and meets university residence requirements.

ED 426: **ENVIRONMENTAL EDUCATION STUDENT TEACHING** 6 s.h.

A professional practicum requiring the integration and application of instructional, management, and professional knowledge and competencies in an environmental education setting. After an orientation to the environmental education setting, the student will teach under the direction of a cooperating professional and university supervisor.

Two field assignments will offer diversity in grade levels, ability levels of pupils, content areas, school and community size, multicultural settings, and/or cooperating professionals. Prerequisites: Completion of 90 semester hours, satisfactory standing in admission and retention standards in the college, completion of all required professional courses in certification area with a minimum grade of "C," a cumulative QPA of 2.50, and meets university residence requirements. Each semester.

ED 432/433: STUDENT TEACHING IN MUSIC 6,6 s.h.

A professional practicum requiring the integration and application of instructional, management, and professional knowledge and competencies in music settings in elementary, middle, and secondary schools. After an orientation to the school and music settings, the student will teach classes and participate in choral and instrumental music activities under the direction of a cooperating professional and university supervisor. Two field assignments will offer diversity in grade levels (K-12), ability levels of pupils, content areas, school and community size, multicultural settings, and/or cooperating professionals. Prerequisites: Completion of 90 semester hours, satisfactory standing in admission and retention standards in college, completion of all required professional courses in certification area with a minimum grade of "C," a cumulative QPA of 2.50, and meets university residence requirements. Each semester.

ED 434/534: WORKSHOP IN EDUCATION 3 s.h.

The workshop provides opportunities for in-service teachers to encounter new ideas, knowledge, and methods in meeting problems in today's schools. Prerequisite: teaching experience in the elementary or secondary schools.

ED 450: INDEPENDENT STUDY 1-3 s.h.

This course is designed to provide students with opportunity to explore an area of special need or interest in education in depth under the supervision of a member of the department. Students must develop a proposed study plan and secure the approval of the proposed director and department chair prior to registration. Prerequisite: junior or senior standing.

ED 499/599: SPECIAL TOPICS IN EDUCATION 1-3 s.h.

Examines current topics and issues in education. Topics, which will be announced in advance, will focus on the needs and interests of educators.

Elementary Education

Early Childhood Education

ECH 231: CREATIVE ACTIVITIES IN ART, MUSIC, AND MOVEMENT 3 s.h.

Exploration of the nature of creativity, and its value in the development of young children. Various open-ended and child-centered activities will be developed and presented which **enhance creativity** in the area of art, music, and movement. Student participation in individual and group projects will demonstrate how to guide young children in creative learning and expression.

ECH 235: CLASSROOM OBSERVATION AND PARTICIPATION 3 s.h.

Observation of young children and participation (two hours weekly) in at least two early childhood programs during the semester. Focus on early childhood education as a career, history and philosophy of early education, history and variety of early childhood programs, the learning-teaching process in early education, and the application of theories and concepts of child development.

ECH 323: READING AND LITERARY EXPERIENCES FOR EARLY CHILDHOOD 3 s.h.

Examination of developmentally appropriate literacy activities for the home, pre-kindergarten, and kindergarten classroom. Emphasis on methods for teaching reading in the primary grades with a focus on an integrated holistic approach to instruction. Prerequisite: ED 327.

ECH 324: MATHEMATICS LEARNING EXPERIENCES FOR EARLY CHILDHOOD 3 s.h.

This course examines activities and experiences designed and recommended by the National Council of Teachers of Mathematics. Pre-number experiences for young children stress the development of concepts through manipulation, observation, and oral language. Early number experiences for kindergarten and the primary grades are examined. Prerequisite: ED 121.

ECH 333: DEVELOPMENTAL PROGRAMS FOR INFANTS AND TODDLERS 3 s.h.

Acquisition of understanding and appreciation of advanced child development for infants and toddlers (birth through age three). Focus on developmentally appropriate practices for infants and toddlers in assessment, programs, curriculum, and physical setting. Additional emphasis on issues relating to programs for infants, toddlers, and parent involvement. Prerequisite: ED 121. Each semester.

ECH 336: DEVELOPMENTAL PROGRAM FOR PREPRIMARY CHILDREN 3 s.h.

Acquisition of understanding and appreciation of advanced child development for the preprimary child (ages three to six). Focus on developmentally appropriate practices in assessment, programs, curriculum, and physical setting. Additional emphasis on issues relating to programs for the preprimary child and parent involvement. Prerequisite: ED 121. Each semester.

ECH 401: CREATIVE RESPONSE TO CONFLICT 3 s.h.

A study of the current **research** in the development of a classroom environment which fosters cooperation, communication, **affirmation**, and problem-solving for children as well as for teachers, staff, instructional teams, parents, support personnel, and other adults. Emphasis on human capabilities for resolving conflicts at various life stages and situations. Examination of a range of discipline models as their implementation relates to the classroom environment. (This course is designed to be taken in conjunction with student teaching in the undergraduate program, or as an elective in the master's program.) Prerequisite: ED 121. Each semester.

ECH 420: INCIDENTAL LEARNING 3 s.h.

The course examines incidental learning gained by young children through their interactions with the people and products of their society's major institutions. It asks such questions as these: how do children learn as incidental by-products of these interactions; how can teachers, for example, plan encounters (with people, materials, and envi-

ronments) so that the encounters contribute to children's learning goals rather than subvert them. Prerequisite: ED 121. Each semester.

ECH 4241/425: EARLY CHILDHOOD STUDENT TEACHING 6,6 s.h.

A professional practicum requiring the integration and application of instructional, management, and professional knowledge and competencies in school and agency settings. After an orientation to the school and agency setting, the student will teach under the direction of a cooperating professional and university supervisor. Two field assignments will offer diversity in grade levels (N-K, 1-3), ability levels of pupils, content areas, school and community size, multicultural settings, and/or cooperating professionals. Prerequisites: Completion of 90 semester hours, satisfactory standing in admission and retention standards in the college, completion of all required professional courses in certification area with a minimum grade of "C," a cumulative QPA of 2.50, and meets university residence requirements. Each semester.

Elementary Education

ELED 323: TEACHING OF READING 3 s.h.

An overview of current definitions and basic approaches in elementary school reading instruction. Familiarization with methods and materials used to teach reading to elementary school children from a variety of cultural backgrounds. Prerequisite: ED 121. Each semester.

ELED 324: TEACHING ELEMENTARY SCHOOL MATHEMATICS 3 s.h.

This course explores the current topics recommended by the NCTM. A strong laboratory approach using a wide variety of concrete, manipulative, mathematical models to teach the mathematical concepts commonly found in grades K-8 is emphasized. The course also deals with trends in curriculum and with methods for diagnosing and presenting mathematical concepts and skills. Recent research which applies to teaching and learning mathematical skills and concepts is considered. Psychological theories are related and applied to the selection and use of strategies, instructional materials, and diagnostic-prescriptive procedures. Prerequisites: Satisfactory completion of MATH 111 or three credit hours of its equivalent or higher mathematics course.

ELED 325: TEACHING ELEMENTARY SCHOOL SOCIAL STUDIES 3 s.h.

Coordinates theory and practice in the teaching of elementary school social studies. An historical perspective, examination of current research, curriculum programs and trends, and methods and materials applicable to unit type social studies teaching in a pluralistic society are provided. Emphasis is placed upon the development, selection, management and evaluation of materials and experiences that foster concept development, inquiry and critical thinking in social studies. Consideration is given to addressing the needs of diverse student populations, integration of content areas, and applications of technology. Prerequisite: ED 327. Each semester.

ELED 326: READING PROBLEMS IN THE ELEMENTARY SCHOOL 3 s.h.

Provides the basic concepts and skills needed by the elementary classroom teacher to identify and correct reading problems within the classroom setting and to work cooperatively with other professionals and parents in implementing a remedial program. Prerequisite: ELED 323. Each semester.

ELED 330: LANGUAGE ARTS IN THE ELEMENTARY SCHOOL 3 s.h.

Examination of "traditional" and "whole language" elementary language arts curricula. Emphasis on listening, oral language, penmanship, written communication, grammar, and spelling. Preparation of instructional materials and strategies with emphasis on integration of the communication processes into the content areas. Application of multicultural education and children's literature. Prerequisite: ED 327. Each semester.

ELED 331: CHILDREN'S LITERATURE 2 s.h.

Survey of children's literature with an emphasis on the development of a knowledge base of the various genres in this discipline, including multi-ethnic. Focus on the study of the historical background, the development of literature for children, evaluation and selection criteria for the various genres, and the most recent areas of expansion in children's literature. This knowledge base will be applied in the various content area methods courses. Each semester.

ELED 423: LIBRARY PRACTICE IN THE ELEMENTARY SCHOOL 6 s.h.

A professional practicum requiring the integration and application of instructional, management and professional knowledge and competencies in library settings in elementary schools. After an orientation to the school and library, the student will participate in management, technical services, literary enrichment, and instructional activities under the direction of a cooperating professional and university supervisor.

ELED 424/425: ELEMENTARY STUDENT TEACHING 6,6 s.h.

A professional practicum requiring the integration and application of instructional, management and professional knowledge and competencies in school settings. After an orientation to the school setting the student will teach under the direction of a cooperating professional and university supervisor. Two field assignments will offer diversity to grade levels (K-3, 4-6), ability levels of pupils, content areas, school and community size, multicultural settings, and/or cooperating professionals. Prerequisites: Completion of 90 semester hours, satisfactory standing in admission and retention standards in the college, completion of all required professional courses in certification area with a minimum grade of "C," a cumulative QPA of 2.50, and meets university residence requirements. Each semester.

English

- ENG 110: WRITING I** 3 s.h.
 Introduces students to the composing strategies of college writing through a gradual progression from expressive discourse toward explanatory discourse. When necessary, work is done in punctuation, grammar, and spelling. Each semester.
- ENG 111: WRITING H** 3 s.h.
 Emphasizes the development of critical thinking through analytical and argumentative writing and introduces students to research writing. Each semester.
- All entering students (part-time and full-time) must take the English placement examination. (Credit for advanced placement English or satisfactory SAT verbal scores does not exempt the student from taking the placement test or from fulfilling the university writing requirement.) All transfer students must also take the English placement test. If they have received credit for courses equivalent to either or both our ENG 110 and ENG 111 such transfer credit must be documented on a checksheet from the Office of the Registrar. Only students required to do so by the English Department as a result of their placement test score must enroll in ENG 110. Unless exempt, all students must take ENG 111. If a student is exempted from ENG 111, the student must nevertheless still complete three hours of English Composition under Ia. on the checksheet. This requirement can be satisfied by taking ENG 2fM), 202, 207, 301, 303, 304, 306, or 307. The English placement examination is given at each of the summer freshman orientation sessions and several times during the academic year. Check with the English Department for specific dates. (After taking ENG 111, students may not enroll in ENG 110.)
- ENG 115: COMPOSITION FOR INTERNATIONAL STUDENTS** 3 s.h.
 Helps ESL writers to develop an understanding of the English grammar system, to discern the systematic patterns that exist in the language, to develop a vocabulary in order to express their ideas in English, and to recognize the rhetorical structure of the language. This course satisfies the requirement for ENG 111. Each semester.
- ENG/SCT/ HON 125: MODES OF DISCOURSE** 6 s.h.
 Integrates the students' production of both written and spoken discourse. The course is an alternative method of teaching communication, and draws upon the skills of instructors from English and speech communication and theatre. Taken by freshmen enrolled in the Honors Program, and replaces both ENG 111 and SCT 113. (Not open to students who have taken ENG 111 or SCT 113.)
- ENG 130: THE LITERARY EXPERIENCE** 3 s.h.
 Provides a wide selection of literature to introduce the student to various literary genres. No prerequisite. Recommended for all students. Each semester.
- ENG 140: INTRODUCTION TO DRAMA AS LITERATURE** 3 s.h.
 Introduces students to the structures and strategies playwrights use to create different experiences for their readers. Drawing on a wide variety of plays, the course focuses on how one reads a dramatic text so as to perceive the special cues it uses, to stimulate imaginative engagement and how the text can be translated into theatrical performance. No prerequisites. Each semester.
- ENG 150: MOVIE STUDIES** 3 s.h.
 Explores how movies "mean" through readings of various classic and popular texts, how movies construct viewers, and how they simultaneously mirror and create the cultures of which they are a part. No prerequisites. Each semester.
- ENG 200: COMPOSITION AND LITERATURE** 3 s.h.
 Stresses the writing of papers as a direct result of reading, analysis, discussion, and interpretation of a variety of literary types. The short story, the drama, and the poem may be examined from various cultural perspectives. Research techniques and related skills are addressed. Some sections include studies of women and minority writers. Prerequisite: exemption from or completion of the general education English requirement. Each semester.
- ENG 202: BEGINNING CREATIVE WRITING** 3 s.h.
 Introduces students to the techniques of creative writing in prose and poetry. Major emphasis is on writing practice for students and opportunities for guidance and critical examination of their work. Prerequisite: Completion of general education English writing requirement. Fall, annually.
- ENG 207: RESEARCH METHODOLOGY AND WRITING** 3 s.h.
 Teaches students how to conduct research and how to write a research paper. Prerequisite: exemption from or completion of the general education English requirement. Each semester.

- ENG 221: ENGLISH LITERATURE: BEGINNINGS TO 1800** 3 s.h.
Surveys English literature and its historic, intellectual, and cultural contexts beginning with *Beowulf* and extending through the works and genres of such figures as Chaucer, Shakespeare, Milton, Pope, Swift, Dryden, and Johnson and provides highlights of the development of modern English. Each semester.
- ENG 222: ENGLISH LITERATURE: 1800 TO PRESENT** 3 s.h.
Surveys English literature from c. 1800 and includes selected works of such major writers as Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, Arnold, Hardy, Conrad, Joyce, and Eliot. Spring, annually.
- ENG 225: AMERICAN LITERATURE: BEGINNINGS TO 1860** 3 s.h.
Surveys major periods and writers of American literature from its beginnings to 1860. It is designed to enable students to understand the continuities and discontinuities of American literature. Works examined will include writings by traditional men and women authors, as well as pertinent minority authors. Both historical and/or thematic approaches (e.g. the persistence of Puritanism, the quest for authenticity, and hero/ine as innocent, the garden vs. the city) may be utilized by the individual instructor. Fall, annually.
- ENG 226: AMERICAN LITERATURE: 1860 TO THE PRESENT** 3 s.h.
Surveys major periods and writers of American literature from 1860 to the present. It is designed to enable students to understand the continuities and discontinuities of American literature. Works examined will include writings by traditional men and women authors, as well as pertinent minority authors. Both historical and/or thematic approaches (e.g. the alienated self, the impact of industrialization, the hero/ine as American, vision and revision) may be utilized by the individual instructor. Spring, annually.
- ENG 227: WORLD LITERATURE: BACKGROUNDS AND TRADITIONS** 3 s.h.
Examines some of the literatures of the world before 1900. Readings will vary from semester to semester. Fall, annually.
- ENG 228: MODERN AND CONTEMPORARY WORLD LITERATURE** 3 s.h.
Explores the literature of particular cultures, regions, continents or subcontinents, periods or genres. More than one cultural or geographical grouping will be covered in each offering, specific concentrations to be determined by the instructor. Spring, annually.
- ENG 230: INTRODUCTION TO AFRICAN-AMERICAN LITERATURE** 3 s.h.
Provides insight into the African-American experience through the reading and discussion of the works of African-American writers who have made significant contributions to literature. Various genres will be included: poetry, short fiction, drama, film, the novel, autobiography. Fall, annually.
- ENG 242: INTRODUCTION TO AMERICAN FOLKLORE** 3 s.h.
Provides an introduction to American folklore and its relationships to American literature. Students will be introduced to the major genres of American folklore, such as legend, tale, folk belief, song and ballad, and material folk culture; and to various folk groups in America, such as occupational, gender, ethnic, age, regional, and their traditions. Examples of American literature and American popular culture will be analyzed through an examination of their American folk elements. The course will also provide students with fieldwork experiences and methods of analysis of oral, customary, and literary traditions. No prerequisite. Fall annually.
- ENG 244: SPECIAL TOPICS** 1-3 s.h.
Focuses on themes and topics of universal and/or current interest as embodied in literature. The special subject of each semester's offerings will be announced in pre-registration. It is suitable for both English and non-English majors and may be taken up to three times for credit, provided that different topics are offered. On demand.
- ENG 249: SATIRE** 3 s.h.
Provides the student with an understanding of what satire is, what it does, and how it is related to other literary modes. Students will analyze targets such as racism, sexism, etc. and satiric techniques in such forms as fiction (which will include short stories by women and minority writers), poetry, art, music, films, and television satire. No prerequisite. Fall, annually.
- ENG 250: STUDIES IN WESTERN MYTHOLOGY** 3 s.h.
Concentrates upon Greco-Roman myth and legends in order to demonstrate the systematic nature and recurrent patterns of mythology. Such myths reveal the nature of both cultures. It is designed not only to give the student a thorough knowledge of content but to clarify questions of form. Spring, annually.
- ENG 262: INTRODUCTION TO THE ENGLISH LANGUAGE** 3 s.h.
Deals generally with the nature of language and specifically with the grammatical structures of modern English, its regional and social varieties, and certain highlights of its historical development. Each semester.
- ENG 263: ENGLISH GRAMMARS AND ENGLISH USAGE** 3 s.h.
Provides an intensive study of English grammar and problems in usage. Emphasizes differences between prescriptive and descriptive approaches to usage, and between traditional and generative approaches to grammar. Each semester.
- ENG 270: TRAINING FOR WRITING CENTER TUTORS** 1 s.h.
In conjunction with weekly staff meetings throughout the semester tutors are instructed in methods of responding to student writing, implementing corrective measures, and teaching as well as using word processing. Tutors are accepted by invitation only on the basis of performance in writing courses; grade-point average must equal or exceed 3.0. Fall, annually.
- ENG 301: WRITING NON-FICTION PROSE** 3 s.h.
Provides experience in writing non-fiction. This course will focus on any of several types of non-fiction, including formal essay, autobiography, and biography. Students will also study published examples of the genre under consideration and will critique examples presented by peers throughout the semester. Prerequisite: completion of general education English requirement. Each semester.
- ENG 303: THE CRAFT OF FICTION** 3 s.h.
Provides extensive practice in the writing of short narrative fiction. Student work is subjected to intensive group criticism. Course standards roughly approximate those of commercial fiction editors. Prerequisite: ENG 202 or permission of instructor, based on examination of writing samples. Spring, even-numbered years.

- ENG 304: THE CRAFT OF POETRY** 3 s.h.
Provides the advanced writer intensive practice in the writing of poetry. A significant portfolio of high-quality poetry is expected of each participant by the end of the course. Prerequisite: ENG 202 or permission of instructor based on examination of writing samples. Spring, odd-numbered years.
- ENG 306: SCIENTIFIC AND TECHNICAL WRITING** 3 s.h.
Provides experience in writing practical prose in a variety of scientific and/or technical settings for a broad spectrum of readers. Involves techniques of writing documents of definition, mechanism, and process description; sets of instructions; proposals and reports; and the use of appropriate document-and-graphic designs. Especially useful to majors in biology, chemistry, computer science, laboratory technology, nursing, physics, and others. Prerequisite: junior standing. Each semester.
- ENG 307: BUSINESS WRITING** 3 s.h.
Using specialized formats and the composing process, students learn and practice the unique type of writing used in the business and organizational world. Emphasis is placed on identifying and addressing the diverse audiences with the specific messages needed. Students critique all types of communications, use collaborative learning techniques, and develop skills needed to communicate in a pluralistic society. Letters, memos, persuasive messages, and reports are required. All documents must be typewritten. Prerequisite: ENG 111 must be completed. Each semester.
- ENG 311: STUDIES IN SIXTEENTH CENTURY ENGLISH LITERATURE** 3 s.h.
Examines the non-dramatic literature of the sixteenth century and focuses upon such figures as Sidney, Spenser, and Shakespeare. Fall, odd-numbered years.
- ENG 313: STUDIES IN SEVENTEENTH CENTURY ENGLISH LITERATURE** 3 s.h.
Provides critical examination of the works, genres, and contexts of such figures as Bacon, Browne, Jonson, Donne, Herbert, Marvell, and Milton. Spring, odd-numbered years.
- ENG 315: STUDIES IN EIGHTEENTH CENTURY ENGLISH LITERATURE** 3 s.h.
Provides a critical examination of the words, contexts, and genres of such representative writers as Dryden, Pope, Swift, Defoe, Johnson, Boswell, and Gray and traces the rise of the modern novel from Defoe through Austen and the role of women as authors and audience. Spring, even-numbered years.
- ENG 317: STUDIES IN ENGLISH ROMANTIC LITERATURE** 3 s.h.
Considers the major works of Wordsworth, Coleridge, Byron, Shelley, Keats, and their contemporaries such as Mary Shelley, Mary Wollstonecraft, and others, and relates them to the intellectual, political, and social currents of the time. Spring, even-numbered years.
- ENG 319: STUDIES IN VICTORIAN LITERATURE** 3 s.h.
Focuses on such poets and essayists as Carlyle, Newman, Tennyson, the Brownings, Arnold, the Rossetis, and Meredith. Examines the current renewal of interest in poetry by women and noncanonical writers. Spring, odd-numbered years.
- ENG 325: EARLY AMERICAN LITERATURE** 3 s.h.
Explores various topics in 17th and 18th century American literature against the backdrop of Puritanism. Bradstreet, Taylor, Edwards, Franklin, and Wheatley are among the major figures encountered. Attention is given to the dynamics of molding a distinctively national literature. Spring, even-numbered years.
- ENG 326: AMERICAN ROMANTICISM** 3 s.h.
Studies a selected group of writers to illustrate their contributions to American art and thought and their relationships with the development of Romanticism in the first half of the 19th century. Emphasis is given to Poe, Hawthorne, Melville, Emerson, Thoreau, and Whitman. Fall, annually.
- ENG 327: AMERICAN REALISM AND NATURALISM** 3 s.h.
Studies a selected group of writers to illustrate the development of realism and naturalism in American literature in the latter half of the 19th century. Emphasis is given to Twain, James, Howells, Crane, Norns, and Dickinson. Spring, annually.
- ENG 328: AMERICAN LITERATURE FROM 1900-1945** 3 s.h.
Examines the period less as a unified site to be "surveyed" in terms of fiction, poetry, and drama than as a problematic field to be studied in terms of race, gender, and class. Authors include Wharton, Cather, Dos Passes, Hemingway, Hurston, and Faulkner. Fall, annually.
- ENG 329: CONTEMPORARY AMERICAN LITERATURE** 3 s.h.
Investigates the very idea of a canon for American literature since WW II and discusses strategies for reading such representative authors as Roth, CoOver, Oates, and Morrison. Spring, annually.
- ENG 331: STUDIES IN THE AFRICAN-AMERICAN NOVEL** 3 s.h.
Studies in depth the development of the African-American novel from its origins in the slave narratives to the present. How do African-American novels fit into the larger tradition of African-American literature? What modes of thematic and narrative discourse mark the particular characteristics of the African-American novel? Writers such as Douglass, Chesnut, McKay, Hurston, Wright, Ellison, Reed, Walker, and Morrison will be studied.
- ENG 332: NINETEENTH CENTURY BRITISH NOVEL** 3 s.h.
Explores the English novel from Austen to Hardy. Nine or ten novels are studied with selections from Austen, Scott, Eliot, Dickens, Thackeray, Disraeli, Meredith, Trollope, the Brontes, Gaskell. No prerequisite; however, one semester of English literature survey (ENG 221 or 222) is recommended. Fall, annually.
- ENG 333: TWENTIETH CENTURY BRITISH NOVEL** 3 s.h.
Explores the modern British novel from its beginnings in the late nineteenth century to the present. Seven or eight novels are intensely examined, with selections from such authors as Hardy, Conrad, Joyce, Woolf, Williams, Gelding, and Adams. No prerequisite; however, one semester of English literature survey (ENG 221 or 222) recommended. Spring, annually.
- ENG 339: SHORT STORIES** 3 s.h.
Traces the evolution of the short story from the 19th century to the present. Elements such as plot, character, theme, style, and point of view are studied. Readings are drawn from a variety of writers representing a diversity of cultures: Poe, deMaupassant, Chopin, Gilman, Faulkner, Ellison, Kafka, Hurston, Fuentes, Lessing, Silko, Walker, and LeGum. Fall, annually.

- ENG 341: TWENTIETH CENTURY POETRY** 3 S.h.
Provides explication and discussion of works by such writers as Yeats, Frost, Eliot, Plath, Auden, Roethke, and Lowell. Fall, odd-numbered years.
- ENG 342: ENGLISH DRAMA TO 1642** 3 s.h.
Presents an overview of the development of English drama in its first two phases, concentrating particularly on the great drama produced in the Renaissance by Shakespeare's contemporaries. Students will discuss the plays as literature while taking account of the relevant theatrical considerations. No prerequisites. Fall, odd-numbered years.
- ENG 343: ENGLISH DRAMA FROM 1660 TO 1850** 3 s.h.
Presents a selective look at some of the major forms of drama in this extremely varied two-hundred-year period, with possible focuses on, for example, heroic tragedy, Restoration comedy, sentimental comedy, Victorian melodrama, and the precursors of modern English drama. Lectures, discussions, imaginary scene-stagings, and where possible, trips to productions will be used. No prerequisites. Fall, even-numbered years.
- ENG 344: MODERN DRAMA TO 1950** 3 s.h.
Surveys influential dramatic literature of the Continental, British, and American theatre from 1850 to 1950 through lectures, discussion, and experiences related to the modern stage. No prerequisites. Spring, even-numbered years.
- ENG 345: CONTEMPORARY DRAMA** 3 s.h.
Explores the diversity and vitality of Continental, British, and American theatre since 1950 through selected texts and theatrical experiences. No prerequisites. Spring, odd-numbered years.
- ENG 350: MOVIE GENRES** 3 s.h.
Explores genre as sets of narrative conventions that have vitalized American movies. Genre is demonstrated to be a socializing force as well as a mirror of social change. Consideration is given to representations of race, gender, and class in various genres. Spring, odd-numbered years.
- ENG 352: TOPICS IN FOLKLORE** 3 s.h.
Provides intensive study of one or more aspects of folklore study. The focus may be on one or more folk groups, a particular folk genre, folklore and popular culture, or folklore and literature. The course will provide students with fieldwork experience-collection, transcription, classification-and methods of analysis of oral traditions. No prerequisite. Every third semester.
- ENG 353: AMERICAN VOICES** 3 s.h.
Provides an introduction to American dialectology and sociolinguistics. Emphasis will be on the great diversity and vitality of American English. Other topics covered will be the causes and mechanisms of linguistic change, the role of language differences in society, and the relevance of dialectology to language teaching. The course will pay special attention to the regional speech patterns of Pennsylvania. No prerequisite.
- ENG 355: TOPICS IN LITERARY THEORY** 3 s.h.
Provides a historical study of literary criticism and aesthetic theory with emphasis upon modern trends. On demand.
- ENG 356: RHETORICAL THEORY FOR WRITERS** 3 s.h.
Explores such questions as why do we communicate in writing, how does writing help us learn, how does writing facilitate, change, or affect the nature of communication? Students will examine in detail the works of figures such as Plato, Cicero, Nietzsche, Bakhtin, Dernda, and Kristeva, and will study how rhetorical theory is used in everyday communication. Prerequisite: ENG 111. Spring, annually.
- ENG 360: VOICES IN CANADIAN POETRY** 3 s.h.
Introduces the student to some of the major figures who have influenced the development of English-Canadian poetry since its inception in the nineteenth century. Works will be studied from traditional, modern, and contemporary poets such as Carman and Scott, E.J. Pratt, A.J. M. Smith, Layton, Page, Atwood, Nowlan, Livesay, Ondaatje, and others. No prerequisites. Fall, odd-numbered years.
- ENG 365: IMAGES OF WOMEN IN LITERATURE** 3 s.h.
Examines images of women in myth, literature, and the culture at large and applies the feminist critique to a study of these images. Spring, annually.
- ENG 370: LITERATURE FOR YOUNG ADULTS** 3 s.h.
Introduces future teachers to the field of literature for young adults by providing them with the opportunity to read and discuss examples of classical and contemporary adolescent literature. Will include works from various genres written by American, British, and American minority authors. Some world literature will also be included, as will film. In addition to developing first-hand knowledge of important works in the field, students will also become familiar with its history and with the controversies which have shaped it. Spring, annually.
- ENG 401: CHAUCER** 3 s.h.
Studies in Middle English of Chaucer's early poems, *Troilus and Criseyde*, and the *Canterbury Tales*. Fall, even-numbered years.
- ENG 412: SHAKESPEARE: COMEDIES AND HISTORIES** 3 s.h.
Provides study and discussion of problems of style, characterization, and motivation in Shakespeare's experimental and maturing comedies, chronicle and Roman plays, and tragedies. Plays to be selected from the first two periods of Shakespeare's creative production. Fall, annually.
- ENG 413: SHAKESPEARE: TRAGEDIES AND ROMANCES** 3 s.h.
Provides study and discussion of problems of style, characterization, and motivation in Shakespeare's mature comedies, Roman plays, tragedies, and romances. Plays to be selected from the last two periods of Shakespeare's creative production. Spring, annually.
- ENG 455: STUDIES IN DRAMA AND DRAMATIC THEORY** 3 s.h.
Provides an intensive exploration of drama, concentrating especially on contemporary developments in both drama itself and in the theoretical study of drama, including recent critical developments in ethnic, feminist, and performance approaches to dramatic texts. The exact focus of the course will vary with each offering. No prerequisites. On demand.

- ENG 456:** *ENGLISH HONORS SEMINAR* 3 s.h.
Offers an intensive study of selected writers and their works. The seminar is designed to offer excellent students opportunities for advanced and unusually challenging study in literature. Admission by departmental invitation. On demand.
- ENG 457:** *INTRODUCTION TO LINGUISTICS* 3 s.h.
Presents key concepts and basic analytical procedures common to many contemporary linguistic theories. Areas covered in detail include phonetics and phonology, morphology, and syntax. Attention is paid to the integration of these sub-systems in the overall design of a generative grammar. Prerequisite: ENG 262. Fall, annually.
- ENG 458:** *HISTORY OF THE ENGLISH LANGUAGE* 3 s.h.
Provides a study of the history of the language, including its origins and changes in structure, usage, pronunciation, spelling, vocabulary, and meaning. Intensive readings in Old and Middle English. Spring, even-numbered years.
- ENG 459:** *LANGUAGE ACQUISITION ACROSS CULTURES* 3 s.h.
Introduces current research in first and second language acquisition with an emphasis on the preparation of classroom teachers and other professionals to work with children/adults coming from homes in which languages other than English are spoken. Prerequisite: ENG 262 recommended but not required.
- ENG 460:** *INDEPENDENT STUDY* 1-6 s.h.
Perrittis students to explore an area of special interest in the English language or its literature. Students must develop a plan of study, secure the approval of a member of the English faculty willing to supervise the project, and submit the plan to the department chair. Maximum credits—six. Prerequisite: junior or senior standing.
- ENG 480:** *WRITING FOR THE PROFESSIONS* 3 s.h.
A student-centered workshop in applied writing—specifically, writing for the professions: business, education, medicine, law, and real estate. among others, including academic research itself. Prerequisites: ENG 301 or ENG 307 and consent of instructor. Students should not enroll for the course until they have some particular professional project or target in mind. Fall, annually.
- ENG 482:** *COMPOSITION: THEORY AND PRACTICE* 3 s.h.
Provides a systematic study of theory and practice in the teaching of composition, conducted through workshop methods. The course requires extensive writing and a major written project. Prerequisites: secondary education majors in English must have completed ENG 111 200, or 301 and have taken or be taking their methods course; others by permission of the instructor. Fall, annually.
- ENG 499:** *SENIOR SEMINAR* 3 s.h.
Explores in a seminar setting a theme, an idea, or an issue beyond the scope of individual courses. Primary literature and relevant criticism will be dealt with. A major paper is required of all participants; other course requirements will be established by the instructor prior to the semester of offering. Required of senior liberal arts English majors. Fall, annually.

Environmental Studies

- ENVR 475:** *FIELD NATURAL HISTORY* 3 s.h.
Competencies in biology, meteorology, geology, and astronomy are explored. Emphasis is placed on developing competencies which will be valuable in teaching environmental (outdoor and conservation) education. For non-science majors. Prerequisite: upper division standing. Spring, annually.

NOTE: For additional courses related to environmental education certification endorsement, see page 109

Finance

- FIN 370:** *FINANCIAL MANAGEMENT* 3 s.h.
A study of the theoretical and analytical framework that a financial manager can use to make decisions in a dynamic economy. Planning the need for funds, acquiring funds, and efficiently utilizing those in domestic and multinational firms are some of the topics covered. Prerequisites: ECON 212 and ACTG 252. Each semester.
- FIN 371:** *INTERMEDIATE FINANCE* 3 s.h.
An in-depth study of corporate financial issues which face today's financial manager. Students will learn to incorporate risk into capital budgeting decisions; study mergers and acquisitions; analyze bankruptcies, reorganizations, and lease financing; and study other advanced financial issues prevalent in today's domestic and multinational corporations. Prerequisite: FIN 370. Once annually.
- FIN 373:** *FUNDAMENTALS OF INSURANCE* 3 s.h.
A survey of the principal methods of handling risk, with particular attention to the various types of insurance and how they relate to business and personal affairs. Insurance areas covered will include life, accident and health, social, tire and allied lines, transportation casualty and surety. Principles of selecting insurance for the firm and private citizen will be discussed. Fall, annually.
- FIN 374:** *PROPERTY AND CASUALTY INSURANCE* 3 s.h.
Treatment of property and liability exposures by application of coverages—fire and allied lines; inland and ocean marine; and casualty and surety bonding. Attention will be paid to rating, underwriting, loss prevention, claims administration, and corporate risk management. Prerequisite: FIN 373. Spring, annually.
- FIN 375:** *MANAGEMENT OF FINANCIAL INSTITUTIONS* 3 s.h.
A descriptive analysis of the operations of financial institutions, such as commercial banks, savings banks, insurance companies. Examines techniques and principles involved in the management of financial institutions. Prerequisites: ECON 211 and FIN 370. Spring annually.

- FIN 376: INVESTMENTS** 3 s.h.
Examination of investment goals and the current environment for investments, including the nature of the investment process and securities markets; analysis of risk and return, especially as it applies to common stocks, preferred stocks, and bonds; introduction to portfolio management and portfolio theory. Prerequisite: FIN 370. Fall, annually.
- FIN 377: MEDICAL CARE FINANCE** 3 s.h.
The role of a financial manager in the health care setting. A study of the theoretical and analytical procedures involved in medical fund raising, capital budgeting, expense analysis, rate structuring, and hospital asset management as well as other financial abilities required in the operation and planning of modern health care facilities. Prerequisite: FIN 370. Once, annually.
- FIN 399: SPECIAL TOPICS IN FINANCE** 1-3 s.h.
Various current topics in finance theory and practice will be presented. Different topics will be covered from year to year as subjects of importance are identified. Prerequisite: FIN 370. On demand.
- FIN 471: FINANCIAL PROBLEMS** 3 s.h.
A consideration by the case method of the financial problems of business firms. Prerequisite: FIN 371. Fall, annually.
- FIN 473: RETIREMENT AND ESTATE PLANNING** 3 s.h.
An overview of individual income taxation, including an in-depth look at pensions, profit sharing, and other deferred compensation plans, estates, trusts, and applicable tax laws. Prerequisite: FIN 370. Once annually.
- FIN 476: PORTFOLIO THEORY AND MANAGEMENT** 3 s.h.
Examination of modern portfolio theory and its application to investment strategies; study of options and future markets; investigation of market efficiency. Prerequisite: FIN 376. Spring, annually.
- FIN 480: MULTINATIONAL FINANCIAL MANAGEMENT** 3 s.h.
The theory and practice of financial management in the multinational firms; focuses on important differences between domestic and international financial decision making. Prerequisite: FIN 370. Once annually.

French

In addition to courses listed below, students of French have an opportunity to study for a summer, a term, or an entire academic year in France and/or Canada. An opportunity to participate in a program of international business internships is made available to qualified students.

- FR 101: SPECIAL TOPICS: THE EUROPEAN MIND** 3 s.h.
Historical and contemporary developments on the European intellectual scene are covered by experts on individual countries with regard to their relevance for the present American student generation.
The special subject is announced at pre-registration. Open to all students of the university without prerequisites, and may be taken up to three times for credit, provided that different topics are offered. Two-year cycle.
- FR 109: FRENCH LITERATURE IN TRANSLATION** 3 s.h.
A study of representative French literary works, with particular emphasis on the characters and ideas which have influenced both French and other literatures. The course is conducted in English; no knowledge of French required; no prerequisite.
- FR 150: INTENSIVE ELEMENTARY FRENCH** 6 s.h.
Equivalent to FR 151 and 152 offered every fall.
- FR 151: FRENCH I (ELEMENTARY I)** 3 s.h.
Essentials of grammar, with emphasis on aural comprehension and oral expression. Each semester.
- FR 152: FRENCH II (ELEMENTARY II)** 3 s.h.
Continuation of FR 151, with increasing emphasis on graded reading material. Prerequisite: FR 151 or equivalent. Each semester.
- FR 153: ELEMENTARY FRENCH CONVERSATION** 3 s.h.
Conversational practice, with extensive oral drill on grammatical patterns. Designed for those students who have met the prerequisites for FR 251 but are lacking in aural-oral proficiency. May be taken concurrently with FR 251. Spring, annually.
- FR 225: INTRODUCTION TO FRENCH PHONETICS AND PRONUNCIATION** 3 s.h.
An introduction to the French phonetic system, including the study of phonemes, intonation, stress, and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: FR 152 or equivalent. Three-year cycle.
- FR 250: INTENSIVE INTERMEDIATE FRENCH** 6 s.h.
Equivalent to FR 251 and 252 offered every spring.
- FR 251: FRENCH III (INTERMEDIATE I)** 3 s.h.
Systematic review of basic grammar; graded readings, conversation, translation, and composition on selected topics. Prerequisite: FR 152 or two years of high school study and/or satisfactory placement. Fall, annually.
- FR 252: FRENCH IV (INTERMEDIATE II)** 3 s.h.
Intensive reading of selected works; outside reading, with oral and/written reports. Prerequisite: FR 251 or satisfactory placement. Spring, annually.
- FR 253: COMMERCIAL FRENCH** 3 s.h.
A study of commercial terminology and style, with extensive writing of business letters of various kinds. Prerequisite: FR 152 or equivalent. Two-year cycle.

*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.

- FR 255: FRENCH CIVILIZATION I** 3 s.h.
A survey of French geography, history, literature, and culture designed to equip students with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisite: FR 252 or four years of high school study and/or satisfactory placement. Required of French majors. Three-year cycle.
- FR 256: FRENCH CIVILIZATION II** 3 s.h.
Continuation of FR 255, which is prerequisite. Required of French majors. Three-year cycle.
- FR 260: THE FRENCH SHORT STORY** 3 s.h.
A study of representative short stories of the nineteenth century. All readings and discussions in French. Three-year cycle.
- FR 265: INTERMEDIATE CONVERSATION** 3 s.h.
Practice creative language use in conversation to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary or intermediate language courses and are lacking in aural-oral proficiency. May be substituted for either FR 251 or 252 or used for major credit. Two-year cycle.
- FR 351: ADVANCED FRENCH GRAMMAR AND COMPOSITION** 3 s.h.
Intensive oral and written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-French translation, free composition, and conversation of everyday topics. Prerequisites: FR 255 and 256 or one literature course. Three-year cycle.
- FR 353: DEVELOPMENT OF THE FRENCH DRAMA** 3 s.h.
A study of the development of French drama from medieval drama to modern drama. Selections from medieval *myseries, miracles*, and *jeur*, to the theatre of the absurd. Three-year cycle.
- FR 354: DEVELOPMENT OF THE FRENCH NOVEL** 3 s.h.
A study of the development of the French novel from the medieval romance to the *romun nouveau*. Selections from major authors from Chretien de Troyes to Nathalie Sarraute. Three-year cycle.
- FR 356: DEVELOPMENT OF FRENCH POETRY** 3 s.h.
Development of French poetry from the Middle Ages to modern times. A study of poetic form from the ballad to free verse. Three-year cycle.
- FR 358: FRENCH THINKERS** 3 s.h.
A study of major French thinkers from 16th, 17th and 18th centuries. Rabelais. Montaigne, Pascal, Descartes, Montesquieu, Voltaire, Diderot, and Rousseau. Three-year cycle.
- FR 360: FRENCH CANADIAN WRITERS** 3 s.h.
A study of the major trends in French Canadian theatre, prose, and poetry, with concentration on Gelinat, Anne Hébert, Thenault, Gabrielle Roy, Nelligan, and Grandbois. Three-year cycle.
- FR 361: BLACK WRITERS IN FRENCH LITERATURE** 3 s.h.
A study of the major trends in African literature written in French. Selections from among the works of Jacques Roumain, Sembene Ousmane, Amadou Kourouma, Francis Bebey, Ferdinand Oyono, Leopold Sedar Senghor, Aime Cesaire, Leo Damas, Bernard Dadie and others. Three-year cycle.
- FR 451: SUPERVISED READINGS IN FRENCH LITERATURE** 3 s.h.
As the title suggests, the course is devoted to selected readings determined in relation to the needs and interests of the individual major. On demand.

General Studies

Courses carrying the GS label are interdisciplinary in nature or are courses which do not fit into any of the usual academic disciplines. They are taken as free electives, as personal development and life skills under general education, or may with departmental approval be substituted for required courses in some majors.

- GS 100: COLLEGE READING/STUDY SKILLS** 3 s.h.
This course develops the reading/study skills required at the college level. Students are helped to organize study plans according to the purpose of the assignment and the nature of the materials. Emphasis is placed on applying these skills to courses students are currently studying. No prerequisite. Each semester.
- GS 109: FOREIGN LITERATURE IN TRANSLATION** 3 s.h.
Offered by the Department of Modern Language and Cultures, listed as FR 109, GER 109, or SPAN 109.
- GS 110: THE STUDENT IN THE UNIVERSITY** 3 s.h.
This course is designed to (1) enable freshman students to explore and understand themselves as developing adults interacting in a higher education environment; (2) identify and/or utilize campus and community resources that will enhance their academic program; (3) develop strategies to facilitate the learning process; and (4) apply those strategies in practical manner in order to build upon a resource base for academic skill transference. Note: This course is designed for freshman students only and is a general elective under personal development and life skills. Each semester.
- GS 123: INTRODUCTION TO LOCATING AND ORGANIZING INFORMATION** 3 s.h.
Study of information sources and information organization; methods for surviving information explosion. Recommended as an elective for non-library science students. Not creditable toward library science specialization. GS 123 earns credit toward graduation only when taken by freshmen and sophomores. Juniors and seniors will receive credit, but such credit will not count toward graduation. On demand.
- GS/ECON 140: CONSUMER ECONOMICS** 3 s.h.
Major aspects of personal financial management, including budgeting of income and expenditures, transactions and relations with banks and other lending institutions, insurance and retirement plans, home ownership, personal taxes, savings, and investment plans. Alternate years.

- GS/PSY 220: HUMAN SEXUALITY 3 s.h.**
 A basic course in self-understanding. The student is given the opportunity to be informed on (A) the physical, psychological, ethical, social, and legal components of sexuality as they relate to attitudes toward self and others; (B) the roles involved in being male and female; (C) relationships as they are affected by attitudes; and (D) the responsibilities of such relationships. Each semester.
- GS 222: CREATIVE PROBLEM SOLVING 3 s.h.**
 An investigation of the elements of solving a variety of problems, beginning with closed problems such as puzzles or cryptograms and progressing through simple games and complex games to the complexities of open-ended problems of personal and political life. Emphasis is on development of proficiency in dealing with new situations and techniques through actual practice. No prerequisite. Each semester.
- GSIBIOL 225: HUMAN GENETICS 3 s.h.**
 Mendelian genetics and the inheritance of human genetic disease. The anatomical, physiological, biochemical, and genetic basis of human diseases, including diabetes, atherosclerosis and cancer. The genetic basis of mental illness. Behavioral genetics and sociobiology. Recombinant DNA, "gene therapy" and medical ethics. This is a non-majors course, for students who wish to know more about human genetics than is available in basic biology. It may be particularly useful for students in anthropology, rehabilitative sciences, psychology, sociology, and special education. Prerequisite: BIOL 11 I or consent of the instructor. Fall, annually.
- GS 230: SPECIAL TOPICS—THE EUROPEAN MIND 3 s.h.**
 Offered by the Department of Modern Languages and Cultures, listed as FR 101, GER 101, SPAN 101. See course description under appropriate language listings.
- GS 242: YOU AND THE LAW 3 s.h.**
 A survey of the major fields of law, with an emphasis on historical development, basic legal principles, legal theory and procedure, and their relation to the individual. Business administration majors may not take this course. Annually.
- GS 411: SCIENCE AND SOCIETY 3 s.h.**
 See cross-listing under CHEM 211

Geography

NOTE: Geography (GEOG) courses carry social science credit only.

- GEOG 100: INTRODUCTION TO WORLD GEOGRAPHY 3 s.h.**
 A geographic study of human interaction with the global environment and resulting humanized, cultural landscapes. Students examine related problems of population and settlement, the origin and diffusion of culture elements, levels of culture, agricultural and industrial complexes, and other impact upon our deteriorating environment. Each semester.
- GEOG 115: CONSERVATION OF NATURAL RESOURCES 3 s.h.**
 The use and conservation of the nation's resources of water, land, forest, wildlife, minerals, power, and human resources. Every fall or spring.
- GEOG 125: MAP INTERPRETATION 3 s.h.**
 A broad study of maps, charts, and atlases which is designed to develop an awareness of the great variety of maps available and to promote skill in their use. Emphasis is given to understanding map characteristics and properties needed for effective map usage, projections upon which maps are commonly drawn, co-ordinates and grid systems, map scales, aerial representations of relief, and statistical data. Prerequisite: consent of instructor. Offered annually.
- GEOG/ES 225: CARTOGRAPHY I WITH LABORATORY 3 s.h.**
 A systematic study of the basic concepts and components of thematic map making. Emphasis is placed upon familiarization with and utilization of drafting instruments and equipment essential to map design and construction. Techniques of photographic reproduction of student map projects are also presented. Two lectures and three hours of laboratory weekly. Prerequisite: GEOG 125 or consent of instructor. Offered annually.
- GEOG 232: GEOGRAPHY OF THE MIDDLE EAST 3 s.h.**
 A study of Middle Eastern landscapes and regions that explores the geographic underpinnings of current political, economic, and social patterns. Emphasis is on the importance of the natural landscape, historical development, and ethnic and religious diversity. Students will attempt to interpret current events in the Middle East in light of these underlying patterns. Prerequisites: None. Every other spring.
- GEOG 244: THE COUNTRY AND THE CITY: PLANNING THE HUMAN ENVIRONMENT 3 s.h.**
 An analysis of the geographic structure of rural and urban life, with special emphasis on the environmental, economic, and transport connections between cities and rural areas. Focus both on the fundamental question of planning philosophy (What constitutes a suitable human environment?) and also on the methods by which planning goals might be reached. Every other fall.
- GEOG 250: GEOGRAPHY OF EUROPE 3 s.h.**
 A study of European landscapes and regions which seeks to develop an understanding of the geographic basis of Europe's major economic and social problems. Emphasis is upon Western Europe; the Soviet Union is not included in this course. Recommended for majors in history and social science. Every other year.
- GEOG 252: GEOGRAPHY OF LATIN AMERICA 3 s.h.**
 The course focuses on the complex social, economic, and political problems confronting this diverse region. Special attention is given to the relationships between Latin America, the United States, and other countries. Included is a synthesis of the physical and cultural landscapes of the region. An emphasis is placed on understanding developmental processes in Latin American nations and to understanding the geographical importance of the region today and in the 21st century. No prerequisites. Offered occasionally.

- GEOG 257: GEOGRAPHY OF THE UNITED STATES AND CANADA** 3 s.h.
An analysis of geographic problems, natural and cultural, of the U.S. and Canada; the synthesis of physical, biotic, economic, and social patterns and problems of geographic regions of North America; the interrelationship of North American political structures and their ties with the rest of the world. Each semester.
- GEOG 258: GEOGRAPHY OF PENNSYLVANIA** 3 s.h.
A regional analysis of Pennsylvania emphasizing man's cultural and economic response to environmental factors. Special attention is given to the resources of the state, analyzing their extent, their use, the need for well directed conservation, and the regional planning program of the Commonwealth. Offered occasionally.
- GEOG 260: ECONOMIC GEOGRAPHY** 3 s.h.
The production, exchange, and use of the basic commodities of the world; the relationship between the physical factors and economic conditions and the patterns of major economic activities, world trade, and trade routes; economic landscapes; problems of economic development. Recommended for majors in economics, history, and political science. Every other year.
- GEOG 265: TRADE AND TRANSPORTATION** 3 s.h.
A geographic inquiry into world-wide forces of supply and demand and related transport modes and media. The central producer and service functions of population centers; world trade patterns of commodities, economic blocs, stages of economic development; and problems related to the economic interdependence of regions and nations. A course based on concepts learned in GEOG 260. Every other year.
- GEOG 300: SPECIAL TOPICS**
Topics of special interest in various areas of physical, human, or regional geography. The format used will be selected and designed by the professor as the most suitable to the study. Enrollment by consent of the instructor. Offered occasionally.
- GEOG/ES 325: CARTOGRAPHY 11 WITH LABORATORY** 3 s.h.
A systematic study of the new dimensions of cartography in use today. Emphasis placed upon the techniques used in the construction of three-dimensional maps and models of statistical surfaces, diagrams, cartograms, negative scribing, and color separation. Two lectures and three hours of laboratory weekly. Prerequisites: Cartography I and consent of instructor. Every other year.
- GEOG/ES 345: COMPUTER CARTOGRAPHY WITH LABORATORY** 4 s.h.
A systematic study of the newest dimension of cartography in use today. Designing and constructing computer maps is an integral part of the course. The student will gain experience in creating computer maps with a number of programs including Atlas Graphics, Atlas Draw, Microam, Map Info, PC Globe, PS USA, Systate, etc. In addition, the student will be introduced to the use of the digitizer. Prerequisite: CIS 110 or equivalent course, or consent of the instructor. Every other spring.
- GEOG/ES 385: CLIMATOLOGY** 3 s.h.
A systematic study of three major components of climatology. Physical aspects of the atmosphere are analyzed as a series of long-term weather phenomena. Regional characteristics of climate are studied on the basis of world-wide patterns. Applied aspects of climate demonstrate the interrelationship and importance of both physical and regional climatology to humankind. Acceptable for social science or natural science credit. Prerequisite: ES 111 or 280. Every other year.
- GEOG/ES 400: AIR PHOTO INTERPRETATION WITH LABORATORY** 3 s.h.
A systematic study of aerial photographs for geographic investigation of physical and cultural features of the landscape: the application of remote sensing to topographic and planimetric map construction, agricultural and land use identification, landform study, and forestry. Prerequisite: consent of instructor. Every other year.
- GEOG/ES 404: SOILS WITH LABORATORY** 4 s.h.
This course is designed to provide students with a comprehensive examination of the classification, formation, and interpretation of soils. Students will examine the processes of soil classification (both the zonal classification and the soil taxonomy classification). Soil formation (parent material, climate, slope, time and organic activity) and the interpretation of pedogenic sequences (as it relates to deposition, diagenesis, and climate change). The laboratory, Poflion of the course (one, credit, two hours) will complement the lecture portion of the course. Special emphasis will be placed on the field interpretation of soils as well as the geochemistry and textual classification of soils. Prerequisites: ES 150 and 255 or permission of the instructor.
- GEOG/ES 425: REMOTE SENSING WITH LABORATORY** 3 s.h.
A study of modern satellite based earth imaging instruments, data sources and products, and their applications to land use management, geologic assessments, agriculture, forestry, soil resources, archeology, meteorology and oceanography. Both visual and digital data will be utilized. Prerequisite: GEOG 400. Every other year.
- GEOG/ES 450: FIELD GEOGRAPHY WITH LABORATORY** 3 s.h.
A systematic study of the techniques essential to geographic field investigation. Emphasis is placed upon practical, first-hand experiences in the field where students learn the techniques and procedures of compass traversing, plane tabling, rural and urban land use surveying, and field research. Prerequisites: Cartography I and consent of instructor. Offered occasionally.
- GEOG/ES 480: GEOGRAPHIC INFORMATION SYSTEMS WITH LABORATORY** 4 s.h.
Geographical Information Systems (GIS) involves the collection, storage, manipulation, and presentation of geographical data for the purpose of analyzing and solving of problems. GIS requires the integration of data and programs into large comprehensive systems. Students will use functional GIS that utilize an integrated collection of computer hardware, computer software, and geographical data. Examples of specific application that the student will be exposed to include: Land Information Systems (LIS), Natural Resource Information Systems (NRIS), and Soil Information Systems (SIS). Prerequisite: GEOG/ES 345. Every other fall.
- GEOG 499: SEMINAR METHODS IN GEOGRAPHICAL RESEARCH** 3 s.h.
This course presents the opportunity for students with considerable interest and background in geography to utilize the various methods of analysis of the discipline to examine a concrete issue or research problem. The emphasis is on analysis, synthesis, and communication. Through a series of steps, students will produce a written report. They will also give an oral presentation of their project. Prerequisites: Junior or senior status in geography or permission of instructor. Every other spring.

German

In addition to courses listed below, students of German have an opportunity to study for a summer, a term, or an entire year in Germany and/or Austria. An opportunity to participate in a program of paid and unpaid internships in Germany and Switzerland is available for qualified students.

- GER 101:** *SPECIAL TOPICS: THE EUROPEAN MIND* 3 s.h.
 Historical and contemporary developments on the European intellectual scene are covered by experts on individual countries with regard to their relevance for the present American student generation.
- The special subject of each semester offering is announced at pre-registration. Open to all students of the university without prerequisites and may be taken up to three times for credit provided that different topics are offered. Taught in English; no knowledge of German required; no prerequisites. Can also be taken for general studies credit. Two-year cycle.
- GER 109:** *GERMAN LITERATURE IN TRANSLATION* 3 s.h.
 A study of representative German literary works, with particular emphasis on the characters and ideas which have influenced both German and other literatures. The course is conducted in English; no knowledge of German required; no prerequisites. Can also be taken for general studies credit. Two-year cycle.
- GER 150:** *INTENSIVE ELEMENTARY GERMAN* 6 s.h.
 Equivalent to GER 151 and 152 offered every fall.
- GER 151:** *GERMAN I (ELEMENTARY I)* 3 s.h.
 Essentials of grammar with emphasis on aural comprehension and oral expression. Fall, annually.
- GER 152:** *GERMAN II (ELEMENTARY II)* 3 s.h.
 Continuation of German 151, with increasing emphasis on graded reading material. Prerequisite: GER 151 or equivalent. Spring, annually.
- GER 153:** *ELEMENTARY GERMAN CONVERSATION* 3 s.h.
 Practice in conversational patterns and development of useful proficiency for everyday situations and travel. Designed for those students who have met the prerequisites for German 25 I but are lacking in aural-oral proficiency. May be taken concurrently with GER 251. Spring, annually.
- GER 225:** *INTRODUCTION TO GERMAN PHONETICS AND PRONUNCIATION* 3 s.h.
 An introduction to the German phonetic system, including the study of phonemes, intonation, stress, and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: GER 152 or equivalent. Three-year cycle.
- GER 250:** *INTENSIVE [INTERMEDIATE GERMAN]* 6 s.h.
 Equivalent to GER 251 and 252 offered every spring.
- GER 251:** *GERMAN III (INTERMEDIATE I)* 3 s.h.
 Brief systematic review of basic grammar; graded readings, conversation, translation, and composition on selected topics. Prerequisite: GER 152 or two years of high school study and/or satisfactory placement. Fall, annually.
- GER 252:** *GERMAN IV (INTERMEDIATE II)* 3 s.h.
 Intensive reading of selected works; outside reading with oral and/or written reports. Prerequisite: GER 251 or satisfactory placement. Spring, annually.
- GER 253:** *SCIENTIFIC GERMAN* 3 s.h.
 A study of scientific terminology and style, with extensive readings in various scientific fields. Prerequisite: GER 251 or equivalent. Science and mathematics majors may substitute this course for GER 252. Three-year cycle.
- GER 254:** *COMMERCIAL GERMAN* 3 s.h.
 A study of commercial terminology and style, with extensive practice in the writing of business letters of various kinds. Prerequisite: Elementary German. Two-year cycle.
- GER 255:** *GERMAN CIVILIZATION I* 3 s.h.
 A survey of German geography, history, literature, and culture, designed to equip students with the materials and understanding necessary to the presentation of the languages as rich, meaningful, and integral part of a great civilization. Prerequisite: GER 252 or four years of high school study and/or satisfactory placement. Required for German majors. Three-year cycle.
- GER 256:** *GERMAN CIVILIZATION II* 3 s.h.
 Complement to GER 255. Required for German majors. Three-year cycle.
- GER 260:** *THE GERMAN SHORT STORY* 3 s.h.
 A study of representative *Novellen* of the 19th and 20th centuries. All readings and discussions in German. Two-year cycle.
- GER 265:** *INTERMEDIATE CONVERSATION* 3 s.h.
 Practice creative language use in conversation, to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary or intermediate language courses and are lacking in aural-oral proficiency. May be substituted for GER 251 or 252 or used for major credit. Two-year cycle.
- GER 351:** *ADVANCED GERMAN GRAMMAR AND COMPOSITION* 3 s.h.
 Intensive oral and written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-German translation, free composition, and conversation on everyday topics. Required for German majors. Three-year cycle.

*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. [If students in this situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.]

- GER 352:** *SURVEY OF GERMAN LITERATURE THROUGH THE CLASSICAL AGE* 3 s.h.
 Study and discussion of the main trends of German thought and literary expression. Emphasis is placed upon the works of Goethe, Schiller, and Lessing. Three-year cycle.
- GER 353:** *THE MODERN GERMAN DRAMA* 3 s.h.
 German drama from the middle of the 19th century to the present, covering representative writers of the realist, naturalist, and expressionist movements, as well as selected contemporary writers. Three-year cycle.
- GER 355:** *GERMAN ROMANTICISM* 3 s.h.
 The older and younger schools of German romanticism (Jena, Berlin, and Heidelberg) with emphasis on the revival of folk poetry and consideration of influences upon American romanticism. Representative authors: Holderlin, Novalis, Amim, and Brentano. Two-year cycle.
- GER 358:** *CLASSICAL GERMAN LITERATURE: GOETHE, SCHILLER AND LESSING* 3 s.h.
 Goethe's Faust and other great works of the golden age of German literature. Three-year cycle.
- GER 451:** *SUPERVISED READINGS IN GERMAN LITERATURE* 3 s.h.
 This course is devoted to selected readings determined in relation to the needs and interests of the individual major. On demand.

Gerontology

- GEROIPSY**
- SOC 253:** *INTRODUCTION TO GERONTOLOGY* 3 s.h.
 This course will provide a general introduction to social gerontology with emphasis upon the typical aspects of aging. It will review current hypotheses and findings concerning aging processes. No prerequisite. Annually.
- GERO 499:** *SEMINAR IN GERONTOLOGY* 3 s.h.
 This is designed to integrate knowledge and hands on experience obtained in a field setting. The course is conducted as a seminar in which students share their experiences and do problem solving. The instructor facilitates this process and provides information to enhance learning. Corequisite: REHB 495, SOC 499, or PSY 499.

Health and Physical Education

Activity and Recreation Courses

The following activity courses are offered for fulfillment of the general education requirement. Courses emphasize the fundamental techniques, strategy, and rules of the activity.

- HPE 121:** *WALKING FOR FITNESS* 1 s.h.
 The development of cardiorespiratory endurance through vigorous walking within individual target heart rate guidelines. Physical fitness principles, heart risk factors, body composition, and nutrition will also be covered.
- HPE 125:** *INTRODUCTION TO BICYCLING* 1 s.h.
 Emphasis will be placed on proper fit of bike to rider, skills, and techniques of riding, basic bike maintenance and aerobic fitness. Bicycles are provided, but a bicycle helmet is required. Each semester.
- HPE 131:** *BEGINNING SWIMMING* 1 s.h.
 For students who cannot swim one length of the pool. The course consists of drown-proofing and elementary back, breast, and freestyle strokes.
- HPE 135:** *AQUA-AEROBICS* 1 s.h.
 Various aspects of physical fitness are achieved in a water medium.
- HPE 141:** *BADMINTON* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 142:** *BOWLING* 2 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 143:** *GOLF* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 144:** *RACQUETBALL—Men* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 145:** *RACQUETBALL (Women's Rules)* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 147:** *BEGINNING TENNIS* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 150:** *CANOING* 1 s.h.
 Will explore all the skills of the paddling strokes and involves the nomenclature of modern canoes and equipment. Students will also understand rescue techniques and how to plan a river trip.
- HPE 161:** *BASKETBALL (Men's Rules)* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 162:** *BASKETBALL (Women's Rules)* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 163:** *VOLLEYBALL (Men's Rules)* 1 s.h.
 This course will emphasize the fundamental techniques, strategy, and rules of the activity.

- HPE 164: VOLLEYBALL (Women's Rules)** 1 s.h.
This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 181: ADAPTED PHYSICAL EDUCATION** 1 s.h.
A modified or corrective physical education course for those who by reason of illness or disability are unable to participate in the more vigorous forms of physical education activities. On demand.
- HPE 185: PHYSICAL FITNESS AND CONDITIONING** 1 s.h.
This course enables students to develop a fitness and conditioning program to fit their individual needs through knowledge gained in areas such as nutrition, use of conditioning equipment, weight control, and fitness tests.
- HPE 186: PHYSICAL FITNESS THROUGH WEIGHT LIFTING** 1 s.h.
This fitness course covers all basic weight lifting techniques and modern principles for developing and improving an aerobic fitness for both male and female students.
- HPE 191: CAMPING AND OUTDOOR RECREATION** 2 s.h.
This course offers practical experience in the basic skills necessary for a successful camping excursion following conservation practices and techniques that retain the beauty of the wilderness ecosystems.
- HPE 230: BASIC WATER SAFETY-EMERGENCY WATER SAFETY** 1 s.h.
Students must demonstrate advance swimming skills. Designed for participants to become familiar with the hazards of water activities, to prevent accidents, and to respond effectively if an accident does occur. Successful completion of the course leads to Red Cross Certification.
- HPE 231: INTERMEDIATE SWIMMING** 1 s.h.
Prerequisite: Students should be able to swim one length of the pool. The course consists of multi-stroke refinement, drown-proofing, and physical conditioning through swimming.
- HPE 233: SPRINGBOARD DIVING** 1 s.h.
Prerequisite: Students should be competent in the basic swimming strokes and drown-proofing. The course consists of advanced swimming and diving skills, stroke refinement, aquatic games, and recreational skills.
- HPE 247: INTERMEDIATE TENNIS** 1 s.h.
This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 330: LIFEGUARD TRAINING** 1 s.h.
Prerequisite: Swim 500 yards continuously using four different strokes, dive to a depth of nine feet and bring up a ten pound object and tread water for one minute. Successful completion leads to Red Cross Certification.

Elective

- HPE 370: WOMEN IN SPORTS** 3 s.h.
This course will provide the student with a comprehensive, multidisciplinary analysis of the problems, patterns, and processes associated with the involvement of women in sports.

Health and First Aid Courses

- HPE 111: HEALTH EDUCATION** 2 s.h.
Consideration of the physical and mental equipment of the individual and of the practical application of health knowledge and concepts in personal, family, community, and environmental living. Special emphasis is placed in the areas of mental health, drug abuse, human sexuality and marriage, and the major diseases and health problems confronting society. A requirement of all students. Offered each semester through the team teaching concept.
- HPE 235: INTRODUCTION TO ELEMENTARY HEALTH CONCEPTS AND PROMOTION** 3 s.h.
Designed as an introductory level course to expose the elementary education major to the basic health concepts and issues facing our elementary students and which are important for developing an appropriate understanding of health education today. Fall, annually.
- HPE 314: CARDIOPULMONARY RESUSCITATION** 1 s.h.
A requirement for the Athletic Coaching Program, the course is designed to follow the recommendation and guidelines of the American Red Cross. Students will receive an American Red Cross CPR Recertification upon successful completion of the course.
- HPE 317: FIRST AID AND SAFETY** 2 s.h.
The responsibilities and duties of the teacher in the development and teaching of programs in first aid and safety that are related to the student's school and community. The American Red Cross Standard First Aid Course will be included.
- HPE 333: FITNESS FOR WELLNESS** 3 s.h.
This course will provide the student with strategies for successful stress management through the medium of exercise. Hands-on experience at developing and evaluating one's own exercise program and the common pitfalls of instituting a regimen, as well as an examination of the benefits of exercise as related to stress, will be the main focus of the course. Fall, annually.
- HPE 334: FOOD, FITNESS, AND WEIGHT MANAGEMENT** 3 s.h.
Designed to expose the student to important health concepts in nutrition and weight control to give the student practical strategies for successful weight management. Pitfalls and problematic behaviors of weight management will also be thoroughly covered. Spring, annually.
- HPE 335: THE ELEMENTARY HEALTH CURRICULUM** 3 s.h.
The course is specifically designed for the elementary education major who may eventually work in a classroom setting. The purpose of the course is to prepare the potential teacher to: (a) teach health education in a knowledgeable and effective manner, (b) demonstrate approaches for integrating health instruction with other topics, and (c) familiarize the elementary major with current health curricula. Spring, annually.

HPE 415:	HIV/AIDS EDUCATION	3 s.h.
This course covers both the facts and the emotional issues involved in teaching about HIV infection. The course is experience based. Psychosocial issues covered by the course include values, attitudes, and beliefs and their effects on teaching and learning about HIV, drugs and drug use, and sex and sexuality. Emphasis is on helping students develop the skills needed to make AIDS presentations with a non-judgmental perspective and sensitivity to the cultural diversity in their communities. Upon successful completion of the course, students are Red Cross certified to present facts, answer questions, and identify resources for people who want more information on HIV infection, including AIDS. Prerequisite: HPE 111 or permission of the instructor. Course offered on demand.		

Elementary Health Emphasis Courses

This program is one of the emphasis options within the professional studies for elementary majors. This is a sixteen credit program consisting of seven courses of study. These courses of study will center upon contemporary elementary health issues and **curriculum**. See Health and First Aid Courses for course descriptions.

HPE 235	INTRODUCTION TO ELEMENTARY HEALTH	3 s.h.
HPE 314	CARDIOPULMONARY RESUSCITATION	1 s.h.
HPE 317	FIRST AID AND SAFETY	2 s.h.
HPE 333	FITNESS FOR WELLNESS	3 s.h.
HPE 334	FOOD, FITNESS, AND WEIGHT MANAGEMENT	3 s.h.
HPE 335	ELEMENTARY HEALTH CURRICULUM	3 s.h.
HPE 415	HIV/AIDS EDUCATION	3 s.h.

Elementary Major Courses

HPE 223:	PHYSICAL EDUCATION FOR ELEMENTARY MAJORS	1 s.h.
Required of all students majoring in elementary education. Emphasis is placed on modern physical education skills and activities of the elementary child. Each semester.		
HPE 323:	MODERN CURRICULUM AND METHODS IN ELEMENTARY PHYSICAL EDUCATION	1 s.h.
Required of all students majoring in elementary education. The course is designed to give the elementary major practical experience in integrating physical activities into academic learning. Each semester.		
HPE 410:	PSYCHOMOTOR DEVELOPMENT IN EARLY CHILDHOOD RATIONALE AND INTEGRATED ACTIVITIES	3 s.h.
Acquisition of the understanding of motor development and motor learning. Emphasis on the design and implementation of open-ended, developmentally appropriate movement activities/experiences that stimulate problem-solving. Additional focus on assessment of motor development. Prerequisites: HPE 223. Fall, annually.		

Specialized Courses

Athletic Coaching Program

The program is designed for all students. Non-education majors have found the program to be an excellent alternative to their areas of concentration. Any student with an interest in any related future field in fitness, athletics, health, physiology, health clubs, and equipment will find the program an additional dimension to their undergraduate major.

The requirements of this program is 12 credit hours. Six additional credits are also available for those who are interested in the theory and techniques of coaching baseball, basketball, and football. The theory and technique of coaching courses are not a required part of the program.

HPE 351 J52J54:	THEORY AND TECHNIQUES OF COACHING	
<i>The purpose of these courses is to acquire knowledge in theories and techniques of coaching specific sports. Main areas covered are rules and regulations, fundamentals, organizational principles, specific conditioning programs, scouting, and technical tactics.</i>		
HPE 351:	THEORY AND TECHNIQUE OF COACHING BASKETBALL	2 s.h.
<i>On demand.</i>		
HPE 352:	THEORY AND TECHNIQUE OF COACHING BASEBALL	2 s.h.
<i>On demand.</i>		
HPE 354:	THEORY AND TECHNIQUE OF COACHING FOOTBALL	2 s.h.
<i>On demand.</i>		

Required Coaching Courses

HPE 314:	CARDIOPULMONARY RESUSCITATION	1 s.h.
A requirement for the Athletic Coaching program, the course is designed to follow the recommendation and guidelines of the American Red Cross. Students will receive an American Red Cross CPR Certificate upon successful completion of the course.		

- HPE 317:** *FIRST AID AND SAFETY* 2 s.h.
The responsibilities and duties of the teacher in the development and teaching of programs in first aid and safety that are related to the student's school and community. The American Red Cross Standard First Aid Course will be included.
- HPE 407:** *PHYSIOLOGICAL FOUNDATIONS OF COACHING* 3 s.h.
The primary purpose of this course is the study of basic scientific principles of physiology and how they can be applied to conditioning programs for the athlete. All phases of physical training are covered, along with evaluation of modern training devices. Spring, annually.
- HPE 408:** *PRINCIPLES AND PROBLEMS OF ATHLETIC COACHING* 3 s.h.
A study of modern techniques and practices used in the organizational procedure of athletic programs. Major problem areas such as practice and game organization, purchase and care of equipment, budget and finances, public relations, legal liability, drug abuse, and sports psychology. Modern trends and issues in athletics are analyzed as well as various philosophical views of athletics as a part of the educational curriculum. Fall, annually.
- HPE 409:** *KINESIOLOGICAL FOUNDATIONS OF COACHING* 3 s.h.
This course is designed to help the coach increase his or her understanding of basic scientific information concerning athletic movement by utilizing the conceptual approach. The three main areas of study are applied anatomy, the production of motion, and application. The application of scientific principles to athletic skills will aid in the coaching and teaching of skills. Spring, annually.

History

- HIST 110:** *COMPARATIVE HISTORY OF CIVILIZATION IN ASIA* 3 s.h.
This course will explore an overview of all of Asian history from the birth of civilization to the present. The course will emphasize the identification of a number of significant stages of historical development in the life of civilizations. The socio-cultural subdivisions within Asia will be clarified. On demand.
- HIST 111:** *ANCIENT AND MEDIEVAL CIVILIZATION* 3 s.h.
The course includes a survey of prehistoric cultures and civilization from its historical beginning to 1300. Its purpose is to present a knowledge of the origins of the broad social, political, intellectual, and economic movements of the past from which the student may gain an understanding of civilization today. Each semester.
- HIST 112:** *EARLY MODERN CIVILIZATION, 1300 TO 1815* 3 s.h.
A study of significant movements and events from 1300 to 1815. The course emphasizes the interrelationships between cultures of various world regions. The influence of European development on other world areas is also stressed. Each semester.
- HIST 113:** *MODERN CIVILIZATION, 1789 TO THE PRESENT* 3 s.h.
A study of significant movements and events of 1789 to the present. The course emphasizes interrelationships between the cultures of various world regions, with major attention on the influence European development has exerted on other world areas in the 19th and 20th centuries. Each semester.
- HIST 120:** *UNITED STATES HISTORY TO 1877* 3 s.h.
A survey of United States history from the period of exploration through the Reconstruction period. Each semester.
- HIST 121:** *UNITED STATES HISTORY SINCE 1877* 3 s.h.
A survey of United States history from Reconstruction to the present. Each semester.
- HIST 130:** *AFRICA TO 1800* 3 s.h.
This course will explore the history of Africa and its people from ancient times through the Atlantic slave trade. A major emphasis will be on understanding the impact of cultural/ethnic diversity on the development of this history. The course will examine historical questions concerning the early record, migration, African kingdoms, trade and economy, impact of Islam on Africa, the European Age of Discovery, and the effects of the Atlantic slave trade upon African societies. On demand.
- HLST 131:** *AFRICA SINCE 1800* 3 s.h.
This course will explore the history of Africa and its people from the end of the Atlantic slave trade to the modern period. Major themes will be the expansion of European influence on Africa during the 19th century, the partition of Africa, the many forms of African resistance to European rule, the impact of the colonial era, African nationalism and independence struggles, and the challenges facing independent African states. On demand.
- HIST 150:** *HISTORY IN THE HEADLINES* 3 s.h.
Students will develop historical perspective and depth through inquiry and analysis of social, political, economic, and technological world events. Through the use of a basic news source such as *The Washington Post Weekly* and use of library resources on special topics, students will increase their global consciousness, their skills in classification, and their knowledge about third world and major powers relationships. Each semester.
- HIST 215:** *TOPICS IN HISTORY* 3 s.h.
A topical approach to the study of history, permitting students to pursue an in-depth examination of selected problems. Introductory level. On demand.
- HIST 217:** *HISTORY OF WEST AFRICA* 3 s.h.
This course will examine the history of West Africa, from 800 A.D. to the present. Major themes will include: the introduction of Islam to West Africa; the internal factors which transformed local societies, states and empires; the impact of European trade and imperialism; forms of resistance to colonial rule; the rise of nationalism and the struggle for independence; and the challenges of the post-independence period.
- HIST 218:** *THE AMERICAN WEST* 3 s.h.
This course studies not only the Old West of the 19th century but the West as a distinctive region with the 20th century. Emphasis will be placed on the continuing relationship to the East and on the geographic, economic, and cultural diversity within the West itself. Pioneers from the East, Native Americas, immigrants from Europe, Mexico, and Asia. Farmers, cowboys, and entrepreneurs will all have a place in the course. Romanticized myths of

the West will be compared with historical realities. Prerequisite: HIST 120 or consent of the instructor. Fall Semester.

HIST 230: WOMEN IN THE UNITED STATES 3 s.h.

A survey of American women's history from colonial times to the present. This course will examine both the history of the female experience in the United States and the relationship between women and the rest of society. Topics will include the power of the domestic sphere; suffragist; female reform; and modern feminism.

HIST 245: THE COLD WAR 1945-1990 3 s.h.

Students will explore world events since 1945 focusing upon those Cold War issues which have provoked East-West competition, confrontation and cooperation. The origins and evolutions of nuclear weapons and the impact of these weapons on world politics and international leadership will be explored through readings of primary and secondary sources as well as through viewing programs which examine nuclear strategies. The impact of the Cold War on the third world, on science and technology, on world ideologies and on the cultural values will be analyzed. Fall Semester.

HIST 254: HISTORY OF LATIN AMERICA: COLONIAL PERIOD 3 s.h.

This course surveys the development of Colonial Latin America from its discovery to 1825. The economic, social, political, and cultural development receives detailed attention. Fall, alternate years.

HIST 255: HISTORY OF LATIN AMERICA: NATIONAL PERIOD 3 s.h.

The main emphasis of this course is on the history of the Latin American countries since 1825. The economic, social, political, and cultural development receives detailed attention. Fall, alternate years.

HIST 260: FASCISM, HITLER, AND THE HOLOCAUST 3 s.h.

An examination of the rise of the fascist governments in Europe from 1919 through World War II. Special emphasis is given to the rise of Nazism and the personalities of the Third Reich leadership. The course ends with an examination of the holocaust. Spring, annually.

HIST 275: INDIA THROUGH THE AGES 3 s.h.

Examination of the historical development of Indian civilization from its early origins to the coming of the Europeans, with emphasis on the classical period, religion, social organizations, and the ancient Hindu and medieval Moslem periods. Spring, alternate years.

HIST 277: VIETNAM: WAR AND PEACE 3 s.h.

The course presents an outline of the history of Vietnam from its colonization by the French during the 19th century to the so-called Peace Settlement of 1973 and the new war which followed it. The main focus of the course is from 1945, and the nature of the Vietnamese Revolutionary War is examined. The history of American involvement, their objectives and consequences of the Vietnamese debacle is studied. The course closes with consideration of the global impact of war. Fall, annually.

HIST 286: HISTORY OF MODERN CHINA AND JAPAN 3 s.h.

A historical study of the transformation which has taken place in China and Japan in modern times as a result of an external impact as well as forces within far Eastern societies. Fall, alternate years.

HIST 300: THE AMERICAN MILITARY EXPERIENCE 3 s.h.

A study of the relationships and impact of warfare and military forces in the establishment, expansion, preservation, and development of the United States. Emphasis on understanding the principles of war and their utilization in understanding the political and military decisions that were made in shaping this nation. Spring.

HIST 310: AFRICA, SLAVERY, AND THE SLAVE TRADE 3 s.h.

This course will explore the history of slavery within Africa from its origins to its end. It will draw on recent historical and anthropological research to investigate such topics as links between internal slavery and the external slave trades; processes of enslavement; the positions and roles of slaves in African societies; the ideology of slavery; slave trading networks and markets within Africa; the effects of slavery on specific African societies; resistance to slavery; and the long term consequences of slavery. Fall Semester.

HIST 315: TOPICS IN HISTORY 3 s.h.

A topical approach to the study of history, permitting students to pursue an in-depth examination of selected problems. Advanced level. On demand.

HIST 318: ANCIENT GREECE 3 s.h.

This course will examine the development of ancient Greece from its earliest precursors in Mycenaean civilization, through the growth of the city-states of classical Greece, to its blending with other cultures in the Hellenistic World. The perspective will address political, social, and cultural developments and will address historical problems as well as the historical narrative. Fall, annually.

HIST 319: ROMAN HISTORY 3 s.h.

This course will examine the development of Rome from its foundation as a city-state in central Italy in the mid-eighth century B.C. to its conquest of the Mediterranean World as a republic and finally to the end of the Roman Empire in the West in the fifth century A.D. The perspective will address political, social, and cultural changes and will be historiographic as well as historic in outlook. Spring, alternate years.

HIST 320: MEDIEVAL HISTORY 3 s.h.

A survey of European development from 500 to 1300. Alternate falls.

HIST 330: EUROPE DURING THE RENAISSANCE AND REFORMATION 3 s.h.

This course is a study of the Renaissance and Reformation with particular emphasis on the important political, social, economic, religious, and cultural forces that emerged during this period of transition and ushered in modern western culture. Emphasis is placed on the evolution of modern states, the rise of individualism, and the development of modern religious ideas and institutions.

HLST345: HISTORY OF EUROPE FROM 1815 TO 1924 3 s.h.

A study of the social, economic, political, religious, and cultural experiences of the European people from the Congress of Vienna to the death of Lenin. On demand.

HIST 350: COLONIAL AMERICA 3 s.h.

A study of colonial history beginning with the European background of colonization and continuing through the American Revolution. Prerequisite: HIST 120 or consent of instructor.

- HIST 351:** *UNITED STATES: THE EARLY REPUBLIC* 3 s.h.
A study of the Federalist Era, Jeffersonian and Jacksonian America. This course will examine the formation of the republic through the federal Constitution, the Jeffersonian revolution, and the age of Jackson. The ideas and personalities that shaped the nation will be examined. Prerequisite: HIST 120 or consent of instructor.
- HIST 352:** *CIVIL WAR AND RECONSTRUCTION* 3 s.h.
This course is a basic study of the growth of sectional differences between North and South from 1820 to 1850. It further examines the failure of compromise efforts in the 1850s and the causes of secession. The war and the consequences of reconstruction policies to 1877 are traced in light of modern civil rights problems. Fall, alternate years.
- HIST 353:** *U.S. AGE OF REFORM (1870-1920)* 3 s.h.
A detailed look at the gilded age, populist, and progressive periods in American history. The course will examine the reform phenomena that characterized the late 19th and early 20th centuries. The emphasis will be on the motivation, objectives, accomplishments, and failures of the various reform movements. Each reform group will be considered in the context of a period of rapid social and economic change. Prerequisite: HIST 121 or consent of instructor.
- HIST 354:** *RECENT AMERICAN HISTORY* 3 s.h.
A study of the political, social, and economic developments and foreign affairs of the U.S. from World War I to the present. Prerequisite: HIST 121 or consent of instructor. On demand.
- HIST 357:** *TUDOR-STUART ENGLAND* 3 s.h.
An examination of the significant political, cultural, social, and religious developments in England from the accession of Henry VII to the death of Queen Anne and the transition to the House of Hanover. Spring, alternate years.
- HIST 358:** *ENGLISH CONSTITUTIONAL HISTORY* 3 s.h.
A consideration of constitutional government in England from the beginning of English history to the present. A study of governmental powers, political and judicial processes, and the relationship of liberty and authority to the individual living under the government is included. Fall, alternate years.
- HIST 360:** *HISTORY OF RELIGION IN THE U.S.* 3 s.h.
A study of American religious history from the colonial period to the present. This course will examine the histories of individual religious institutions and their interaction within their social and intellectual context, focusing upon the paradox of mainstream American protestantism within a pluralistic religious culture. On demand.
- HIST 361:** *AMERICAN SCIENCE AND TECHNOLOGY* 3 s.h.
Students will survey the development of the American technological experience and assess the historical impact of science and technology on U.S. society and politics. Students will inquire into the meaning and use of technology, the role of scientific responsibility, the making of public policy, and the reshaping of technology today. Cases will be analyzed which deal with the rise of America as an industrial nation, energy, nuclear power, hazardous waste, biomedical and communications technology. Spring, alternate years.
- HIST 362:** *AFRICAN-AMERICAN HISTORY* 3 s.h.
A survey of Afro-American history from its African beginnings to contemporary times (1969). Special emphasis is placed on tracing the role of Negroes in American history in order to develop a better perspective on their contribution to the American way of life. A close study will be made of the junctures in American history where the problems of the Afro-American took on new meaning for American growth. Spring, alternate years.
- HIST 363:** *HISTORY OF AMERICAN LABOR* 3 s.h.
The course examines the history of American working men and women from the colonial period to the present. It examines not only the growth of the trade union movement and its socio-political and economic impact, but also the nature of the work performed by labor and the way laboring people have lived. On demand.
- HIST 366:** *RUSSIA SINCE 1815* 3 s.h.
An examination of Russia's development during the 19th and 20th centuries. The first part of the course will focus on Russia and its people under the czar and the drift to revolution. The second part of the course will focus on Soviet society and communism in theory and practice.
- HIST 370:** *HISTORY OF THE MIDDLE EAST* 3 s.h.
This survey is an area of study of the early classical era by way of art advanced intensive exploration of the civilization in the Mediterranean East and Middle East. After an introduction to the religion of Judaism and Christianity in their political setting, the cultural contributions of the Semites, Greeks, and Romans are examined. The Islamic age is stressed. Emphasis is placed upon modern identification of the countries that make this an explosive part of the world—Jordan, Israel, Lebanon, Iran, Iraq, Arabia, Syria, Egypt. Their relationship to the great powers is given attention. On demand.
- HIST 378:** *THE AMERICAN APPROACH TO FOREIGN POLICY* 3 s.h.
Students will examine 19th and 20th century patterns of realism and idealism in U.S. diplomacy through consideration of the national interest, manifest destiny, imperialism, and global power. Students will be expected to analyze and discuss documents and scholarly thought on major diplomatic problems such as the Monroe Doctrine, The Open Door Policy, World War I World War II, The Cold War, and the configurations of current world powers. Fall, alternate years.
- HIST 380:** *FRANCE 1559-1815* 3 s.h.
An examination of French history from the death of Henry II to the second exile of Napoleon.
- HIST 398:** *QUANTITATIVE METHODS FOR HISTORIANS* 3 s.h.
The application of statistical techniques to historical research. Students will briefly review basic statistical techniques, investigate, in depth, the application of statistical manipulation to historical data, and explore current historical research employing these methods. The course will also introduce students to computer applications of statistics through a social science software package in a hands-on lab. The focus will be upon the capabilities, appropriateness, and limitations of quantitative methods within the historical discipline. Prerequisite: PSY 230 or ECON 221 or MATH 221 or MATH 222 or equivalent.
- HIST 410:** *HISTORIOGRAPHY* 3 s.h.
An introduction to historical method and theory. This course will explore a variety of interpretive theories and specialized approaches employed by contemporary historians to traditional and non-traditional problems. The

emphasis will be upon development of the student's critical abilities. Permission of instructor required. Spring, alternate years and as necessary.

HIST 420: RESEARCH SEMINAR 3 s.h.

An introduction to research methods and historical sources in history, providing students with an opportunity to develop and complete a significant research project. The seminar will focus upon the American, European, or non-Western civilization, depending upon the instructor. Permission of instructor required. Spring, alternate years and as necessary.

Honors

HON/ENG/ SCT 125: MODES OF DISCOURSE 6 s.h.

An interdisciplinary course which aims to integrate the student's production of both written and spoken discourse. The course is an alternative method of teaching communication, and draws upon the skills of instructors from English and speech communication and theatre. Taken by freshmen enrolled in the Honors Program, this course replaces both ENG 111 and SCT 113. (Not open to students who have taken ENG 111 or SCT 113.)

HON 130: SPECIAL TOPICS: HUMANITIES 3 s.h.

An interdisciplinary course in the humanities required of students enrolled in the Honors Program. The course focuses on human values, beliefs, and accomplishments as expressed in art, music, literature, philosophy, and religion.

HON 230: SPECIAL TOPICS: SCIENCE/MATHEMATICS 3 s.h.

An interdisciplinary course in the natural sciences and/or mathematics required of students in the Honors Program. The course content focuses on basic principles in the natural sciences and/or mathematics and their development within the context of human civilization.

HON 240: SPECIAL TOPICS: SOCIAL SCIENCES 3 s.h.

An interdisciplinary course in the social sciences required of students enrolled in the Honors Program. The course content focuses on human civilization from the perspective of the social scientist.

HON 330: SPECIAL TOPICS 1-3 s.h.

Focuses on a topic of interest to honors students.

HON 350: JUNIOR SEMINAR 3 s.h.

An interdisciplinary seminar synthesizing knowledge and skills acquired in lower division courses through a unifying theme. The theme will be broad enough to offer a variety of dimensions for study and research. This course or study abroad required of students enrolled in the Honors Program.

HON 430: SPECIAL TOPICS 1-3 s.h.

Focuses on a topic of interest to honors students.

HON 450: SENIOR PAPER/PROJECT 3-6 s.h.

A scholarly project of an interdisciplinary nature including the student's major area of study. A public presentation of the outcome of the project is required. Required of students enrolled in the Honors Program.

Humanities

HUM 120: HUMANITIES I ANTIQUITY THROUGH THE MIDDLE AGES 3 s.h.

This interdisciplinary course in the humanities focuses on western values, beliefs, and accomplishments as reflected in the arts, and historical development from the classical period to the close of the Middle Ages. No prerequisite. On demand.

HUM 121: HUMANITIES II: THE RENAISSANCE TO THE PRESENT 3 s.h.

A continuation of the study of Western culture from the Renaissance to the present. No prerequisite. On demand.

Library Science

LS255: INTRODUCTION TO MEDIA LIBRARIANSHIP 3 s.h.

Broad overview of libraries and library media centers and the profession of librarianship beginning with the history of libraries and concluding with the impact of technology on libraries. Fall, annually.

LS 257: BASIC INFORMATION SOURCES AND SERVICES 3 s.h.

Emphasis on the approaches to locating information. The criteria for selection of reference materials and the examination of reviewing media for new reference aids. Organization of reference service. The study of a selected list of reference works. Spring, annually.

LS 258: SELECTION OF LIBRARY MEDIA 3 s.h.

Familiarity with basic bibliographical tools, including current reviewing media and the book trade. The establishment of policies and criteria for the selection of and evaluation of book and non-book materials. Prerequisite to LS 356 and LS 358. Spring, annually.

LS 260: DEVELOPMENT AND ADMINISTRATION OF LIBRARIES 3 s.h.

The development of the library as an institution. The concept of philosophy of librarianship. General principles of administration and their application to the organization and management of different types of libraries. Problems and practices with respect to a library's function, staff, collections, and building. Fall, every other year.

LS 356: MEDIA FOR ADOLESCENTS 3 s.h.

Survey of adolescent literature and other media. Study of the reading interests of high school age students and characteristics of adolescent literature and methods of introducing young adults to books. Techniques of preparing

and delivering book talks and developing young adult programs. Prerequisite: LS 258 or permission of the instructor. Fall, annually.

LS 357: ORGANIZATION OF MEDIA 3 s.h.

Organization of print and non-print materials for effective service. Principles and methods of descriptive cataloging. The structure and application of the Dewey Decimal Classification, the Library of Congress Classification, and standard subject authority lists. The use of printed cards and the utilization of other work simplification techniques. The study of filing rules. Maintenance of library catalogs—shelf lists, divided and dictionary card catalogs, and the printed book catalog. Fall, annually.

LS 358: MEDIA FOR CHILDREN 3 s.h.

Survey of children's literature and related materials. A study of the principles of selection and evaluation of books, periodicals, and other materials for children. Reading guidance, with attention to materials for special groups. Development of general and subject bibliographies, preparation of annotations. Techniques of story-telling, and the selection of materials for the story hour. Prerequisite: LS 258 or permission of the instructor. Spring, annually.

LS 360: ADMINISTRATION OF SCHOOL MEDIA CENTERS 3 s.h.

Study of the objectives and functions of the modern school library media center. Techniques and administrative procedures, budget preparation, personnel space, and equipment. Acquisition, preparation, and the circulation of all forms of media. Maintenance of the collection. Standards for evaluation of school library media centers. Relations with other school libraries and the public library. The development of a functional school library media program. Fall, annually.

LS 362: SELECTION, UTILIZATION, AND PRODUCTION OF LEARNING RESOURCES 3 s.h.

An introduction to user survey techniques, selection, and utilization of a wide variety of learning resources (including the design and preparation of materials and the operation of equipment). No prerequisite.

LS 385: AUTOMATION IN THE LIBRARY MEDIA CENTER 3 s.h.

Introduction to the utilization of automation in the library media center. Topics covered will include the selection of computer hardware and software for instructional purposes; use of automated library systems for library management activities such as circulation, acquisition, and cataloging; and the importance of computer networks to areas including resource sharing, professional development, and fiscal planning. Prerequisite: ED 217 or permission of instructor. Spring, annually.

LS 420: STUDENT TEACHING SEMINAR 3 s.h.

An opportunity for students to meet and discuss practical and applicable issues as they occur and relate to their field experiences. Concurrent with student teaching.

LS 432: COLLOQUIUM no credit

A series of lectures, discussions, and film demonstrations presented by visiting lecturers and members of the staff. Required of all library science students. Each semester.

LS 455: SPECIAL TOPICS IN LIBRARIANSHIP 3 s.h.

In-depth discussion, study, and research of a selected topic related to the role of the library in responding to social issues, service to special groups, or problem areas such as media and minorities, OCLC on-line bibliographic control, and media programs for the gifted. (Not creditable toward library science certification.) On demand.

LS 457: INDEPENDENT STUDY/SEMINAR 1-3 s.h.

Opportunity to explore in depth a facet of librarianship according to need or interest, under the direction of a faculty member of the department. Special area to be approved by a faculty committee. Development of research techniques. The preparation of a scholarly paper or completion of a special project.

LS 459: MEDIA, METHODS, AND THE CURRICULUM 3 s.h.

Planning for the effective use of school library media services in cooperation with the instructional staff. Examination of school library media philosophies and educational objectives. Development of a library media program. Examines the librarian's role in designing curriculum, in developing teaching-learning strategies, and in working with teachers, students, and administrators. Prerequisites: LS 257, 258, either 356 or 360, 490, and COMM 405. Spring, annually.

LS 470: INTERNSHIP IN LIBRARIANSHIP 3-6 s.h.

Provides a laboratory experience in the professional atmosphere of a cooperating library or information center; allows undergraduate students who are not interested in school librarianship an opportunity to have an applied field experience in a public or special library. Evaluation is based on observation at the field site, an evaluative paper, and participation in professional seminars. Enrollment by permission of instructor every semester.

LS 490: LIBRARY MATERIALS AND SERVICES FOR EXCEPTIONAL LEARNERS 3 s.h.

An opportunity for students to explore the nature and needs of special groups of library users in order to develop collections of materials and to design programs of services to accommodate those needs. Special needs in all types of library settings—academic, public, school, and special—are examined in particular; the unique characteristics and instructional needs of exceptional learners who use the school library are explored. Bibliotherapy and other techniques are investigated to determine their validity for the exceptional learner. Fall, annually.

LS 4911591: BUSINESS REFERENCE SOURCES AND SERVICES 3 s.h.

Survey of the literature and services which would be expected in a business library or department of business information. Includes in-depth examination of major business reference tools, as well as in-depth examination of the special operations, organization, and management of business libraries and departments of business information.

Management

MGMT 120: INTRODUCTION TO BUSINESS 3 s.h.

An introductory course which emphasizes the philosophical and historical background of business institutions, the functional relationship within the business firms, and relates the firm to the overall framework of society.

Freshmen only. Recommended for business students who have not selected a specific major. B.S.B.A. majors can apply this course to free electives only. Each semester.

MGMT 121: FUNDAMENTALS OF MANAGEMENT 3 s.h.

This course is an introduction to management and organization. The emphasis is placed on managerial processes and functions and the interface of the manager with supervisors, subordinates, and the work environment. B. S.B.A. majors can apply this course to free electives only. Each semester only at Venango Campus.

MGMT227: APPLIED SUPERVISION 3 s.h.

This course is designed to prepare the student for a position as a first-time supervisor and includes the essential elements of good management practices and stresses application rather than theoretical supervision concepts. B. S.B.A. majors can apply this course to free electives only. Prerequisites: Sophomore standing and MGMT 120. Spring, annually only at Venango Campus.

MGMTI PSY 228: HUMAN BEHAVIOR IN ORGANIZATIONS 3 s.h.

This course explores how basic psychological principles can be used to describe, explain, and predict individuals' on-the-job thoughts, feelings, and behaviors. Representative topics include personality, motivation, perception, attitudes, stress, communication, learning, leadership, group behavior, cooperation, decision-making, and research methods. B. S.B.A. majors can apply this course to free electives only. No prerequisites. Annually at both the Clarion and Venango Campuses.

MGMT 320: MANAGEMENT THEORY AND PRACTICE 3 s.h.

This course focuses on the development of management thought and its application. Topics covered include planning, organizing, controlling, decision-making, motivation, leadership, work groups, and organizational change and development. Special areas to be considered are the domestic and international environments and changing societal values. Prerequisites: ECON 211 ECON 212, and junior standing. Each semester.

MGMT 321: ORGANIZATION THEORY AND BEHAVIOR 3 s.h.

This course focuses on the managerial application of behavioral science research and theory in dealing with individuals, groups, and organizations. Prerequisite: MGMT 320. Each semester.

MGMT 322: SELECTION AND MANAGEMENT OF BUSINESS INFORMATION SYSTEMS 3 s.h.

This course shows managers how to develop business management information systems, either on their own or with the aid of system technicians. It stimulates the systems techniques in organizing and analysis which the student will use in practice. Prerequisite: MGMT 320. Each semester.

MGMT 323: PROBLEMS IN SMALL BUSINESS 3 s.h.

The study of the problems of initiating and operating a small business. Emphasis is on the use of existing data and sources of information available to the small businessman as well as formal knowledge of course work. Prerequisite: MGMT 320. Fall, annually.

MGMT 324: PERSONNEL MANAGEMENT 3 s.h.

A study of the activities involved in human resource management. Topic areas include the following: job analysis, human resource planning, recruitment, selection, equal employment opportunity, training and development, performance appraisal, compensation practices, and safety and health. A system approach is stressed. Prerequisite: MGMT 320. Each semester.

MGMT 420: OPERATIONS RESEARCH 3 s.h.

Scientific methods which provide managers with a quantitative basis for making decisions. Emphasis is placed on both deterministic and stochastic methods, including the transportation method, linear programming, dynamic programming, PERT, inventory control, queuing theory, and Markov analysis. Prerequisite: ECON 222. Fall, annually.

MGMT 423: BUSINESS AND SOCIETY 3 s.h.

A study of concepts of, and theories about, interrelationships between business units and society in general. The concepts and theories are then employed in the analysis of complex environmental problems encountered by business managers. Prerequisite: MGMT 320. Once every two years.

MGMT 425: PRODUCTION MANAGEMENT 3 s.h.

Philosophy of F.W. Taylor and other management pioneers. Nature of the production cycle. Simplification and diversification of product lines, purchasing, materials, control, routing, scheduling, dispatching, plant layout. Prerequisites: ECON 221, ECON 222, and MGMT 320. Each semester.

MGMT 426: INTERNATIONAL BUSINESS 3 s.h.

This is an introductory course designed to acquaint the student with the international environment and the growing discipline of multinational business in this environment—i.e., multinational management of strategic planning, organization, production, research and development, marketing, finance, and human resources. Prerequisite: MGMT 320. Each semester.

MGMT 427: SMALL BUSINESS SEMINAR 3 s.h.

The course is designed for a "hands on" approach to small business, manufacturing, wholesaling, or retailing. The student will have an opportunity to perform a managerial audit of an existing small business, do the necessary work preliminary to the purchase of a small business, or start a new small business. The course will enable the student to put into practice the knowledge obtained in MGMT 323, which is a prerequisite, and to explore further sources of research data. Spring, annually.

MGMT 445: MANAGEMENT SEMINAR 3 s.h.

Designed for management majors as a follow-up course to MGMT 320. The course presents the views of numerous management theorists and practitioners. It includes broad ranging areas of study and an integration of these areas through discussion, individual written and oral reports, and some case analyses. The student has the opportunity to analyze and integrate theory and practice as a means of increasing his or her understanding of the management process. Prerequisites: MGMT 320 and senior standing. Spring, annually.

MGMT 450: TOTAL QUALITY MANAGEMENT 3 s.h.

An examination of Total Quality Management (TQM), including the philosophies and principles of Deming, Juran, and Crosby. The focus is on the management and continuous improvement of quality and productivity in manufacturing and service organizations. Topics include quality measurement, quality assurance, giving employees

responsibility for quality, the learn approach to quality, employee recognition, and various TQM tools and techniques. Prerequisite: **MGMT 320. Annually.**

MGMT 482: COLLECTIVE BARGAINING 3 s.h.
A study of the negotiation and scope of collective bargaining contracts; the substance of bargaining power and institutional goals are applied in the resolution of industrial conflict. Prerequisite: MGMT 324. Spring, annually.

MGMT 483: WAGE AND SALARY ADMINISTRATION 3 s.h.
A study of the formation and administration of compensation systems as they relate to the changing nature of employee rewards and expectations. Emphasis will be given to job and performance evaluation, fringe benefits, and rewards for special groups. Prerequisite: MGMT 324. Spring, annually.

MGMT 485: INDUSTRIAL RELATIONS AND PUBLIC POLICY 3 s.h.
An examination of the industrial relations functions as they relate to federal, state, and local statutes and industrial policies. Specific topics covered include OSHA, EEOA, NLRA, LMRA, and LMRDA. Prerequisite: MGMT 324. Fall, annually.

MGMT 499: SPECIAL TOPICS IN MANAGEMENT 3 or 6 credits
Various current topics affecting management practice or theory will be presented. Different topics may be covered from year to year as subjects of critical importance or interest occur. Prerequisites: junior standing and MGMT 320.

Marketing

MKTG 360: PRINCIPLES OF MARKETING 3 s.h.
The topics included are the role of the consumer motivation; selling and buying functions; physical distribution management; and government regulation and control in marketing. The purpose of the course is for the student to develop an understanding of the increasing complexity of the modern marketing system, why it is essential, and how it performs in both domestic and international marketing situations. Prerequisites: ECON 211,212, and junior standing. Each semester.

MKTG 361: MARKETING MANAGEMENT 3 s.h.
A study of coordinative effort in planning, organizing, and controlling marketing activities that direct the flow of goods and services from producer to consumer. Prerequisite: MKTG 360. Each semester.

MKTG 362: RETAILING MANAGEMENT 3 s.h.
Retailing management is designed to introduce students to the field of retailing where they will study such areas as organizational structure, merchandising practices and procedures, promotional activities, store planning, control, etc. Prerequisite: MKTG 360, or instructor approval. Each semester.

MKTG 363: ADVERTISING MANAGEMENT 3 s.h.
The uses of advertising and advertising campaigns by business which give emphasis to the patterns and types of marketing strategy and its various functions, legal and moral obligations, problems in developing and evaluating advertising programs, budgeting, scheduling, and client-advertising agency relationship. Prerequisite: MKTG 360. Each semester.

MKTG 364: PRINCIPLES OF SELLING 3 s.h.
Introduction to the principles of selling. Concerned with influencing, persuading, or leading individuals to buy goods and/or services. Useful for anyone considering a career in sales management. Prerequisite: permission of the instructor. Fall, annually.

MKTG 365: INDUSTRIAL MARKETING 3 s.h.
An examination of the characteristics of the industrial market: principles and practices in purchasing raw materials, supplies, and equipment; methods of selling; channels of distribution; promotional activities; and sales organization and policies. Prerequisite: MKTG 360. Each semester.

MKTG 366: PHYSICAL DISTRIBUTION MANAGEMENT 3 s.h.
Concerned with factors involved in the selection of marketing channels and problems involved in managing the task efficiently. Prerequisite: MKTG 360. Fall, annually.

MKTG 367: INDUSTRIAL BUYING 3 s.h.
Exposure to buying theory and practice. Special emphasis is given to decision making and quantitative methods. Prerequisite: MKTG 360. Spring, annually.

MKTG 390: MARKETING FOR NON-PROFIT ORGANIZATIONS 3 s.h.
This course provides an analysis of marketing management practices in the public and non-profit sectors. The course offers a framework for evaluating non-profit marketing issues. Particular attention will be placed on the role of marketing in helping non-profit organizations improve their effectiveness in achieving objectives and in maintaining or increasing financial viability. Prerequisite: MKTG 360. Annually.

MKTG 460: SALES MANAGEMENT 3 s.h.
Designed to cover all aspects concerned with the management of a sales force, including the selection and testing of sales representatives, training, devising compensation plans and expense accounts, territories, quotas, and evaluations. Case studies and problem-solving techniques are utilized. Prerequisite: MKTG 360. Annually.

MKTG 461: MARKETING RESEARCH 3 s.h.
The application of scientific and statistical methods and tools to the solution of marketing problems are studied. Prerequisites: ECON 221, 222, and MKTG 360. Each semester.

MKTG 463: WOMEN IN MARKETING 3 s.h.
This course for both men and women is designed to explore the changing business, organizational, and marketing environments as they pertain to the increasing number of women in marketing. The special problems and opportunities for women in marketing are examined. Prerequisites: MKTG 360 and junior standing. On demand.

MKTG 465: MARKETING PROBLEMS 3 s.h.
A consideration by the case method and/or simulation gaming method of the problems facing the producer and reseller. Prerequisites: MKTG 360 and senior standing. Each semester.

- MKTG 468:** *CONSUMER BEHAVIOR* 3 s.h.
 The study of theories, models, recent research, and research techniques in consumer motivation and decision making. Prerequisites: MKTG 360 and PSY 211 or permission of the instructor. Each semester.
- MKTG 469:** *INTERNATIONAL MARKETING* 3 s.h.
 An analytical approach to study marketing management decisions involving multinational operations. The focus of the course will be on the management of the marketing functions within the multinational corporation. Prerequisite: **MKTG 360. On demand.**
- MKTG 495:** *SPECIAL TOPICS IN MARKETING* 3 s.h.
 Various current topics which affect marketing practice or theory will be presented. Different topics will be covered from year to year as subjects of critical importance arise. Prerequisite: MKTG 360 or permission of the instructor.

Mathematics

The usual entry level for students in the natural sciences and mathematics and for other students with good mathematics ability and background, regardless of their major, is MATH 270, but science and math majors with insufficient background may select MATH 171. Business students normally enter at MATH 131, elementary education majors at MATH 111. MATH 112 is the usual course for students with no mathematics requirements outside general education, but MATH 221 and MATH 222 are good alternatives, and other electives are also available. For more detail, students should contact their advisors or the chair of the Mathematics Department.

- MATH 100:** *BASIC ALGEBRA* 3 s.h.
 An introduction to basic algebraic concepts, review of algebraic and mathematical manipulation, emphasis on individual attention. (No student who has satisfactorily completed another mathematics course may subsequently receive credit toward graduation for MATH 100.) No grade is awarded for this course, only credit-no record. Each semester, each summer.
- MATH 110:** *INTERMEDIATE ALGEBRA* 3 s.h.
 Topics in algebra beyond the introductory level yet less than the precalculus level. Prerequisite: Adequate performance on the departmental placement examination or successful completion of MATH 100.
- MATH 111:** *BASIC MATHEMATICS FOR ELEMENTARY MAJORS* 3 s.h.
 Structure of the real number system. Elementary set theory. Open only to elementary majors in the College of Education, others only with permission of the department. Each semester.
- MATH 112:** *EXCURSIONS IN MATHEMATICS* 3 s.h.
 A course designed to acquaint the student with the nature and scope of modern mathematics and its applications. Emphasis is on concepts and understanding rather than the acquisition of techniques. The course is intended for majors in the arts, humanities, and social sciences. Each semester.
- MATH 131:** *MATHEMATICS FOR BUSINESS AND ECONOMICS* 3 s.h.
 Mathematical techniques with special applications in business and related areas. Topics include matrices, linear programming, mathematics of finance, probability, and statistics. Prerequisite: MATH 110 or its equivalent. Each semester.
- MATH 171:** *PRECALCULUS* 4 s.h.
 Review of high school algebra, functions inequalities, analytic trigonometry, logarithms, elementary theory of equations, complex numbers, and mathematical induction. Prerequisite: two years of high school algebra. Each semester.
- MATH 211:** *MODERN CONCEPTS OF MATHEMATICS FOR ELEMENTARY TEACHERS* 3 s.h.
 Investigation of selected topics considered essential to the mathematical background of an elementary education major. Included are introductions to mathematical reasoning and problem-solving techniques, probability and statistics, geometry, and computer programming. Prerequisite: MATH 111 Annually.
- MATH 212:** *INTUITIVE GEOMETRY* 3 s.h.
 An intuitive overview of geometry: axiomatic structure of geometry, basic constructions, proofs. Not open to mathematics majors. Prerequisite: Any 100-level math course. On demand.
- MATH 213:** *INTUITIVE ANALYSIS* 3 s.h.
 An elementary introduction to the basic properties of the real number system and the calculus, including functions, sequences, limits, continuity, integrals, and derivatives. Not open to mathematics majors. Prerequisite: Any 100-level mathematics course. On demand.
- MATH 214:** *FINITE MATHEMATICS* 3 s.h.
 An introduction to the basic properties of finite mathematics, including partitions of sets, counting theorems, permutations, combinations, probability. Suggested for students in elementary education. On demand.
- MATH 215:** *MATHEMATICAL CONCEPT LABORATORY-AN ACTIVITY-ORIENTED APPROACH* 3 s.h.
 Development of certain concepts of mathematics using an activity-oriented approach. Class is conducted in a laboratory atmosphere. Topics considered are the rational number system, number theory, induction, measurement, geometric shapes. On demand.
- MATH 221:** *ELEMENTARY APPLIED STATISTICS* 3 s.h.
 Basic principles and methods of statistical analysis useful in the social sciences, biology, and education. Designed specifically for students not majoring in mathematics. Prerequisite: two years of high school algebra or a college mathematics course. Each semester.
- MATH 222:** *ELEMENTARY NONPARAMETRIC STATISTICS* 3 s.h.
 The course will examine statistical methods for experiments that yield small samples and/or ordinal methods for dealing with data from unknown or intractable distributions and the bases for a well-designed experiment. Prerequisite: two years of high school algebra or a college mathematics course.

- MATH 225:** *ELEMENTARY SURVEY SAMPLING* 3 s.h.
This course will address the problems of bias—in both the mathematics and the survey designs, while introducing the student to the major survey designs. Prerequisite: MATH 22 I or 321 or permission of the instructor.
- MATH 232:** *CALCULUS FOR BUSINESS I** 3 s.h.
Differential calculus with application to business and the social sciences. Topics include limits, derivatives, maxima and minima, and introduction to integration related topics. Prerequisite: MATH 131 or the equivalent. Each semester.
- MATH 233:** *CALCULUS FOR BUSINESS II** 3 s.h.
Application of integral calculus to business and the social sciences. Topics include rules of integration, definite and indefinite integrals, series, and partial derivatives. Prerequisite: MATH 232 or the equivalent. Each semester.
- *MATH 232-3 are designed for students outside the natural sciences. Students in math and sciences and better prepared students in other disciplines are encouraged to select MATH 270-271 instead.*
- MATH 260:** *APPLIED CALCULUS* 4 s.h.
A course in the concepts and applications of differential and integral calculus. Topics include: derivatives and their applications, integrals and their applications, integration techniques, numerical integration, and the calculus of several variables. For the students in the social, behavioral, and biomedical sciences. Prerequisite: MATH 171 or passing score on the departmental placement test. Each semester.
- MATH 270:** *CALCULUS WITH ANALYTIC GEOMETRY I* 4 s.h.
Elementary analytic geometry, limits, continuity, differentiability. Prerequisite: MATH 171 or its equivalent. Each semester.
- MATH 271:** *CALCULUS WITH ANALYTIC GEOMETRY II* 4 s.h.
Review of limits, definition of the Riemann integral and applications. Integration techniques; topics in analytic geometry. Prerequisite: MATH 270. Each semester.
- MATH 272:** *CALCULUS WITH ANALYTIC GEOMETRY III* 4 s.h.
Basic properties of limits, continuous and differentiable functions. Sequences, series, solid analytic geometry, functions of several variables, multiple integrals. Prerequisite: MATH 271. Each semester.
- MATH 290:** *CALCULUS WORKSHOP* 1 s.h.
This course is an overview of the calculus sequence that will allow the student to examine problems in differential and integral calculus by applying simultaneously the methods learned from the entire sequence. Some new topics and techniques in analysis will also be discussed. Prerequisite: MATH 272. Every semester.
- MATH 300:** *AN INTRODUCTION TO ADVANCED MATHEMATICS* 3 s.h.
This course takes a rigorous approach to the study of the standard methods of mathematical proof applied to the areas of set theory, relations, functions, and cardinality. Prerequisite: MATH 271.
- MATH 321:** *INTERMEDIATE APPLIED STATISTICS* 3 s.h.
The course is designed to provide an overview of the basic theory and application of mathematical statistics. Emphasis is placed on understanding and applying basic statistical theory. Prerequisite: MATH 271.
- MATH 322:** *INTERMEDIATE STATISTICS II* 4 s.h.
This course will examine in further detail the analysis of variance, factorial experiments, multiple regression, and an introduction to time-series. Prerequisite: MATH 321 (MATH 221/222 with instructor's permission).
- MATH/ CIS 340:** *DISCRETE MATHEMATICAL STRUCTURES* 3 s.h.
An introduction to sets, relations, functions, combinations, graphs, and trees emphasizing concrete models. Includes computer algorithms and mathematical structures useful in computer science. Designed for students in both mathematics and computer science. Prerequisites: MATH 271 and CIS 151 or CIS 163. Each semester.
- MATH 350:** *ORDINARY DIFFERENTIAL EQUATIONS* 3 s.h.
First order differential equations. Linear differential equations of higher order; systems of differential equations. Series methods. Prerequisite: MATH 272. Annually.
- MATH 357:** *MODERN GEOMETRY* 3 s.h.
Axiomatic treatment of topics in geometry. Prerequisite: MATH 300.
- MATH 360, 460:** *NUMERICAL METHODS [N MATHEMATICS I, II]* 3 s.h. each
Types of error, calculus of finite differences, numerical evaluation of integrals, algorithms for the solution of algebraic equations, and systems of algebraic equations with applications to selected problems and computer programming of algorithms. Prerequisite: MATH271. Each Spring Semester (360); alternate Fall Semesters (460).
- MATH 369:** *BOOLEAN ALGEBRA* 3 s.h.
An introduction to the theory of Boolean algebra, with applications to the theory of sets, logic, and electromechanisms. Prerequisite: MATH 272 or permission of instructor.
- MATH 370:** *INTRODUCTION TO LINEAR ALGEBRA* 3 s.h.
Introduction to vector spaces, linear transformations, matrices, determinants, and related topics. Prerequisite: MATH 271. Each semester.
- MATH 421:** *MATHEMATICAL STATISTICS I* 3 s.h.
Basic concepts of elementary probability; probability in finite spaces; conditional probability; independent trials; sophisticated counting; probability in relation to random variables. Prerequisites: MATH 272 and 300.
- MATH 422:** *MATHEMATICAL STATISTICS II* 3 s.h.
Mathematical expectation; discrete and continuous random variables; probability densities; sampling distributions: point estimations; interval estimations; tests of hypotheses; regression and correlation; analysis of variation; moment-generating functions. Prerequisite: MATH 421.
- MATH 451, 452:** *MODERN ALGEBRA I, II* 3 s.h. each
An introduction to groups, rings, integral domains, and fields. Prerequisite: MATH 300. Fall and spring, respectively.

MATH 454:	THEORY OF NUMBERS	3 s.h.
Factorization, congruence, quadratic reciprocity. Number theoretic functions, diophantine equations, continued fractions. Prerequisite: MATH 300.		
MATH 459:	INTRODUCTION TO COMPLEX VARIABLES	3 s.h.
An introduction to complex numbers, analytic functions, poles, residues, and their applications. including the fundamental theorem of algebra. Prerequisites: MATH 272 and 300,		
MATH 471, 472:	INTRODUCTION TO REAL ANALYSIS	3 s.h.
Limits, continuity, differentiability, integrability, and convergence for functions of a real variable and several variables. Prerequisites: MATH 272 and 300.		
MATH 473:	ELEMENTARY TOPOLOGY	3 s.h.
Topological spaces, metric spaces, compactness, connectedness. Prerequisites: MATH 272 and 300.		
MATH 480:	TOPICS	3 s.h.
<i>This</i> course offers special topics reflecting the interests of the students. The specific topic to be covered each term will be announced in advance. Prerequisites: MATH 272 and permission of the instructor.		
MATH 490, 491, 492:	SEMINAR I, II, III	1 s.h. each
Seminar in mathematics. An oral and written presentation is required.		
MATH 499:	INDEPENDENT STUDY	1-3 s.h.
Individual study under faculty supervision. Prerequisites: 12 hours of math numbered 300 or above and written consent of the department chair.		

Medical Technology Professional Study Year

MT401:	CLINICAL MICROBIOLOGY	6-9 s.h.
Identification and clinical pathology of bacteria, fungi, viruses, and parasites. Techniques to isolate, stain, culture, and determine antimicrobial susceptibility. Instrumentation; quality control.		
MT 402:	CLINICAL CHEMISTRY	6-9 s.h.
Enzymology, endocrinology, biochemistry of lipids, carbohydrates and proteins, metabolism of nitrogenous end products, physiology and metabolism of fluids and electrolytes, and toxicology as related to the body and diseases. The technical procedures include calorimetry, spectrophotometry, electrophoresis, chromatography, automation, and quality control.		
MT 403:	CLINICAL HEMATOLOGY/COAGULATION	3-6 s.h.
<i>The</i> composition and functions of blood; diseases related to blood disorders; [he role of platelets and coagulation. Manual and automated techniques of diagnostic tests for abnormalities.		
MT 404:	CLINICAL IMMUNOHEMATOLOGY	4-6 s.h.
Blood antigens, antibodies, crosshatching, hemolytic diseases, and related diagnostic tests. An in-depth study of blood donor service and its many facets such as transfusions, medico-legal aspects, etc.		
MT 405:	CLINICAL IMMUNOLOGY/SEROLOGY	2-4 s.h.
Immune response, immunoglobulins, autoimmunity and complement, and related tests and diseases. Survey and demonstration of serological diagnostic tests.		
MT 406:	CLINICAL SEMINAR	0-4 s.h.
Other courses which are not included in the above (such as orientation, laboratory management, education, clinical microscopy) are unique to the individual hospital program.		

Music

MUS 111:	INTRODUCTION TO MUSIC	3 s.h.
An introductory course designed to provide a basic orientation to the enjoyment and understanding of music. Use is made of recordings, concerts, and other media. No prerequisite courses or special abilities required. Each semester.		
MUS 112:	INTRODUCTION TO AFRO-AMERICAN MUSIC	3 s.h.
An introductory course designed to provide a basic orientation to the enjoyment and understanding of Afro-American music. Use is made of recordings, filmstrips, video tapes, and films. The course is non-performance. No prerequisites. Each semester.		
MUS 125:	FOUNDATION OF MUSICIANSHIP	3 s.h.
Basic training for the music major, to precede the study of MUS 135. This is a rigorous, hands on course which strives to master essential skills. It is intended as a prerequisite to the theory sequence currently in place. Students may be granted an exemption via a theory exam. Fall, annually.		
MUS 131:	FUNDAMENTALS OF MUSIC	3 s.h.
<i>The</i> basic vocabulary of music fundamentals: notation, scale structures, key signatures, triads and seventh chords, rhythm and meter, harmony and its functions, intervals, sight-singing and ear training, dynamics, transposition, practical application by use of a keyboard instrument, introductory study of two-and-three part forms, etc. No prerequisite. Each semester.		
MUS 133:	MUSIC FUNDAMENTALS FOR ELEMENTARY TEACHERS	2 s.h.
A study of specific fundamental concepts of music both written and aural, technical and aesthetic, as preparation for the implementation of music activities to be conducted by the elementary classroom teachers. The degree and complexity of musical concentration presented is determined and guided by the practical application of knowledge assimilated as it directly relates to its use in the general classroom. No prerequisite. Elementary education majors only. Each semester.		

MUS 135: THEORY OF MUSIC I 4 s.h.
Review of basic properties and notation of tone. Tonality, chord structure, and texture. Functions of primary and secondary triads. Chord progressions. Melodic and harmonic cadences. Harmonization and voice leading. First and second inversion chords. Formal characteristics of melody. Embellishing tones. Introduction to harmonic, melodic, and rhythmic ear training, dictation, and sight-singing. Prerequisite: MUS 125 or by examination to show level of skills required in MUS 125. For music majors or by permission. Fall, annually.

MUS 136: THEORY OF MUSIC II 4 s.h.
Continuation of Theory of Music I. Further aspects of harmony; diatonic seventh chords, secondary dominants, mutated chords, harmonic sequence. Further discussion of melodic and harmonic cadences. Modulation and mutation. Introduction to binary and ternary forms. Further development of ear training, dictation, and sight-singing. For music majors or by permission. Prerequisite: MUS 135. Spring, annually.

MUS 151: HISTORY AND LITERATURE OF MUSIC I ANTIQUITY TO 1600 3 s.h.
Music before the Middle Ages: Greece, Rome, Byzantium, medieval music: Gregorian chant, secular forms. Early polyphony: music of the 13th century. Ars Nova in France and Italy. English and Burgundian schools: Burgundian chanson, motet, mass. Renaissance music: social conditions; Netherlands chanson motet, mass; Venetian, French, German, Spanish, and English music of the Renaissance. The Late Renaissance: Lutheran, chorale, psalter, Anglican Church music; Palestrina, Victoria, Di Lasso, Byrd. English keyboard music; Gabeli and instrumental music. For music majors or by permission. Fall, annually.

MUS 152: HISTORY AND LITERATURE OF MUSIC II BAROQUE AND CLASSICAL 1600-1800 3 s.h.
Comparison of Renaissance and Baroque music; Early Baroque in Italy; Early and Middle Baroque in Northern countries; Middle Baroque in Italy; French music under absolutism; English music during Commonwealth and Restoration; Late Baroque in Italy and France; fusion and coordination of national styles; social conditions; Rococo; the Viennese classic period; style and form of Viennese classic music: Haydn, Mozart. For music majors, or by permission. Prerequisite: MUS 151. Spring, annually.

MUSICAL ORGANIZATIONS: MUS 153-195 may be taken for one credit or for no credit. Credits thus earned may not be counted among the humanities in general education but may be counted under personal development and life skills and under free electives, with no more than eight of these credits counted for graduation. Open to all students with permission of instructor.

MUS 153: CONCERT CHOIR 0-1 s.h.
MUS 154: MADRIGAL SINGERS/SHOW CHOIR 0-1 s.h.
MUS 155: SYMPHONY ORCHESTRA 0-1 s.h.
MUS 156: SYMPHONIC BAND 0-1 s.h.
MUS 157: MARCHING BAND 0-1 s.h.
MUS 159: LABORATORY JAZZ BAND 0-1 s.h.
MUS 190: BRASS CHOIR/BRASS ENSEMBLES 0-1 s.h.
MUS 192: PERCUSSION ENSEMBLE 0-1 s.h.
MUS 193: STRING ENSEMBLE 0-1 s.h.
MUS 195: WOODWIND ENSEMBLE 0-1 s.h.

MUS 160: PIANO CLASS I 1 s.h.
Designed to service two categories of students: the non-piano music education major and the non-music major. The purpose for both is the same: teaching piano to beginners in such a manner that they attain an acceptable degree of elementary technical proficiency at the keyboard, a basic knowledge of fundamental scales and chords and a burgeoning comprehension of the existence and desirability of musicianship. Stress is placed on the development of basic keyboard skills and upon a musical performance on all levels of performance. The class is limited to 12 students; therefore the possibility exists that a non-music major may be required to reschedule the class so that freshman/sophomore music majors can elect the class to meet curriculum requirements. Prerequisite: MUS 131 or equivalent background. Each semester.

MUS 161: PIANO CLASS II 1 s.h.
This course is designed to help the student to develop the ability to perform the skills begun in Piano Class I at a more advanced level. Prerequisite: MUS 160, Piano Class I, or permission of instructor. Each semester.

MUS 162: VOICE CLASS I 1 s.h.
Designed to give students an approach to vocal methods in order to eliminate problems. The purpose is to teach each student to treat his or her voice as an instrument. Class instruction is offered in voice for the non-voice major. Emphasis is placed on the development of the vocal instrument and an attitude of artistic maturity on the part of the students and upon artistic performance at all levels of proficiency. Prerequisite: MUS 131 or equivalent background. Each semester.

MUS 163: VOICE CLASS II 1 s.h.
A continuation of Voice Class I. It is designed to provide more advanced techniques for producing a free, artistic sound. A survey of various vocal styles from traditional repertoire is provided. Prerequisite: Voice Class I or permission of instructor. Each semester.

Applied Music

Individual instruction in strings, woodwinds, brass, percussion, piano, voice, and organ. Stress is placed on the development of an attitude of artistic maturity on the part of the student and upon artistic performance at all levels of proficiency. Admission by audition and permission of instructor and department chair. Admission of non-majors is dependent upon availability of the staff. All matriculated music majors must elect applied music credits on instrument/voice in residence. For more information see Music Department chair. Prerequisite: MUS 131 or equivalent background. Course numbers are listed below.

MUS 164:	VIOLIN, VIOLA	1 s.h.
MUS 65:	CELLO, STRING BASS	1 s.h.
MUS 166:	FLUTE, OBOE, SAXOPHONE	1 s.h.
MUS 167:	CLARINET, BASSOON	1 s.h.
MUS 168:	TRUMPET, FRENCH HORN	1 s.h.
MUS 169:	TROMBONE, BARITONE HORN, TUBA	1 s.h.
MUS 170:	PERCUSSION	1 s.h.
MUS 171:	PIANO	1 s.h.
MUS 172:	VOICE	1 s.h.
MUS 173:	ORGAN	1 s.h.

Offered each semester.

Advanced applied instruction is for performance majors only.

MUS 264:	VIOLIN, VIOLA	4 s.h.
MUS 265:	CELLO, STRING BASS	4 s.h.
MUS 266:	FLUTE, OBOE, SAXOPHONE	4 s.h.
MUS 267:	CLARINET, BASSOON	4 s.h.
MUS 268:	TRUMPET, FRENCH HORN	4 s.h.
MUS 269:	TROMBONE, BARITONE HORN, TUBA	4 s.h.
MUS 270:	PERCUSSION	4 s.h.
MUS 271:	PIANO	4 s.h.
MUS 272:	VOICE	4 s.h.
MUS 273:	ORGAN	4 s.h.

Offered each semester.

MUS 232:	KEYBOARD SKILLS FOR ELEMENTARY TEACHERS	3 s.h.
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Various styles of accompaniment; also sight reading of classroom and community songs. Emphasis upon the development of technical skills, reading facility, and memorization. Prerequisite: MUS 131 or equivalent background. On demand.

MUS 233:	SONG LITERATURE FOR ELEMENTARY TEACHERS	3 s.h.
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A further study of the materials used in music education in the elementary school, including a review of the song material available in various music series textbooks and vocal command of this material. Emphasis is on the criteria for choosing song material to illustrate various musical concepts, along with guidelines for music curriculum development. Prerequisite: MUS 131 or 133 or permission of instructor. On demand.

MUS 234:	BASIC MUSIC METHODS FOR ELEMENTARY TEACHERS	2 s.h.
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A study of basic approaches for development and methods and materials applicable to teaching music in the elementary grades. Emphasis is placed upon increasing keyboard and vocal skills, relevant theoretical background, and upon musical activities to be conducted by the classroom teacher. Prerequisite: MUS 131 or 133. Each semester.

MUS 235:	THEORY OF MUSIC III	4 s.h.
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Continuation of Theory II. Further aspects of harmony; ninth, eleventh, thirteenth, and diminished. Neapolitan, and augmented sixth chords. Aspects of tonal structure and form. Thematic development in two-voice counterpoint. The rondo and sonata-allegro forms. Advanced ear training, dictation, and sight-singing. For music majors or by permission. Prerequisite: MUS 136. Fall, annually.

MUS 236:	THEORY OF MUSIC IV	4 s.h.
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Continuation of Theory III. Investigation of enriched tonal resources through chromaticism, modality, and modulation. Melodic, harmonic, formal, and contrapuntal processes and analytical techniques in 20th century music. Discussion of the fugue and the variation forms. Advanced ear training, dictation, and sight-singing. For music majors or by permission. Prerequisite: MUS 235. Spring, annually.

MUS 251:	HISTORY AND LITERATURE OF MUSIC HI-BEETHOVEN, AND THE ROMANTIC PERIOD: 1800-1890	3 s.h.
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Beethoven: life and character; Beethoven's music. Romanticism, historical perspective, social conditions, painting, and literature. Vocal music, instrumental music, opera, and music drama. The national schools: Russia, Bohemia, Scandinavia, France, England, Spain, American music. Prerequisites: MUS 151 and 152. Fall, annually.

MUS 252:	HISTORY AND LITERATURE OF MUSIC IV, CONTEMPORARY MUSIC: 1890 TO THE PRESENT	3 s.h.
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The late romantics, impressionism, Stravinsky, Bartok, Hindemith, neoclassicists, nationalists, Soviet realism, neo-romantics, 12-tone composers, expressionism, and serial music. Schoenberg, Berg, Webern, etc.; experimentalists; electronic music, Stockhausen, Boulez, etc. American music from the late 19th century to the present. Prerequisites: MUS 151, 152, and 251. Spring, annually.

MUS 253:	HISTORY OF JAZZ	2 s.h.
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Emphasis is placed on the nature and process of jazz and particularly its historical background and development in the United States. This study presents logical musical derivatives and developments and demonstrates the important elements that comprise individual jazz styles as they have evolved to the present time. Alternate years.

MUS 254:	SURVEY OF AMERICAN MUSIC	3 s.h.
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The course will give a complete historical survey of American Music from approximately 1620 to the 1980s. Musical trends and various styles and musical forms will be included, i.e., religious music, folk music, popular music, and classical music of significant American composers. These styles and trends will be presented in their historical context and will also be analyzed. Use will be made of tapes and live concerts. Prerequisite: MUS 111 or MUS 112, or the permission of the instructor. The course will be offered in the spring term of each year, and also fall term as faculty load permits.

- MUS 260: VOCAL PEDAGOGY** 1 s.h.
 Systematic study of the physical nature and function of the vocal instrument and breathing process and how they relate to the fundamental principles of teaching vocal technique. Application of this knowledge to the principles of vocal production and technique through lectures, demonstration, and discussion, as well as group participation in instructing each other. Prerequisite: Minimum of four semesters of voice or Voice Class 1 and H, or permission of instructor. Spring, biennially.
- MUS 274: INTRODUCTION TO THE BUSINESS OF MUSIC** 3 s.h.
 An introduction to the multi-faceted music industry of today. Topics studied include music retailing, instrument sales, the music agent, artist management, contracts, concert promotion, licensing, publishing, copyright, songwriting, unions and guilds, music in production, advertising and promotion, music in broadcasting and film, and career planning and development. Does not count toward humanities requirement. Prerequisite: sophomore standing. Alternate years.

Instrumental Techniques

This sequence of courses is designed to acquaint the music major with a basic knowledge of the instruments commonly used in bands and orchestras. Sufficient techniques must be developed by each student to enable her or him to introduce these instruments successfully to beginners in elementary and secondary school instrumental programs. Includes proper methods of tone production, fingerings, bowing techniques, embouchure and breath control; selection and purchase of instruments for school use; care and maintenance of instruments; selection, care and adjustment of reeds or strings; storage of instruments; methods used in instruction of the instrument; and historical aspects of each family of instruments. For music majors or by permission.

- MUS 280: INSTRUMENTAL TECHNIQUES I: VIOLIN, VIOLA** 1 s.h.
MUS 281: INSTRUMENTAL TECHNIQUES II: CELLO, STRING BASS 1 s.h.
MUS 284: INSTRUMENTAL TECHNIQUES V: TRUMPET, FRENCH HORN 1 s.h.
MUS 285: INSTRUMENTAL TECHNIQUES VI: TROMBONE, BARITONE HORN, TUBA 1 s.h.
MUS 286: INSTRUMENTAL TECHNIQUES VII: PERCUSSION 1 s.h.
MUS 287: INSTRUMENTAL TECHNIQUES III: FLUTE, OBOE, BASSOON 1 s.h.
MUS 288: INSTRUMENTAL TECHNIQUES IV: CLARINET, SAXOPHONE 1 s.h.
- The above courses are offered on a rotation basis; one of each group of instruments each semester.
- MUS 300: RECITALS** 0 s.h.

Section 01—This course is the Music Department's student recital series which satisfies the department requirement. All music students must elect this course for seven to eight semesters as an extension of their curricular and performance activities. The music majors experience and/or perform music literature of all periods appropriate to their instrument or voice.

Section 02—Junior Recital—Music majors elect this section if they are preparing for a recital in their junior year of study. This section is elected concurrently with Section 01.

Section 03—Senior Recital—Music majors elect this section if they are preparing for a recital in their senior year. All B.M. in performance majors must elect Section 03 to fulfill the requirement of a senior degree recital. This section is elected concurrently with Section 01.

- MUS 333: ELEMENTARY MUSIC METHODS** 3 s.h.
 The role of music in elementary school; the roles of classroom teachers, the music specialists, and the consultant. Plans, attitudes, and problems in teaching vocal and instrumental music; curriculum development. Evaluation of musical experience and growth in primary, intermediate, and upper elementary grades. Music reading as an integral part of the total music program. Musical growth and experience in singing, part-singing, listening, instrumental and rhythmic activities. Emphasis on development of ability to use the voice effectively in teaching, and on the thorough familiarity with music series texts, use of keyboard, rhythmic instruments, recordings, and new developments in teaching aids. Introduction to the Orff and Kodaly methods. Required observations and supervised teaching experiences arranged each semester. For music majors only. Prerequisites: MUS 135, 136. Fall, annually.
- MUS 334: JUNIOR HIGH AND SECONDARY MUSIC METHODS** 3 s.h.

A critical study of the entire intermediate and secondary school music program; academic, vocal, and instrumental. Curriculum planning, motivation, evaluation, selection of materials and texts, audio and visual aids, and effective teaching methods for the general music course and for elective courses in theory, history, and appreciation of music. Particular attention is given to the organization and development of both large and small vocal and instrumental groups; recruitment; selection of repertoire; performance levels; music rehearsal rooms and facilities; public performance; and public relations. For music majors only. Prerequisites: MUS 135, 136. Spring, annually.

- MUS 349: ART SONG LITERATURE I** 2 s.h.
 Representative song repertoire of the German lied and the English language art song will be studied from historical and performance perspectives. The songs of Schubert, Schumann, Brahms, Wolf, Strauss, Britten, and Rorem will be stressed. Prerequisites: MUS 251, 252 or permission of the instructor. On demand.
- MUS 350: ART SONG LITERATURE II** 2 s.h.

Representative song repertoire of French, Italian, Slavic, and Russian composers will be studied from historical and performance perspectives. The songs of Faure, Debussy, Ravel, Poulenc, and Moussorgsky will be stressed. Prerequisites: MUS 251, 252 or permission of the instructor. On demand.

- MUS 351: KEYBOARD LITERATURE** 3 s.h.
 A comprehensive survey of keyboard music from the Renaissance to the present. Representative works from each period as selected for careful study and analysis, with emphasis on performance practices as well as formal and stylistic elements in the music. Includes the development of various keyboard instruments. Prerequisites: MUS 251, 252, or permission of instructor. Offered when faculty is available.

- MUS 352: SYMPHONIC LITERATURE 3 s.h.**
An intensive study of orchestral music from the Baroque period to the present, using scores, live performances, and recordings with particular reference to performance practices and stylistic analysis. Prerequisites: MUS 251, 252 or permission of instructor. Offered when faculty is available.
- MUS 353: CHAMBER MUSIC LITERATURE 3 s.h.**
An intensive study of music written for small ensembles from the Renaissance period to the present. Representative works from each period will be selected for careful investigation and analysis. Performance by members of the class or by faculty groups whenever possible. Prerequisites: MUS 251, 252, or permission of instructor. Offered when faculty is available.
- MUS 354: OPERATIC LITERATURE 3 s.h.**
A comprehensive survey of the entire field of operatic music from 1600 to the present, including 17th century Baroque opera; 18th century operatic reforms (Gluck and Mozart); opera in the 19th century (Verdi, Wagner, Strauss, and Puccini); 20th century trends in opera (Stravinsky, Berg, Britten, Menotti, etc.) Prerequisites: MUS 251, 252, or permission of instructor. Offered when faculty is available.
- MUS 356: CHORAL LITERATURE 3 s.h.**
A comprehensive survey of choral music from the 15th century to the present with emphasis on masses, motets, and madrigals of the Renaissance period; oratorios, cantatas, and passions of the Baroque period; major choral works of Haydn, Mozart, Beethoven, Berlioz, Mendelssohn, Verdi, and Brahms; choral *works* of the 20th century. Prerequisites: MUS 251, 252, or permission of the instructor. Offered when faculty is available.
- MUS 357: BAND LITERATURE 3 s.h.**
A comprehensive survey of the available published and recorded literature for marching, military, and concert bands, symphonic and wind ensembles, and woodwind and brass chamber ensembles, including transcriptions and arrangements; major publishers in the field; evaluation of various editions; and also a study of the principal trends of instrumental pedagogy, repertoire, and performance. Prerequisite: MUS 131 or 133. Offered when faculty is available.
- MUS 361: PIANO TEACHING METHODS AND MATERIALS 3 s.h.**
A comprehensive survey of modern piano teaching methods and available published teaching materials. Emphasis will be placed on the teaching of notation and the development of reading skills; the teaching of keyboard techniques through an understanding of the player's physical mechanism and the coordination of timing and touch; problems of fingering, pedaling, and memorization. Evaluation of materials for beginning students; easier teaching pieces by the great composers; anthologies; appropriate music for the intermediate student, leading to a more advanced technique and musicianship and to acquaintance with a wide range of composers and musical styles. Prerequisites: MUS 151, 152; or MUS 131 and permission of the instructor. Offered when faculty is available.
- MUS 362: INSTRUMENTAL METHODS 2 s.h.**
Principles and procedures of organizing and conducting instrumental classes, bands, and orchestras in the public schools. Examination and use of texts, methods, and other materials. For music majors or by permission. Spring, annually.
- MUS 363: VOCAL METHODS 2 s.h.**
Principles and procedures of organizing and conducting vocal classes and choral ensembles in the public schools. Vocal techniques, tone production, proper vowel placement, proper focus on tone, diction, diaphragmatic breathing, and investigation of choral literature. For music majors or by permission. Fall, annually.
- MUS 364: COMPOSITION 3 s.h.**
A study of the nature of the musical idea and of the various possibilities of its subsequent development, including canonic or fugal treatment, motivic development, and variational procedures. A review of traditional structural plans and of contemporary formal and stylistic trends. Creative assignments emphasize the understanding of past and present compositional styles and techniques and the gradual development of a personal language. Prerequisites: MUS 135, 136, or permission of instructor. Offered when faculty is available.
- MUS 365: CONDUCTING I 2 s.h.**
Designed to develop skilled baton techniques and clarity of gesture, effective rehearsal techniques, understanding of performance problems involving tonal balance, tempo, complex rhythmic situations, especially as related to intermediate and secondary school instrumental groups. Traditional and modern beat patterns; expressive gestures; cues and development of left hand; fermata: etc. Study of scores: problems of interpretation and rehearsal; performance preparation. For music majors or by permission. Fall, annually.
- MUS 366: CONDUCTING II 2 s.h.**
Continuation of Conducting I, with emphasis on mastery of technique: special emphasis on problems of vocal groups in junior and senior high school. Spring, annually.
- MUS 367: ORCHESTRATION 2 s.h.**
Basic principles of clear instrumental organization and tonal interest, related to the size of the instrumental group. Ranges and registers of the instruments; transposition; bowing and phrasing; phrasing for woodwind instruments; possibilities and limitations. Texture, timbre, dynamics, principles of tonal interest; contract of timbre; instrumental motion; blend. Structural values; design, overlapping of choirs. Prerequisites: Theory of Music I and II. Instrumental Techniques (minimum of one credit in each family of instruments.) Each semester.
- MUS 368: BAND ARRANGING 3 s.h.**
A study of instrumentation and scoring problems in marching, military, and concert bands, symphonic wind ensembles, and woodwind and brass chamber ensembles. Emphasis on score layout and notation, copying and multiple reproduction of parts, copyright implications, and knowledge of effective combination of instrumental sounds. Prerequisites: MUS 131 (or equivalent background) and consent of instructor. Offered when faculty is available.
- MUS 369: MARCHING BAND TECHNIQUES AND MATERIALS 2 s.h.**
A detailed study of the marching band, including organization, music materials, care of instruments and uniforms, marching essentials, administration, and contemporary techniques. Prerequisites: MUS 135, 136 or permission of the instructor. On demand.

- MUS 374:** *INTERMEDIATE STUDIES IN BUSINESS OF MUSIC* 3 s.h.
This course explores special topics in the music industry including; the record industry; advanced issues in broadcasting and film; and career planning and development. Emphasis on individual projects in accordance with student interest. Prerequisite: MUS 274. Fall, annually.
- MUS 411:** *SPECIAL TOPICS IN MUSIC* 3 s.h.
Topics of special interest in the field of music will be offered. Subject areas such as Orff-music for children; Kodaly method; Mozart, the man and his music, will be studied. Topics will be announced in advance. Offered occasionally.
- MUS 431-531:** *MUSIC IN EARLY CHILDHOOD* 3 s.h.
The study of music activities for the early childhood years (ages 2-8) and methods for implementing these activities. Topics include a study of the development of the child voice; singing activities and criteria for song selection; music concept development through listening discrimination, expressive movement, and creative instrumental activities; introductory music reading activities; an overview of current trends in music education. Prerequisites: MUS 131 or 133 and 234 or permission of instructor. Offered when faculty is available.
- MUS 451:** *ADVANCED CONDUCTING* 3 s.h.
A study of selected works by band, choral, and orchestral literature with particular reference of performance problems involving tonal balance, tempi, complex rhythmic and polymeric situations, vocal intonations, and diction. Conducting experience with band, choir and/or madrigal singers, and orchestra in rehearsal. Emphasis on a thorough understanding of the musical score and on effective rehearsal techniques. Prerequisites: MUS 356, 366, or permission of instructor. Offered when faculty is available.
- MUS 452:** *WESTERN MUSIC AND ITS RELATIONSHIP TO FINE ARTS* 3 s.h.
This course will consist of a comparative study of Western music in its stylistic relationship to the fine arts from the Middle Ages through the 20th century. In addition it aims to show how the various arts responded to each other in the pattern of cultural history. No prerequisite courses are required, but a rudimentary background in music or art is desirable. Offered when faculty is available.
- MUS 453:** *MELODIC IMPROVISATION* 2 s.h.
The course is designed to provide the advanced music student with fundamental concepts of improvisational techniques which may be applied to the development of skills for the invention and performance of improvised melodies. Prerequisites: MUS 135, 136, 235, 236, or equivalent theoretical background. Offered when faculty is available, alternate years.
- MUS 455:** *JAZZ COMPOSITION AND ARRANGING* 2 s.h.
A study of the basic techniques and methods of jazz composition and arranging. In addition to writing musical arrangements and original compositions for various jazz and popular idioms, participants are afforded the opportunity to conduct and perform their own works. Prerequisite: MUS 367 or by permission of the instructor. Alternate years.

Advanced Instrumental Techniques and Pedagogy

The sequence of courses listed below constitutes further study of the symphonic instruments. Specialized techniques which are employed by each instrumental family will be presented and mastered (strings, woodwinds, brasses, percussion.) Sufficient techniques will be developed by the student to enable him or her to introduce and teach these instruments successfully at the elementary or secondary level. The course will include methods, materials, manufacturers, suppliers, repair procedures, and procedures for private, homogeneous, and heterogeneous group instruction; studio teaching and management; musicianship and creativity as part of the lesson; planning for various grade levels; history of teaching and study of leading methods.

- MUS 461:** *ADVANCED STRING TECHNIQUES AND PEDAGOGY* 2 s.h.
Prerequisite: MUS 281 or 287, or permission of instructor.
- MUS 462:** *ADVANCED WOODWIND TECHNIQUES AND PEDAGOGY* 2 s.h.
Prerequisite: MUS 287 or 288, or permission of instructor.
- MUS 463:** *ADVANCED BRASS TECHNIQUES AND PEDAGOGY* 2 s.h.
Prerequisite: MUS 284 or 285, or permission of instructor.
- MUS 464:** *ADVANCED PERCUSSION TECHNIQUES AND PEDAGOGY* 2 s.h.
Prerequisite: MUS 286 or permission of the instructor.
- MUS 490:** *INDEPENDENT STUDY* I-3 s.h.
Opportunity to explore, in depth, an area of music of particular interest under the guidance of a faculty member. A scholarly paper or special project(s) will be required for credit and grade. Prerequisite: permission of the instructor and department chair.

Nursing

Associate Degree

- NURS 101:** *NURSING PROCESS I* 8 s.h.
Nursing Process I introduces the student to the concepts of the individual, health, and nursing; with a focus on the nursing process as the basis for the practice of nursing. Emphasis is placed on meeting individuals' needs according to their priorities through nursing interventions as they relate to communication, problem-solving, medication, nutrition, and mobility. Opportunities are provided for the student to develop beginning skills in the utilization of the following components of the nursing process: assessment, planning, and implementation. These aspects

of the nursing process are applied to the care of the client during activities of daily living. Clinical experience is provided for the student to develop beginning competencies in those technical skills necessary to carry out the nursing care plan and the medical regimen. Five lecture and nine laboratory hours weekly. Fall, annually.

NURS 102: NURSING PROCESS 11 8 s.h.

Nursing Process 11 is a continuation of Nursing Process I which focuses on the concepts of the individual, health, and nursing; with the nursing process as the basis for the practice of nursing. Emphasis is placed on meeting individuals' basic needs according to their priorities through nursing interventions as they relate to safety, oxygen, comfort, elimination, and the life crises. Opportunities are provided for the student to develop beginning skills in the utilization of nursing diagnosis and evaluation as integral components of the nursing process. All aspects of the nursing process are applied to the care of the client during activities of daily living. Clinical experience is provided for the student to develop beginning competencies in those technical skills necessary to carry out the nursing care plan and the medical regimen. Four lecture and 12 laboratory hours weekly. Prerequisites: BIOL 258, PSY 211, and a minimum of "C" in NURS 101. Spring, annually.

NURS 201: NURSING PROCESS 111 8 s.h.

This course provides the student with an in-depth knowledge of the nursing process. The nursing diagnosis is the basis for assisting clients and their families in establishing priorities for client needs relating to communication, oxygen exchange, oxygen transport, comfort, protective safety, and nutrition; and mobilizing resources of the client and family in the decision-making process. Opportunities are provided for the student to develop competencies in technical and communication skills necessary to carry out the prescribed nursing care plan and medical regimen. Four lectures and 12 clinical experience hours weekly. Prerequisites: BIOL 258 and 259; PSY 211 and 260; minimum grade of "C" in NURS 101 and 102. Fall, annually.

NURS 202: NURSING PROCESS IV 8 s.h.

Nursing Process IV is a logical extension of Nursing Process 111 and continues to increase the student's knowledge and understanding of the nursing process. The nursing diagnosis is the basis for assisting the client and family in establishing health goals related to elimination, mobility structure, mobility function, regulatory safety, and life crisis. This course provides additional opportunities for the student to develop expertise in specific technical and communication skills while working as a member of the health team in acute care settings. Four lecture and 12 clinical experience hours weekly. Prerequisites: BIOL 258, and 259; PSY 211 and 260; minimum grade of "C" in NURS 101, 102, and 201. Spring, annually.

NURS 203: NURSING SEMINAR 2 s.h.

This course is designed to introduce the student to the relevant aspects of change in the nursing profession, ranging from historical development to current issues and trends. Opportunities are provided for the student to participate in in-depth studies of selected topics of interest. Special emphasis is placed on preparing the individual for the transition from the role of student to that of graduate nurse. Prerequisites: minimum grade of "C" in NURS 101, 102, and 201. Spring, annually.

Bachelor's Degree

NURS 340: NURSING, HEALTH, AND THE INDIVIDUAL 3 s.h.

This course introduces the student to the theoretical bases underlying the concepts of nursing, health, and the individual. The individual is discussed in relation to physical, social, and moral development. Models of health provide the basis for study of individual well being. Nursing, as a profession, is discussed with emphasis on the historical perspective, socioeconomic influences, and the cultural differences which affect nursing practice. Nursing is viewed as a practice discipline based on theoretical foundation. Nursing theory and nursing inquiry are emphasized as the basis for the practice of professional nursing. This course may be taken concurrently with NURS 361, but it is required as a prerequisite to all other clinical nursing courses. Summer or fall annually.

NURS 351: PUBLIC SCHOOL NURSING 3 s.h.

This course emphasizes the new dimensions of school health and public school nursing. Personal qualifications, professional preparation, and the expanded role of the school nurse are defined and explored in the classroom and clinical practicum. Health education and health promotion of school age children and adolescents is a concentrated area of study. Each student has a clinical practicum with a certified school nurse in the public school setting. One and one-half lecture and four and one half clinical hours weekly. Prerequisite: B.S. in Nursing.

NURS 361: ADVANCED NURSING PROCESS 6 s.h.

This course includes a detailed study of the nursing process emphasizing the role of nursing diagnosis in professional nursing practice. Each aspect of the nursing process is related to the health of clients requiring nursing intervention throughout their life processes. Opportunities are provided for the student to develop expertise in assessment, diagnosis, planning, implementation, and evaluation in a variety of settings. This course may be taken concurrently with NURS 340, but it is required as a prerequisite to all other clinical nursing courses. Three lecture and nine clinical hours weekly. Fall, annually.

NURS 365: HEALTH PROMOTION FOR THE ELDERLY 3 s.h.

This course is designed to provide the student with information and strategies related to the promotion and maintenance of health in a holistic manner for the elderly population. An emphasis on health and wellness concepts will promote inquiry and stimulate the critical thinking processes of the student. Annually.

NURS 445: INQUIRY IN NURSING 3 s.h.

This course emphasizes the role of inquiry as it applies to nursing. It includes principles of research and scientific method of inquiry and application of critical and decision making skills. This course focuses on the ways that research influences nursing and nursing care. Current research will be critiqued for applicability to professional nursing practice in a variety of settings. This course may be taken concurrently with NURS 463, but it is required as a prerequisite to NURS 464. Prerequisites: A course in statistics and a minimum grade of "C" in NURS 340, 361, and 462 is required. Fall, annually.

NURS 450: FIELD EXPERIENCE IN HEALTH RELATED AGENCIES 3 s.h.

In consultation with the faculty, opportunities are provided for the student, as a client advocate, to apply selected concepts to the health promotion of clients in a variety of settings. Prerequisites: junior standing, NURS 365, or permission of the instructor.

- NURS 457: LEADERSHIP SKILLS IN NURSING** 3 s.h.
 This course provides a theoretical foundation for the practice of independent and interdependent nursing. The principles of leadership and management are introduced to the registered nurse and their application to professional nursing is emphasized. The major focus is on the concepts of leadership, change, group process, management, and organization. Prerequisite: Minimum grade of "C" in NURS 340. Spring or fall annually.
- NURS 462: ADVANCED NURSING PROCESS: CHRONIC CARE** 6 s.h.
 The conceptual focus of this course is the nursing process with emphasis on nursing diagnoses and health education related to chronic alterations in health status. Professional nursing interventions are identified which facilitate the client and family to maximize well-being. Opportunities are provided for the student, as the client advocate, to apply the acquired theoretical knowledge to the care of clients of all ages in a variety of settings. Three lecture and nine clinical hours weekly. Prerequisites: Minimum grade of "C" in NURS 340 and 361. Spring, annually.
- NURS 463: ADVANCED NURSING PROCESS: ACUTE CARE** 6 s.h.
 The conceptual focus of this course is the nursing process with emphasis on nursing diagnoses and health education related to acute alterations in health status. Professional nursing interventions are identified which facilitate the client and family to maximize well-being. Opportunities are provided for the student, as the client advocate, to apply the acquired theoretical knowledge to the care of clients of all ages in a variety of settings. Three lecture and nine clinical hours weekly. Prerequisites: Minimum grade of "C" in NURS 340, 361 and 462. Fall, annually.
- NURS 464: ADVANCED NURSING PROCESS: HEALTH PROMOTION** 6 s.h.
 The conceptual focus of this course is the nursing process with emphasis on nursing diagnoses and health education related to health promotion for individuals, families, and communities. Professional nursing interventions are identified which are directed toward health promotion. Opportunities are provided for the student, as a leader, to apply the acquired theoretical knowledge to the care of individuals, families, and communities. Three lecture and nine clinical hours weekly. Prerequisites: Minimum grade of "C" in NURS 340, 361, 445, 462, and 463. Spring, annually.

Other Nursing Courses

- NURS 299: SPECIAL TOPICS IN NURSING** 1-3 s.h. variable
 This course deals with topics of special interest for all nursing students. It will focus on identified nursing subjects needed to keep students abreast of the changing trends in the profession and provide them with a mechanism for updating their nursing knowledge and clinical competencies. This course may be offered summers and weekends during the academic year according to demand, and will be open to all students.
- NURS 490: PHYSICAL ASSESSMENT** 3 s.h.
 This course is designed for registered nurses who desire knowledge and skill in assessing the health of a client through a health history and physical examination. The focus is on wellness, with emphasis on early detection of changes in the health status of the client. Opportunities are provided for the student to develop expertise in obtaining a health history and performing a physical assessment in a detailed and systematic manner. This course will be offered according to demand and will be open to all registered nurses.
- NURS 499: SPECIAL TOPICS IN NURSING** 1-3 s.h. variable
 This course deals with topics of special interest to professional nurses. It will focus on identified nursing subjects pertinent to the practice of professional nursing. This course will be offered summers and weekends during the academic year according to demand, and will be open to all graduate and registered nurses.

Office Management

- OFMT 131: COLLEGE TYPING** 2 s.h.
 Beginning or refresher typing course for those students who have had no typing or limited previous typing experience. Students are tested for proficiency and then proceed at their own pace. Emphasis is on typing speed and accuracy. The course covers business and personal letters, manuscripts, rough drafts, centering and tabulation problems. Required for office management and legal secretary students who have not had at least two years of high school typing. Spring, annually, only at Venango Campus.
- OFMT 132: PRODUCTION TYPING** 3 s.h.
 Advanced typing course. The emphasis is on speed and production of mailable work from rough drafts and unarranged office problems. Prerequisite: at least two years of high school typing, OFMT 131, or equivalent office experience. Fall, annually, only at Venango.
- OFMT 135: COLLEGE SHORTHAND** 3 s.h.
 Beginning or refresher course in Gregg shorthand. The course covers the shorthand alphabet and works to build speed in reading and writing shorthand. Required for all office management and legal secretary students who have not had at least two years of high school shorthand or equivalent office experience. Spring, annually, only at Venango.
- OFMT 136: EXECUTIVE SHORTHAND** 3 s.h.
 Designed to build dictation and transcription speed. Dictation will be given from unfamiliar materials. Transcription will be done in mailable form on typewriters. Some emphasis placed on punctuation, grammar, and letter styles. Prerequisite: OFMT 135; two years of high school shorthand; equivalent office experience. Fall, annually, only at Venango.
- OFMT221: OFFICE MANAGEMENT** 3 s.h.
 Designed to prepare students to function as administrative office managers. Coverage will include hiring procedures, management styles, employee pay and benefits, equipment selection, and changes in today's office procedures and personnel policies. Fall, annually, only at Venango.

- OFMT230: OFFICE PROCEDURES** 3 s.h.
Covers the duties of administrative secretaries or administrative assistants. Topics such as typing duties, handling mail, preparing reports, filing, doing payroll and other bookkeeping, insurance records, tax records, and other duties that are normally assigned to secretaries are covered. Prerequisite: at least two years of high school typing, OFMT 131, or equivalent office experience. Spring, annually, only at Venango.
- OFMT 232: WORD PROCESSING** 3 s.h.
Emphasis on concepts of word processing and hands-on experience on microcomputers using a word processing program. Prerequisite: OFMT 131. Each semester. Only at Venango.

Philosophy

- PHIL III: ELEMENTARY LOGIC** 3 s.h.
Principles of correct reasoning; principles of deductive and inductive inference and scientific method; use and misuse of language in reasoning. Each semester.
- PHIL 211: INTRODUCTION TO PHILOSOPHY** 3 s.h.
Inquiry into the persistent problems of philosophy, primarily those concerning human beings, nature, and God. Each semester.
- PHIL 212: ETHICS** 3 s.h.
Inquiry into the nature and problems of morality with practical implications for both personal morality and public policy. Each semester.
- PHIL 215: RELIGIONS OF THE WORLD** 3 s.h.
Examination of the religious philosophies which have their origins in Africa, the Americas, Far East, and the Near East. Every third year.
- PHIL 300: ANCIENT GREEK PHILOSOPHY** 3 s.h.
Thinkers of ancient Greece, with special attention to Plato and Aristotle. Alternate years.
- PHIL 305: MODERN PHILOSOPHY** 3 s.h.
Thinkers from the Renaissance to the 19th century, with special attention to Descartes, Spinoza, Hume, Kant, and Hegel. Prerequisite: PHIL 211 or consent of instructor. Alternate years.
- PHIL 310: CONTEMPORARY WESTERN PHILOSOPHY** 3 s.h.
A study of American, British, and European philosophical movements since 1850. Alternate years.
- PHIL 311: SYMBOLIC LOGIC** 3 s.h.
A study of the essential elements of symbolic logic with special attention given to sentential (truth-functional) and predicate logic. Includes proofs and theoretical aspects. As needed.
- PHIL 325: SPECIAL TOPICS IN PHILOSOPHY**
 As needed.
- PHIL 350: PHILOSOPHY OF RELIGION** 3 s.h.
Inquiry into the nature and validity of religious knowledge; the nature and existence of God; the nature of man and human destiny. Every third year.
- PHIL 352: EPISTEMOLOGY** 3 s.h.
Concepts and problems involved in the appraisal of certain types of human knowledge: perception, knowledge, and belief, and truth. Alternate years.
- PHIL 353: METAPHYSICS** 3 s.h.
Inquiry into some of the fundamental philosophical concepts; being, substance, matter, mind, and God. Prerequisite: six credit hours in philosophy. Alternate years.
- PHIL 354: AESTHETICS** 3 s.h.
Study of some of the aesthetic theories from Plato to the present; nature of the aesthetic experience; principles of criticism in literature and the arts. As needed.
- PHIL 355: PHILOSOPHY OF SCIENCE** 3 s.h.
Methods and procedures of reliable knowledge in the formal, natural, and social sciences. Every third year.
- PHIL 356: ORIENTAL PHILOSOPHY** 3 s.h.
Significant contribution to philosophical and religious thought in the Near East, India, China, and Japan. Every third year.
- PHIL 357: PHILOSOPHY AND WOMEN** 3 s.h.
An exploration of the growing contribution of women to western philosophy and examination of traditional views from women's perspectives. Social problems relating to traditional views, in particular sexism and racism, are addressed. Prerequisite: PHIL 211 or consent of instructor. As needed.

Physical Science

- PHSC 111: BASIC PHYSICAL SCIENCE: CHEMISTRY*** 3 s.h.
This course is intended for non-science majors and does not assume prior familiarity with chemistry. It does not count toward requirements for science majors but can be applied to fulfill the general education math-science requirements for non-science majors.
- Selected chemical principles are explored with the purpose of providing a background that will enable the student as a citizen to understand issues involving the interaction of science and society; brief experiments are often included. Students who prefer a more traditional chemistry course may elect either Chemistry 151 or 153 to fulfill their general education requirements. No prerequisite. Each semester.*

*No student may take, for credit, a chemistry course at the 100 level after having successfully completed any chemistry course numbered 300 or above.

PHSC 112: BASIC PHYSICAL SCIENCE: PHYSICS AND ASTRONOMY 3 s.h.

This course is intended for those students not majoring in the sciences or mathematics, and does not presume any prior familiarity with the subject. Science and math majors will not receive credit for this course. Topics discussed are the nucleus of the atom and radioactivity, fundamentals of electricity and simple circuits, and descriptive astronomy. Experiments are integrated with the subject matter to develop theory from an experimental basis. The Planetarium is used extensively in conjunction with the section in astronomy. No prerequisite. Each semester, plus summers.

PHSC 457: INTRODUCTION TO ELECTRONICS FOR AUDIO APPLICATIONS 3 s.h.

A survey of basic electricity and electronics. The course is intended to give the student an understanding of circuits, devices, measuring instruments, and measurement techniques used in typical audio applications. It is primarily intended for students in speech pathology and audiology, as an elective for both undergraduate and graduate students. Each Fall Semester.

Physics

PH 251: GENERAL PHYSICS I 4 s.h.

A general introductory level course, including topics in mechanics. Topics covered include kinematics, dynamics, vectors, energy, momentum, rotational motion, harmonic motion, and waves. Designed for non-physics majors. Includes laboratory. Prerequisite: algebra. Each fall.

PH 252: GENERAL PHYSICS II 4 s.h.

This is a continuation of PH 251, a general course in electricity, magnetism, light, and atomic physics. Topics discussed include general concepts of magnetism, electrostatics, electrical circuits, alternating currents, optical instruments, reflection, refraction, interference, spectra, and some basic concepts of atomic structure. Designed for non-physics majors. Includes laboratory. Prerequisites: algebra and PH 251. Each spring.

PH 258: INTRODUCTORY PHYSICS LECTURE I 4 s.h.

This is an introductory physics course designed for physics majors and pre-engineers. This course includes mechanics, heat, and sound. PH 268 must be taken concurrently by physics majors and prospective engineers. Prerequisite: MATH 270, which may be taken concurrently. Each fall.

PH 268: INTRODUCTORY PHYSICS LABORATORY I 1 s.h.

This laboratory complements PH 258, and should not be scheduled by students who are not enrolled in PH 258. Experiments performed in this laboratory include free-fall, momentum and energy, and wave phenomena. Computers are used to organize and analyze experimental data. Each fall.

PH 259: INTRODUCTORY PHYSICS LECTURE II 4 s.h.

A continuation of PH 258, an introductory course in physics designed for physics majors and pre-engineers. This course includes electricity, magnetism, light, and atomic physics. PH 269 must be scheduled concurrently with PH 259 by physics majors and pre-engineers. Prerequisite: PH 258. Each spring.

PH 269: INTRODUCTORY PHYSICS LABORATORY II 1 s.h.

This laboratory complements PH 259, and should not be scheduled by students who are not also enrolled in PH 259. Experiments performed in this laboratory include DC electricity, magnetism, AC electricity, light lenses, and spectrometers. There is a continuation of computer usage in this laboratory. Each spring.

PH 350: MECHANICS/STATICS 3 s.h.

An intermediate course in the mechanics of static objects. Topics include studies of force in equilibrium, calculation of centroids and moments of inertia, and the analysis of forces on structures and trusses. Prerequisites: PH 251 or 258, and MATH 271. Each fall.

PH 351: MECHANICS: DYNAMICS 3 s.h.

This is an intermediate course in the mechanics. Techniques from vector analysis and differential equations are used to study mechanics at a level above that of PH 258. Topics include Newton's laws of motion, rectilinear motion under the influence of a variable force, oscillatory motion, energy, momentum, motion in three dimensions, central forces, celestial mechanics, systems of particles and rigid body motion. Prerequisites: PH 252 or 259; MATH 350. Each spring.

PH 352: ELECTRICITY AND MAGNETISM 3 s.h.

An intermediate-level course in electricity and magnetism. Vector algebra will be used extensively in the presentation and development of the basic empirical laws of electromagnetism, and vector calculus will be introduced as required in the derivation and expression of Maxwell's equations. Topics include: electrostatics, dielectric media, current and circuits, magnetic fields, magnetic media, Maxwell's equations for vacuum and dielectric media, and electromagnetic waves. Prerequisites: PH 259 (or 252) and MATH 350 which may be taken concurrently. Each fall.

PH 353: MODERN PHYSICS I 3 s.h.

This is an intermediate course on modern physics. Topics include relativity, kinetic theory of matter, the photon, electron waves, the Bohr model of the hydrogen atom, the Schrodinger wave equation, solution of the Schrodinger wave equation for the hydrogen atom, atomic physics. Prerequisites: PH 252 or 259; MATH 270 with MATH 271 concurrently. Fall, even-numbered years.

PH 354: OPTICS 3 s.h.

This is an intermediate course in geometrical, physical, and modern optics. Topics include thin lenses, thick lenses, interference, diffraction, polarization, color theory, spectra, lasers, holography, and fiber optics. Prerequisites: PH 252 or 259; MATH 271, with MATH 272 concurrently. Fall, odd-numbered years.

PH 355: MODERN PHYSICS II 3 s.h.

A continuation of Modern Physics I, including structure and spectra of molecules, band theory of solids, structure of the nucleus, radioactive decay, nuclear reactions, radiation detectors, and elementary particles. Prerequisites: PH 353, MATH 272. Spring, odd-numbered years.

- PH 356: THERMODYNAMICS 3 s.h.**
This is an intermediate course in heat. The basic concepts and principles are developed more intensively in the study of properties of gases and in thermodynamics. Some of the specific topics studied are temperature measurements, thermal expansion, specific heat, thermal conductivity of solids and liquids, thermal properties of gases, change in phase, and heat engines. Prerequisites: PH 252 or 259; MATH 272. Spring, even-numbered years.
- PH 357: INTRODUCTION TO THE THEORY OF THE SOLID STATE 3 s.h.**
The course will include the study of crystal structure, bonding, imperfections, electronic properties of solids, and semiconductors. Prerequisites: PH 353, 355. Fall, odd-numbered years.
- PH 371: EXPERIMENTAL PHYSICS I 3 s.h.**
 An intermediate-to-advanced-level laboratory, including experiments spanning the areas of heat, mechanics, electricity and magnetism, optics, and atomic and nuclear physics. Students may select experiments from these areas according to their interests and background, and as dictated by equipment availability. Emphasis is placed on measurement precision and careful error analysis. Course includes one lecture hour per week and three laboratory hours per week (individually arranged). Prerequisites: junior-senior standing, and completion (or co-registration in) at least two of the following courses: PH 350, 351, 352, 353, 354, or 355. Each fall.
- PH 372: EXPERIMENTAL PHYSICS II 2 s.h.**
 Continuation of Experimental Physics I. The one-hour lecture requirement is omitted, and the student completes a different set of experiments. Prerequisites: PH 371 and completion of (or co-registration in) at least four of the following courses: PH351, 352,353,354,355,356, or 357. Each fall.
- PH 400: SPECIAL TOPICS IN PHYSICS 3 s.h.**
 Topics of current interest in physics, that are not covered in another course of the curriculum, will be presented. While selection of subject matter will depend on activity in the discipline that is amenable to undergraduate instruction, the course will commonly include topics from one or more of the current research areas of physics. Prerequisites: junior/senior standing and permission of the instructor, according to the preparation of the students for the topics to be covered. On demand.
- PH 453: INDEPENDENT STUDY IN PHYSICAL MEASUREMENTS 2 to 6 s.h.**
This is a course in the theory and use of precision measuring devices covering most of the areas of physics. Experiments are devised to fit background and needs of the individual student, exploiting the equipment from all of the various special laboratories of the Physics Department. Students will work from three to six hours each week on experimental projects, according to the credit they elect upon consultation with their advisors.
- PH 455: ANALOG ELECTRONICS 3 s.h.**
 An introduction to network analysis, A.C. circuits, and solid state devices. Topics include discrete devices, power supplies, amplifiers, oscillators, and operational amplifiers. Particular attention is given to the application of circuits to scientific instruments. Prerequisites: PH 259/269 or PH 252, and a course in integral calculus. Spring, even-numbered years.
- PH 456: DIGITAL ELECTRONICS 3 s.h.**
This course includes an introduction to gate circuits, Boolean algebra in the minimization of gate circuits, flip-flops, counters, timers, the design, operation, and programming of microcomputers, D/A and A/D conversion, and the interfacing of microcomputers to external devices. Prerequisites: PH 259 and 269, or PH 252, or permission of the instructor. Spring, odd-numbered years.
- PH 457: DEMONSTRATION IN PHYSICS 2 s.h.**
 This course is designed for the secondary education major in physics and may not be used as a physics elective for the B.A. or B.S. in physics major. Preparation and performance of classroom demonstrations for use in secondary schools are stressed. Prerequisite: PH 252 or 259. On demand.
- PH 460: INTRODUCTION TO MATHEMATICAL PHYSICS 3 s.h.**
This course uses the techniques of vector calculus and differential equations to treat problems in mechanics, electricity, and other areas of physics at a level intended to prepare the physics major for graduate level work. Analog and digital computer techniques are discussed and applied to a variety of physical problems. Prerequisites: PH 258, 259, mathematics through MATH 350. Spring, even-numbered years.
- PH 461: SEMINAR 1 s.h.**
This physics seminar consists of mastering the techniques of literature-survey and library research on specific topics, together with the preparation and presentation of formal reports of a research nature. Prerequisites: senior standing, science major. Spring, annually.
- PH 498: UNDERGRADUATE RESEARCH IN PHYSICS I 3 s.h.**
This course is intended to give senior physics majors useful experience in the procedures and techniques of laboratory research in physics. Students will either participate in an on-going research project under the guidance of a faculty member, or initiate an investigation of their own. A final report in a form suitable for publication will be expected at the conclusion of the project. This course will serve as a substitute for PH 372: Experimental Physics H. Prerequisites: senior standing with a minimum QPA of 3.0 in physics and 3.0 overall. Students wishing to enroll in PH 498 must notify the department chair during their junior year, secure signature of their academic advisors and of the research project director, and must complete a university petition for enrollment in art independent study course. All approvals must be completed prior to registration for research.
- PH 499: UNDERGRADUATE RESEARCH IN PHYSICS II 1-3 s.h.**
 A continuation of PH 498, which may be used to continue specific lengthy research activities initiated in PH 498, for which one semester is insufficient time to allow project completion. This continuation is at the discretion of the project director, and the credits may not be substituted for other physics requirements. The same prerequisites must be fulfilled as for PH 498, except that notification of the department chair must precede any independent study deadlines set by the university.

Political Science

- PS210:** *INTRODUCTION TO POLITICAL SCIENCE* 3 s.h.
This course introduces students to the study of politics by examining the ideas of selected major political thinkers. Each semester.
- Ps 211:** *AMERICAN GOVERNMENT* 3 s.h.
The study of the general principles of the American system of constitutional government; special emphasis is placed upon the organization and functions of the national government-legislative, executive, and judicial. The rights and duties of citizenship, the electorate, political parties, civil rights, and the growing regulatory function of government are carefully treated. Each semester.
- PS 250:** *SPECIAL TOPICS IN POLITICAL SCIENCE*
Offered occasionally.
- Ps 300:** *STRATEGIC CONCEPTS AND INTERNATIONAL SECURITY* 3 s.h.
Strategic concepts in the 20th century as they evolved from World War I to World War II to the nuclear age. Emphasis will be placed on global nuclear strategy and regional strategic thrusts. Every other year.
- Ps 351:** *STATE AND LOCAL GOVERNMENT* 3 s.h.
Deals mainly with a detailed study of how our state and local governments function. Emphasis is placed on Pennsylvania government. Independent study through outside projects is one of the requirements of this course. Every other year.
- PS 352:** *INTERNATIONAL POLITICS* 3 s.h.
This course presents a framework for analyzing the behavior of states, the basic factors which motivate and affect international policies, and the techniques of resolving international conflicts. Every other year.
- Ps 354:** *CONSTITUTIONAL LAW OF THE UNITED STATES* 3 s.h.
A study of the development of the Constitution through the interpretations of the Supreme Court. This includes a study of the separation of governmental powers, political and judicial processes, federalism as a legal device, and the relationship of liberty and authority to the individual living under government. Prerequisite: PS 211. Spring, annually.
- Ps 355:** *POLITICAL PARTIES AND ELECTIONS* 3 s.h.
A survey course with emphasis on the study of the electorate, pressure groups, and public opinion, nature and history of political parties, party organization, methods of nominations, and elections. Special attention is given to the place of political parties and elections as instruments of democracy and their place in the framework of Pennsylvania's government. Fall, annually.
- PS 358:** *ENGLISH CONSTITUTIONAL HISTORY* 3 s.h.
A consideration of constitutional government in England from the beginning of English history to the present. The study of governmental powers, political and judicial processes, and the relationships of liberty and authority to the individual living under the government is included. Every other year.
- PS 364:** *CONSTITUTIONAL LAW-CIVIL RIGHTS/LIBERTIES* 3 s.h.
A study of the development of the Constitution of the United States through an examination of the decisions of the supreme court in the area of civil rights and liberties. A very brief introduction to some legal terminology and the case method. Prerequisite: PS 211. Spring, odd-numbered years.
- PS 365:** *ANCIENT AND MEDIEVAL POLITICAL THOUGHT* 3 s.h.
The development of political theory from Plato to Machiavelli. Every year.
- PS 366:** *MODERN POLITICAL THOUGHT* 3 s.h.
Political thought from the Reformation to the 20th century. Every year.
- Ps 375:** *PUBLIC ADMINISTRATION* 3 s.h.
An introduction to the study of public administration with emphasis on its function in the American political process. Every other year.
- Ps 390:** *COMPARATIVE FOREIGN POLICIES* 3 s.h.
Concepts for analysis of internal and external factors in making foreign policies. Emphasis will be placed on the foreign policy of the United States, the Soviet Union, the United Kingdom, Japan, West Germany, France, and China. No prerequisite. Every other year.
- Ps 451:** *COMPARATIVE GOVERNMENT* 3 s.h.
A consideration of the problem inherent in comparing political systems with emphasis on the British, French, and Soviet political systems. Every year.

Psychology

- PSY 211:** *GENERAL PSYCHOLOGY* 3 s.h.
Study is made of the general subject matter of psychology as a science and its major findings. Areas of particular emphasis include genetics, development, learning and motivation, emotions, sensation and perception, personality and abnormal adjustment, and other social behavior of groups. No prerequisite. Each semester at both Clarion and Venango campuses.
- PSY/GS 220:** *HUMAN SEXUALITY* 3 s.h.
A basic course in self-understanding. The student is given the opportunity to be informed on (A) the physical, psychological, ethical, social, and legal components of sexuality as they relate to attitudes toward self and others; (B) the roles involved in being male and female; (C) relationships as they are affected by attitudes; and (D) the responsibilities of such relationships. No prerequisite. Each semester.
- PSY 225:** *PSYCHOLOGY OF ADJUSTMENT* 3 s.h.
This course emphasizes the psychodynamics of personal growth and social interactions enabling each student to explore self-identity, social relationships, and environmental influences. Problems of personality, defense mecha-

nisms, the origin and resolution of conflicts and stress, and the role of emotions in behavior and health are studied. No prerequisite. Each semester at Clarion. Annually at Venango.

PSY

MGMT 228: HUMAN BEHAVIOR IN ORGANIZATIONS 3 s.h.

This course explores how basic psychological principles can be used to describe, explain, and predict individuals' on-the-job thoughts, feelings, and behaviors. Representative topics include personality, motivation, perception, attitudes, stress, communication, learning, leadership, group behavior, cooperation, decision-making, and research methods. B.S. business administration majors can apply this course to free electives only. No prerequisite. Annually at both the Clarion and Venango Campuses.

PSY 230: INTRODUCTORY STATISTICS FOR THE BEHAVIORAL SCIENCES 4 s.h.

Basic descriptive and inferential statistical techniques (frequency distributions, measures of variability and central tendency, correlation, regression, z, t, and F tests) will be covered. Special attention during class and a required laboratory meeting will be given to the use of those techniques in dealing with data in the behavioral sciences and their importance in the research endeavor. Prerequisite: PSY 211. Each semester.

PSY 251: RESEARCH METHODS FOR THE BEHAVIORAL SCIENCES 4 s.h.

This course is designed to familiarize students with the methods used by psychologists to systematically collect information about the behavior of people and other animals. Experiments are conducted during laboratory meetings, and particular attention is given to the appropriate style of writing research reports. PSY 211 and PSY 230 are prerequisites; concurrent registration with PSY 230 permitted only with consent of the instructor. Each semester.

PSY/GERO/

SOC 253: INTRODUCTION TO GERONTOLOGY 3 s.h.

This course will provide a general introduction to social gerontology with emphasis upon the typical aspects of aging. It will review current hypotheses and findings concerning aging processes. No prerequisite. Annually.

PSY 259: COMPARATIVE PSYCHOLOGY 3 s.h.

A study of the underlying genetics and biological controlling mechanisms of animal and human behavior. Special emphasis given to role of evolution and natural selection in the development of behavior adaptations and to behavioral comparisons between species. Prerequisite: PSY 211. Every other year.

PSY 260: DEVELOPMENTAL PSYCHOLOGY 3 s.h.

This course is a survey of research and theory on human life-span development. Students will study social, cognitive, emotional, and physical aspects of development from conception to death. Prerequisite: PSY 211. Each semester at Clarion. Annually at Venango.

PSY 321: PSYCHOLOGY OF ADOLESCENCE 3 s.h.

This course focuses on the cognitive, emotional, social, and physical changes of adolescence. Through such topics as emerging sexuality, intimacy, identity formation, moral development, and vocational development, students will gain an appreciation for the unique developmental challenges of adolescence. Prerequisites: PSY 211 and PSY 260. Annually.

PSY 331: CHILD PSYCHOLOGY 3 s.h.

This course focuses on cognitive, social, emotional, and physical development from conception through childhood. Special attention is given to such issues as the interaction between nature and nurture, how children learn, moral development, parenting styles, and discipline. Prerequisites: PSY 211 and PSY 260. Annually at both Clarion and Venango.

PSY 340: PSYCHOLOGY OF WOMEN 3 s.h.

Empirical and theoretical concepts from all areas of psychology provide a base for the study of the changing role of women and the psychological effects upon the individual. Topics include sex-role development consequences, women's alternative roles, women in relation to their bodies, a social-psychological analysis of the women's movement, and mental health considerations. Prerequisite: PSY 211. Annually.

PSY 350: INDUSTRIAL PSYCHOLOGY 3 s.h.

This course focuses on applying theories and methods of scientific psychology to improve the way organizations select, train, motivate, retain, and evaluate employees. No prerequisite, but PSY 211 and PSY 230 are recommended. Annually.

PSY 352: PSYCHOPHARMACOLOGY 3 s.h.

This course will examine how drugs effect neurotransmitter systems to control behavior. It will emphasize neurochemical and neuroanatomical explanations of pharmacological effects. The major classes of psychoactive drugs will be examined with respect to the mechanism of action of the drug and what the drug effect reveals about normal central nervous system functioning. Prerequisite: PSY 211 or consent of instructor. Alternate years.

PSY 354: ABNORMAL PSYCHOLOGY 3 s.h.

A survey is made of the principal forms of behavior disorders with emphasis on their etiology, diagnosis, prognosis, and treatment. Prerequisite: PSY 211. Annually.

PSY 355: SOCIAL PSYCHOLOGY 3 s.h.

Study is made of the interpersonal relations of humans and how these are affected by society's norms and values. Prerequisite: PSY 211. Annually.

PSY 357: INTRODUCTION TO PSYCHOLOGICAL TESTING 3 s.h.

Covers the nature and use of tests, including intelligence, personality, aptitude, interests, and achievement. The student will also prepare behavior objectives, construct tests of items which sample the objectives, administer the tests, and analyze the results. Prerequisite: PSY 211, 230, or the permission of the instructor. Every other year.

PSY 360: SPECIAL TOPICS 3 s.h.

This course focuses on a single, broad, contemporary issue of current interest in psychology and related fields of study. Course content varies from semester to semester. May be taken three times for credit. Prerequisite: PSY 211. As required by demand.

PSY 362: COGNITIVE PSYCHOLOGY 3 s.h.

Through an examination of topics including information processing, human memory, attention, mental representation, problem solving, and intelligence, the complexities of human cognitive processes will be understood in a life-span context. Contemporary and historical models of mind will be considered to determine their usefulness in understanding the psychological bases of thinking. Prerequisite: PSY 211. Annually.

- PSY 375: HEALTH PSYCHOLOGY 3 s.h.**
This course is an introduction to the field within psychology devoted to understanding psychological influences on how people stay healthy, why they become ill, and how they respond when they do get ill. Prerequisite: PSY 211. Annually.
- PSY 393: INDEPENDENT STUDY 1-3 s.h.**
An opportunity for the student to explore an area of special interest in depth for variable credit under the supervision of a member of the department and with approval of the chairperson. Open to juniors and seniors. Prerequisite: PSY 211.
- PSY 452: PHYSIOLOGICAL PSYCHOLOGY 3 s.h.**
The basic goal of this course is to discover the physical and biological mechanisms underlying behavior. Topics include drugs and behavior, perception, emotions and motivation, sleep, learning and memory, language, psychopathology, etc. A variety of laboratory methods and techniques are introduced via demonstrations. Open to Juniors and seniors. Prerequisites: PSY 211, 230, and 251 or with consent of instructor. Annually.
- PSY 454: PERSONALITY 3 s.h.**
Systematic study is made of the development, dynamics, and structure of the self-system, together with a critical comparison of the major theories of personality. Prerequisite: PSY 211. Annually.
- PSY 455: LEARNING AND MEMORY 3 s.h.**
This course will survey attempts to understand and explain teaming and memory. Emphasis is placed on a comparison of current theories and their implications when applied to forms of learning and memory from the simple to the complex. Prerequisites: PSY 211, 230, and 251 or with consent of instructor. Annually.
- PSY 456: HISTORY AND SYSTEMS OF PSYCHOLOGY 3 s.h.**
In this course the student will examine the foundations of psychological thought and its development from Greek civilization through the reformation and to a period of quasi-maturity in the formal system of the late 19th and early 20th centuries. Prerequisites: PSY 211, 230, and 251. Annually.
- PSY 457: ADULT DEVELOPMENT 3 s.h.**
Study of the development of human adult behavior from early adulthood through middle age. Special attention is given to the physical, emotional, intellectual, and social aspects of adult development. Prerequisites: PSY 211 and PSY 260. Annually.
- PSY 458: SENSATION AND PERCEPTION 3 s.h.**
The sensory-perceptual processes will be studied with a view to understanding their structure properties and their role in the psychological functioning of human beings. Particular emphasis will be placed on vision and hearing and the differences within and between individuals. Prerequisite: PSY 211, 230, and 251 or with consent of instructor. Every other year.
- PSY 460: BEHAVIOR THERAPY 3 s.h.**
This course is designed to introduce students to the field of behavior therapy. Both theoretical foundation and applications to a variety of problems in varied settings will be addressed. Current trends, issues, and ethics in behavior therapy will also be covered. Prerequisites: PSY 211 and PSY 455. Annually.
- PSY 464: INTRODUCTION TO COUNSELING AND PSYCHOTHERAPY 3 s.h.**
This course will introduce students to the field of counseling and psychotherapy. The course surveys the major models in the field, with focus on assumptions and applications in a variety of settings. Professional issues, ethics, and current topics are also covered. Prerequisites: PSY 211 and PSY 354 (or approval of instructor). Each semester.
- PSY 465: RESEARCH SEMINAR 3 s.h.**
This course is designed to give students the opportunity to conduct research under the direction of an individual faculty member in the department. Normally the research will be of an experimental nature; however, other projects will also be considered. The work will culminate in a paper of distinguished quality. Prerequisites: PSY 211, PSY 251, and permission of instructor. Annually.
- PSY 467: GERONTOLOGICAL PSYCHOLOGY 3 s.h.**
Study of the changes in human behavior from late adulthood until death. Special attention is given to the physical, emotional, intellectual, and social aspects of later life. Prerequisites: PSY 211 and PSY 260. Annually.
- PSY 470: SENIOR SEMINAR IN PSYCHOLOGY 3 s.h.**
An advanced course designed to bring together information from a wide range of psychological sub-disciplines and to provide the student with an opportunity to see how the various aspects of psychology interrelate. Emphasis is placed on analysis of controversial issues, with the intent of developing both the student's expertise in psychology and ability to dissect theoretical controversy. Prerequisites: PSY 211, 230, and 251. Annually.
- PSY 471: INTRODUCTION TO CLINICAL CHILD PSYCHOLOGY 3 s.h.**
This course is designed to introduce students to the field of clinical work with children. Topics will include major diagnostic categories and theories of etiology related to clinical problems in children, as well as an overview of evaluation methods and treatment modalities designed specifically for children. Professional issues and ethics related to child clinical psychology will also be covered. Prerequisites: PSY 211, 260, and 33 I (or approval of instructor). Annually.
- PSY 499: SUPERVISED FIELD EXPERIENCE 3 s.h.**
In consultation with the instructor prior to registration, students select a human or community service agency. Ten hours per week are required. Students will be able to observe and experience the skills needed in the helping professions. May be repeated once for credit. Open to students in education, health, and human service programs. Prerequisites: junior standing, PSY 211 and at least one of PSY 350,460, 464,467. Each semester.

Real Estate

Real Estate Fundamentals and Real Estate Practice are required by the Pennsylvania Real Estate Commission to prepare for the real estate salesperson licensure examination. All of the real estate courses listed below can be used to meet the educational requirements of the real estate brokerage licensure examination.

- RE 270: REAL ESTATE FUNDAMENTALS** 3 s.h.
 This course is designed as an introduction to the broad area of real estate. It seeks to lay a foundation of important principles from which a study in depth may be launched. The course is the first in a two sequence course with RE 371 that is required to fulfill the educational requirement for licensure as a real estate salesperson in the state of Pennsylvania. Offered fall and spring.
- RE 372: REAL ESTATE PRACTICE** 3 s.h.
 This course provides an introduction to the practice of real estate brokerage, real estate appraisal, real estate finance, and real estate investments. The course is the second in a two sequence course with RE 270 that is required to fulfill the educational requirement for licensure as a real estate salesperson in the state of Pennsylvania. Offered annually. Prerequisite: RE 270. Each semester.
- RE 372: REAL ESTATE LAW** 3 s.h.
 This course covers the legal relationships and legal instruments used in the practice of real estate. Prerequisite: RE 270. Offered annually.
- RE 373: REAL ESTATE FINANCE** 3 s.h.
 This course is a study of the methods of financing the purchase of real estate. Prerequisite or corequisite: RE371 or FIN 370. Offered biennially.
- RE 374: REAL ESTATE BROKERAGE** 3 s.h.
 Brokerage of real estate deals with the relationship between the broker, the client, and the customer; the broker and the salesperson; and the broker and the public at large. The course also emphasizes the operation and management of a brokerage office as well as ethical issues in business practice. Prerequisite or corequisite: RE 371. Offered biennially.
- RE 470: RESIDENTIAL REAL ESTATE APPRAISAL** 3 s.h.
 This course is designed to introduce the principles of real estate appraisal. It focuses primarily upon those appraisal techniques and analyses which concern the estimation of the value of one-to-four family residential property. Prerequisite or corequisite: RE 371. Offered biennially.
- RE 471: REAL ESTATE INVESTMENT ANALYSIS** 3 s.h.
 This course is designed to provide the necessary background to evaluate prospective real estate investment. The course will examine both financial and non-financial aspects of investing in real property including risk, portfolio impacts, and income taxation consequences. Prerequisites: RE 371. Offered biennially.
- RE 472: INCOME PROPERTY APPRAISAL** 3 s.h.
 This course is designed to provide advanced instruction in income property appraisal. The course will address the techniques and analysis necessary to estimate the value of an income producing property. Prerequisite: RE 470. Offered biennially.
- RE 475: REAL ESTATE MANAGEMENT** 3 s.h.
 This course is designed to provide instruction in the management of may property. The course will examine the maintenance, operation, and marketing of real estate. Prerequisite or corequisite: RE 371. Offered biennially.

Rehabilitative Science

- REHB 110: HUMAN EXCEPTIONALITIES** 3 s.h.
 The course is a study of the causes, characteristics, and implications-educational, social, and vocational- of persons who are exceptional because of intelligence, physical development, behavior, vision, hearing, and speech. It also acquaints prospective professional personnel with vocational opportunities in special education and rehabilitation. Each semester on Clarion Campus, and Fall Semester at Venango Campus. Multicultural education will be applied.
- REHB 115: HUMAN RELATIONS SKILLS TRAINING** 2 s.h.
 This course has been designed to help students grow in their ability to communicate feelings and thoughts, to interact positively and sensitively in group situations, and to apply interpersonal skills to the resolution of professional problems in special education settings. Each semester on Clarion Campus; Fall Semester at Venango Campus.
- REHB 125: EARLY FIELD EXPERIENCES** 1 s.h.
 An early exposure to types of special education programs for various types of exceptional individuals, including community programs, institutions, and schools. Each semester on Clarion Campus, and Spring Semester at Venango Campus.
- REHB 240: NEUROLOGICAL IMPAIRMENTS AND PHYSICAL DISORDERS** 3 s.h.
 The course presents the major physical anomalies, the reaction of family and individuals to the handicap, therapeutic procedures, rehabilitation services, and direct contacts with persons in programs for the handicapped. Prerequisite: REHB 110. Each semester on Clarion Campus, and Fall Semester at Venango Campus.
- REHB 345: SECONDARY, TRANSITIONAL, AND VOCATIONAL SERVICES** 3 s.h.
 This course will examine issues and options relative to secondary educational and vocational services for the disabled. Each semester.
- REHB 405: SUBSTANCE ABUSE** 3 s.h.
 Participants engage in the study of the physiological and psychosocial implication of drug or alcohol abuse, over-medication, and drug dependence, with emphasis on the process of intervention, advocacy, treatment, and prevention. Fall Semester.
- REHB 410: PREVENTION AND TREATMENT STRATEGIES IN SUBSTANCE ABUSE** 3 s.h.
 Participants engage in the study of societal pressures and attempts to prevent substance abuse and treatment strategies along with the comparative analysis of efficacy. Prerequisite: REHB 405. Spring Semester.

REHB 4601

560:

MODELS OF HUMAN SERVICES DELIVERY SYSTEMS

3 s.h.

This course analyzes the purposes, structure, and context of the entire network of human services delivery models in Pennsylvania with comparative reference to selected models outside of Pennsylvania. Prerequisite: SPED 230. Fall, annually.

REHB 470/

570:

ASSESSMENT AND INTERVENTION STRATEGIES

3 s.h.

This course features a practical hands-on approach to assessment and intervention with a variety of specific populations. Target groups include persons with mental retardation, mental disorders, and chemical dependency, as well as aging and adolescent populations. The course covers fundamental issues, applied strategies, and assessment techniques leading to the formulation, implementation, and evaluation of therapeutic treatment plans. Prerequisite: REHB 460.

REHB 475/

575:

ADMINISTERING REHABILITATION DELIVERY SYSTEMS

3 s.h.

The course is a study of the business and personnel aspects of functioning in and managing human service delivery systems. Topics relating to organizing, operating, and managing human service systems are discussed relative to legal, economic, and personnel standards and practices. It prepares students to interact with legal, financial, and business experts in the operation and development of rehabilitation services. Prerequisite: REHB 460. Spring, annually.

REHB 495:**FIELD EXPERIENCE IN REHABILITATIVE SCIENCES**

6 s.h.

This is a full-time, semester-long supervised experience in community based habilitation programs for developmentally disabled persons, including professional development experiences in community residential programs, vocational rehabilitation services, and MH/MR Base Service Units or similar social services. Prerequisites: REHB 460, 470, and 475. Each semester.

Waiver: Changp in prerequisite maybe made with approval of the department chair and course instructor.

Science Education

SCED 322:**TEACHING OF ELEMENTARY SCIENCE**

3 s.h.

Methods of presenting science in the elementary school. Experiences are provided in learning process, scope and sequence of science concepts, methods of investigation, problem solving, laboratory skills, scientific attitudes, newer curricula, reading materials, observing and working with elementary school children, and developing, teaching, and evaluating lessons. Two hour lecture and two hours laboratory weekly. Each semester.

SCED 400:**SPECIAL TOPICS IN SCIENCE EDUCATION**

1-4 s.h.

This course deals with topics of special interest to persons interested in science education or pursuing teacher certification. Admission by permission of instructor. On demand.

SCED 456:**ELECTRONICS FOR THE HIGH SCHOOL SCIENCE TEACHER**

4 s.h.

The course is intended for the science teacher who has had a little or no previous course work in physics or mathematics. The subjects covered include the fundamental law of electricity and magnetism, alternating current theory, and the theory and practical application of such devices as ammeters, voltmeters, oscilloscopes, vacuum tubes, transistors, power supplies, amplifiers, and oscillators. Examples of some of these devices will be built in the laboratory, and general procedures for trouble-shooting faulty equipment will be illustrated. Summer only, on demand.

SCED 460:**SCIENCE CURRICULA IN THE MIDDLE AND JUNIOR HIGH SCHOOL**

3 s.h.

A course designed to acquaint students with modern science curricula for the junior high/middle school levels. Recent developments in curricula objectives, science content, teaching strategies, and laboratory activities are stressed. Individual projects included. Fall, annually.

SCED 463:**ASTRONOMY: OBSERVATION AND FIELD STUDIES**

3 s.h.

This is a course in the experimental tools and methods useful in astronomy. It is not an encyclopedic survey of astronomy, but concentrates on mastery of important techniques and concepts by a "do-it-yourself" process. It complements courses in descriptive astronomy (ES 200 and 201 and SCED 550) rather than duplicating them, serving much the same purpose as a laboratory in astronomy. The student will build simple telescopes, spectroscopes, and other astronomical instruments. Summer only, on demand.

SCED 466:**FIELD PHOTOGRAPHY**

3 s.h.

This course is designed to teach the student how to use a modern camera and accessories to photograph subjects in the field. Techniques of close-up, telephoto, and wide-angle photography as well as film development, lighting, use of filters, and composition will be included. In addition, the student will have a chance to learn and practice techniques for photographing such objects as small animals, birds, flowers, large animals, and other field subjects. Camera and film to be provided by students. Summers only, on demand.

SCED 485:**PLANETARIUM OPERATION AND MANAGEMENT**

3 s.h.

An introduction to the techniques of operation and maintenance of planetarium projects. Opportunities are provided for writing and presenting programs at various levels of instruction. The use of auxiliary projectors, the production of audio-visual materials, multi-media displays, and live versus programmed presentations are emphasized. Prerequisite: ES 200 and 201 or consent of instructor. On demand.

SCED 499:**SCIENCE STUDENT TEACHING SEMINAR**

1 s.h.

All biology and general science student teachers are required to meet for this seminar. Students will be expected to participate in these small group discussions by asking questions that have arisen during the time since the last seminar and to share some of the practical techniques and ideas they have discovered. Students will be evaluated as to their willingness to seek out answers to their personal questions and to stimulate their peers with provocative questions and practical solutions. Prerequisite: Concurrent with student teaching.

SCED 5761 **SCIENCE, TECHNOLOGY, AND SOCIETY:**
BIOL/ES 476: **TOPICS FOR TEACHERS** 3 s.h.
 STS is an interdisciplinary course covering topics in biology, earth science, chemistry, and physics. It is designed to acquaint students with information, curricula, and teaching methodologies appropriate for teaching STS topics in traditional science courses. Students will be involved in studies and hands-on activities concerning science computer software, testing water for chemical and biological agents, and remote sensing techniques in geology, geography, physics, and medicine. Ethical issues and scientific principles concerning computers, energy, nuclear waste, biotechnology, and others, will be investigated and discussed. Participants will develop curriculum activities for implementation in their science discipline. This course is required for environmental biology, general science, and earth science certification. Prerequisite: junior standing. Each spring.

Sociology and Social Work

Soc 211: **PRINCIPLES OF SOCIOLOGY** 3 s.h.
 This is the basic course in sociology dealing with the interaction arising from the association of human beings. Emphasis is placed upon social heritage: the meaning and functions of culture: the characteristics of major social institutions. Each semester.

SOC 250: **SPECIAL TOPICS IN SOCIOLOGY**
 Offered occasionally.

SOC/PSY/
GERO 253: **INTRODUCTION TO GERONTOLOGY** 3 s.h.
 This course will provide a general introduction to social gerontology with emphasis upon the typical aspects of aging. It will review current hypotheses and findings concerning aging processes. Fall Semester.

SOC 300: **INTRODUCTION TO SOCIOLOGICAL RESEARCH** 4 s.h.
 An introduction to the social research process and methods of sociology, including the logic and methods of science; fundamental research methodologies; designs and strategies; basic techniques of data collection, organization, analysis, and presentation. Prerequisites: SOC 211; 3 hours in statistics or permission of the instructor.

Soc 310: **MAJOR FORCES AND FIGURES IN SOCIOLOGY** 3 s.h.
 History of pioneers in the field and their conceptualization of sociology as a science; focuses on the works of particular sociologists whose concepts not only have historical interest but also great impact on the subject matter and methods of contemporary society. Comte, Durkheim, Marx, and Weber to be considered in greater depth. Prerequisite: SOC 211 or permission of the instructor.

SOC 321: **SOCIOLOGY OF WORK** 3 s.h.
 A study of occupational and organizational work settings, social meanings, types, and social functions of work. Unemployment and its social causes and consequences will also be analyzed. Selected work place reforms and proposed structural changes of work will be studied. Prerequisite: SOC211 or ANTH 211. Once annually.

Soc 340: **THE SOCIOLOGY OF CONFLICT RESOLUTION** 3 s.h.
 Analysis of social conflict and an introduction to the dynamics of conflict resolution. Emphasis is on examining theories and methods of active nonviolent conflict resolution in small group and large organizational settings. Topics include violence, types of noncooperation, categories of intervention in conflict situations, and civilian-based defense. Cross-cultural data will be used extensively. Prerequisite: SOC 211. Once, annually.

SOC 351: **TEMPORARY SOCIAL PROBLEMS** 3 s.h.
 This course deals with problems that affect the integration and functioning of society as a whole. Such topics are economic concentration, physical violence, injustice, and nuclear war as well as selected solutions to these social problems. Prerequisite: XX211 or permission of the instructor. Once annually.

SOC 352: **THE FAMILY** 3 s.h.
 This course deals with the development of the family and the home in its historical, economic, and legal aspects. The various factors influencing the organization, disorganization, and reorganization of the family as well as the modern trends in the basic institution are considered. Prerequisite: SOC 211 or permission of the instructor.

SOC 353: **SOCIOLOGY OF AGING** 3 s.h.
 An overview of aging populations in an industrial societies. Study of influences of social systems, institutions, and cultural and environmental factors on successful aging. Examination of age status, role changes, family relationships, social networks, and living environments over the life span. Planned visits to long-term care homes are required. Prerequisite: SOC 211 or SOC 253 or permission of the instructor.

SOC 361: **SOCIOLOGY OF DEVIANCE** 3 s.h.
 The course examines deviance as a constant social phenomenon, as well as forms of behavior which may be classified as deviant, especially in terms of American society. Emphasis will be given not only to the nature and forms of deviance, but also the reactions and orientations to deviance on the part of the deviant and of the larger society. Prerequisite: SOC 211 or permission of the instructor.

SOC 362: **RACIAL AND ETHNIC MINORITY PROBLEMS** 3 s.h.
 Background of racial and ethnic minority group relations. Contemporary aspects of inter-ethnic and inter-racial group problems. Proposals for alleviating and resolving problems and their implications. Prerequisite: SOC 211 or permission of the instructor. Once annually.

SOC 363: **URBAN SOCIOLOGY** 3 s.h.
 Study of urban communities, their composition, structure, and development in relation to other types of communities. The growth of mass urban society, population shifts, and trends, and their implications for basic social institutions. Special emphasis upon contemporary urban problems and proposals of urban planners and community developers to meet them. Prerequisite: SOC 211 or permission of the instructor.

SOC 370: **POPULATION AND ENVIRONMENT** 3 s.h.
 A study of factors influencing the quality and quantity, distribution, growth, and movement of populations. An examination of population trends and the implication for social problems and social policy. Prerequisite: SOC 211 or permission of the instructor.

- SOC 380:** **COMMUNITY INSTITUTIONS** 3 s.h.
 Analysis and study of the nature of community from a sociological perspective focusing on the structure, functions, and interrelationships of its institutions and theories of community organization and development.
- SOC 395:** **SOCIAL CHANGE** 3 s.h.
 Analysis of social change processes through study of major theories of social change and recent investigations in the general area of social change. Examination of major social forces and movements shaping contemporary patterns of social change, e.g., industrialization, rationalization, urbanization. Studies of the impact of inventions, discoveries, revolutions, reform movements, and attempts to direct the course of change through various types of planning and development programs. Prerequisite: SOC 211 or permission of the instructor.
- SOC 400:** **INDEPENDENT STUDY IN SOCIOLOGY**
 Concentrated exploration and study of a problem or area of sociology not covered by existing courses and in accord with the student's interest and needs and under the direction of department faculty member. Prior to enrolling in the course, students are required to submit a written proposal outlining their plan of study for the instructor with whom they will be working. Enrollment limited to juniors and seniors with consent of the instructor. Maximum number of credits in SOC 400 is limited to nine.
- SOC 452:** **SEX, GENDER, AND SOCIALIZATION** 3 s.h.
 Investigates the social consequences of the cultural universal that all societies categorize their members according to sex. Focus is on the learning, maintaining, and changing of gender roles in various institutional settings, especially the family, education, religion, politics, and work. Prerequisite: SOC 211.
- SOC/SW 499:** **SUPERVISED FIELD PLACEMENT** 3 s.h.
 With the approval and under the supervision of a member of the faculty in sociology, students are placed in field-work settings, e.g., child welfare agencies, offices of aging, divisions of the criminal justice system, community development agencies, etc., where they will observe and work with persons responsible for carrying out a range of specific human services. Requires a 10-hour commitment each week. May be repeated once for credit. Prerequisites: permission of instructor, junior standing, and six hours in sociology.
- SW 311:** **PRINCIPLES OF SOCIAL WORK** 3 s.h.
 An overview of social work as a profession with an introduction to social welfare agencies, institutions, and delivery systems. Students will examine a basic set of concepts, principles, and elements of practice. Prerequisites: SOC 211 and either SOC 351 or 363 or consent of the instructor. Fall, annually.
- SW 312:** **SOCIAL WORK WITH GROUPS** 3 s.h.
 A study of the practice of group work, one of the core methods of social work, with emphasis on strategies used in various social work settings. Spring, annually.

Spanish

In addition to the courses listed below, students of Spanish have an opportunity to study for a summer, a term, or an entire academic year in Spain and/or Mexico.

- SPAN 101:** **SPECIAL TOPICS: THE EUROPEAN MIND** 3 s.h.
 Historical and contemporary developments to the European intellectual scene will be covered by experts on individual countries with regard to their relevance for the present American student generation.
- The special subject of each semester offering will be announced in pre-registration. Open to all students of the university without prerequisites and may be taken up to three times for credit, provided that different topics are offered. Two-year cycle.
- SPAN 109:** **SPANISH Literature IN TRANSLATION** 3 s.h.
 A study of representative Spanish literary works, with particular emphasis on the characters and ideas which have influenced both Spanish and other literatures. The course is conducted in English; no knowledge of Spanish required; no prerequisites. Two-year cycle.
- *SPAN 150:** **INTENSIVE ELEMENTARY SPANISH** 6 s.h.
 Equivalent to SPAN 151 and 152 offered every fall.
- SPAN 151:** **SPANISH I (ELEMENTARY I)** 3 s.h.
 Essentials of grammar, with emphasis on aural comprehension and oral expression. Each semester.
- SPAN 152:** **SPANISH II (ELEMENTARY II)** 3 s.h.
 Continuation of SPAN 151, with increasing emphasis on graded reading material. Prerequisites: SPAN 151 or equivalent. Each semester.
- SPAN 153:** **ELEMENTARY SPANISH CONVERSATION** 3 s.h.
 Conversational practice, with extensive oral drill or grammatical patterns. Designed for those students who have met the prerequisites for SPAN 251 but are lacking in aural-oral proficiency. May be taken concurrently with SPAN 251. Spring, annually.
- SPAN 225:** **INTRODUCTION TO SPANISH PHONETICS AND PRONUNCIATION** 3 s.h.
 An introduction to the Spanish phonetic system, including the study of phonemes, intonation, stress, and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: SPAN 152 or equivalent. Three-year cycle.
- *SPAN 250:** **INTENSIVE INTERMEDIATE SPANISH** 6 s.h.
 Equivalent to SPAN 251 and 252 offered every spring.

**As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may receive only three credits for them, i.e., the three credits they would normally receive for a 152 or 252 course.*

- SPAN 251:** **SPANISH III (INTERMEDIATE I)** 3 s.h.
Systematic review of basic grammar; graded readings, conversation, translation, and composition of selected topics. Prerequisite: SPAN 152 or two years of high school study and/or a satisfactory placement test score. Fall, annually.
- SPAN 252:** **SPANISH IV (INTERMEDIATE H)** 3 s.h.
Intensive reading of selected works; outside reading, with oral and/or written reports. Prerequisite: SPAN 251 or a satisfactory placement test score. Spring, annually.
- SPAN 253:** **COMMERCIAL SPANISH** 3 s.h.
A study of commercial terminology and style, with extensive practice in the writing of business letters of various kinds. Prerequisite: SPAN 251 or equivalent. Economics and business administration majors may substitute this course for SPAN 252. Two-year cycle.
- SPAN 255:** **HISPANIC CIVILIZATION I** 3 s.h.
A survey of Hispanic geography, history, literature, and culture designed to equip students with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisite: SPAN 252 or four years of high school study and/or a satisfactory placement test score. Required of Spanish majors. Three-year cycle.
- SPAN 256:** **HISPANIC CIVILIZATION II** 3 s.h.
Continuation of SPAN 255, which is, however, not a prerequisite. Three-year cycle.
- SPAN 260:** **THE HISPANIC SHORT STORY** 3 s.h.
A study of representative short stories by Spanish and Latin American writers of the modern period. All readings and discussions in Spanish. Two-year cycle.
- SPAN 265:** **INTERMEDIATE CONVERSATION** 3 s.h.
Practice creative language use in conversation to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary or intermediate language courses and are lacking in aural-oral proficiency. May be substituted for SPAN 251 or 252 or used for major credit. Two-year cycle.
- SPAN 351:** **ADVANCED SPANISH GRAMMAR AND COMPOSITION** 3 s.h.
Intensive written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-Spanish translation and free composition on everyday topics. Prerequisites: SPAN 255 and 256 or a literature course. Three-year cycle.
- SPAN 352:** **READINGS IN SPANISH LITERATURE FROM THE MIDDLE AGES TO THE GOLDEN AGE** 3 s.h.
This course will offer a survey of readings in prose, poetry, and theatre from the 11th to the 16th century. The purpose of the course is to introduce students to the age in which Spain as the first nation state of Europe was formed. Emphasis will be placed on the four prime influences which forged the nation and became the most important sources of its artistic creation: Roman, Germanic and Moorish, and the Catholic Church. Emphasis will also be placed on the essential role of women in the formation of Spain as a nation. Prerequisites: Reading and writing ability in Spanish at the 300 level.
- SPAN 353:** **READINGS IN SPANISH LITERATURE FROM THE GOLDEN AGE TO THE TWENTIETH CENTURY** 3 s.h.
This course will offer a survey of readings from the 16th to the 20th Century. The course will introduce students to literature of Spain from the time of its rise to the most powerful European nation and largest empire to its decline and, eventually, present position among the democratic European nations. Attention will be placed on the tendency of Spanish writers to ask the hard questions of themselves and their nation regarding personal freedom and justice, the causes of a nation's rise and fall, etc. Involved in these matters are also to be found some profound images of women produced by both male and female writers which must be studied as well in order to appreciate the full dynamics of Spanish literature. Prerequisite: Reading and writing ability in Spanish at the 300 level.
- SPAN 354:** **THE MODERN SPANISH NOVEL** 3 s.h.
The development of the novel in Spain during the 19th and 20th centuries, with emphasis upon the discussion of realism, regionalism, and naturalism. Three-year cycle.
- SPAN 355:** **THE "GENERATION OF 1898"** 3 s.h.
Discussion of the principal authors of this group and their influence on 20th century Spanish thought, with an analysis of the role played by historical events in the development of the movement. Three-year cycle.
- SPAN 360:** **READINGS IN SPANISH-AMERICAN LITERATURE FROM THE PRE-COLONIAL TO THE ROMANTIC PRESENT** 3 s.h.
Survey of the literature of Spanish-America from Pre-Columbian times to the romantic period of the last 19th century. Prerequisite: Reading and writing ability in Spanish at the 300 level.
- SPAN 361:** **SPANISH-AMERICAN LITERATURE FROM MODERNISM TO THE TWENTIETH CENTURY** 3 s.h.
Studying both prose and poetry, the course covers the beginnings of modernism to the writers of the 20th century. Prerequisite: Reading and writing ability in Spanish at the 300 level.
- SPAN 362:** **TWENTIETH CENTURY SPANISH-AMERICAN NOVEL** 3 s.h.
The development of the novel in the Spanish speaking countries of the Americas from the early 20th century to "The Boom." Prerequisite: Reading and writing ability in Spanish at the 300 level.
- SPAN 451:** **SUPERVISED READINGS IN HISPANIC LITERATURE** 3 s.h.
This course is devoted to selected readings determined in relation to the needs and interest of the individual major. On demand.

Special Education

- SPED 110: HUMAN EXCEPTIONALITIES 3 s.h.**
The course is a study of the causes, characteristics, and implications—educational, social, and vocational—of persons who are exceptional because of intelligence, physical development, behavior, vision, hearing, and speech. It also acquaints prospective professional personnel with vocational opportunities in special education and rehabilitation. Each semester on Clarion Campus, and Fall Semester at Venango Campus. Multicultural education will be applied.
- SPED 115: HUMAN RELATIONS SKILLS TRAINING 2 s.h.**
This course has been designed to help students grow in their ability to communicate feelings and thoughts, to interact positively and sensitively in group situations, and to apply interpersonal skills to the resolution of professional problems in special education settings. Each semester on Clarion Campus; Fall Semester at Venango Campus.
- SPED 125: EARLY FIELD EXPERIENCES 1 s.h.**
An early exposure to types of special education programs for various types of exceptional individuals, including community programs, institutions, and schools. Each semester on Clarion Campus, and Spring Semester at Venango Campus.
- SPED 220: NATURE OF MENTAL RETARDATION 3 s.h.**
This is a comprehensive study of the biological, psychosocial, and educational implications of retarded mental development, including a consideration of etiology; assessment and diagnosis; educational programs, including preschool and postschool; adult social and vocational adjustment; national and local programs; and research. Prerequisite: SPED I 10. Each semester on Clarion Campus, and Spring Semester at Venango Campus. Multicultural education will be applied.
- SPED 230: SOCIAL AND EMOTIONAL DISTURBANCES 3 s.h.**
This course focuses upon the nature of social and emotional disturbances, and familiarizes the student with typical behaviors utilizing current classification systems and theoretical models. History, etiology, nature, characteristics, assessment, and treatment approaches will be emphasized. Prerequisites: SPED 220, 240. Each semester.
- SPED 235: SPECIFIC LEARNING DISABILITIES 3 s.h.**
The course will focus on the nature of specific learning disabilities. The areas of concern are the history, definition, characteristics, assessment, strategies, and tactics of instruction and/or remediation, vocational implications and federal and state laws and regulations in regard to the individual who is learning disabled. Prerequisites: SPED 220, 240. Each semester.
- SPED 240: NEUROLOGICAL [IMPAIRMENTS AND PHYSICAL DISORDERS] 3 s.h.**
The course presents the major physical anomalies, the reaction of family and individuals to the handicap, therapeutic procedures, rehabilitation services, and direct contacts with persons in programs for the handicapped. Prerequisite: SPED 110. Each semester on Clarion Campus, and Fall Semester at Venango Campus.
- SPED 245: BEHAVIOR MANAGEMENT 3 s.h.**
This experience provides persons with knowledge and skills to analyze instructional settings, organize learners for instruction, and maintain a supportive learning climate for handicapped individuals. Prerequisite: SPED 110. Offered at Venango Campus only.
- SPED 250: THE HELPING RELATIONSHIP PRINCIPLES AND PROCEDURES 3 s.h.**
This course will assist students to acquire knowledge and skill in the performance of required tasks and/or roles of rehabilitative service staff in developing humanizing environments for exceptional persons in various settings. Prerequisites: SPED 230, 235, 245. Offered at Venango Campus only.
- SPED 295: FIELD EXPERIENCE 6 s.h.**
This is a half-time, full semester field experience in selected programs. The field experience will focus on assisting in the delivery of human/educational services to exceptional individuals. Prerequisites: minimum of 45 semester hours and SPED 230, 235, 245. Offered at Venango Campus only.
- SPED 320: EDUCATIONAL ASSESSMENT 4 s.h.**
The participants acquire knowledge and skills in the acquisition, analysis, and synthesis of information needed for decision-making regarding individuals with disabilities or suspected disabilities, and apply these skills in case studies. Prerequisites: SPED 230 and 235. Each semester.
- SPED 345: SECONDARY, TRANSITIONAL, AND VOCATIONAL SERVICES 3 s.h.**
Participants engage in the examination of issues and options relative to secondary educational and vocational services for individuals with disabilities. Each semester.
- SPED 400: SPECIAL TOPICS 1-6 s.h.**
This course deals with topical themes in special education to expand the knowledge and competence of teachers. Enrollment is by consent of the instructor. Summers only.
- SPED 411: EDUCATIONAL ASSESSMENT PRACTICUM 1 s.h.**
The participants conduct a child study in a school setting by selecting, acquiring, analyzing, and synthesizing information needed for educational decision-making regarding an individual with disabilities or with a suspected disability, and using the results to develop an educational intervention plan. Prerequisite: SPED 320. Each semester.
- SPED 415: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR MILDLY/MODERATELY HANDICAPPED 3-6 s.h.**
Participants engage in the process of individualizing instruction for individuals with mild to moderate disabilities, including: designing basic instructional sequences utilizing behavioral objectives, matching media and learner and goal characteristics, identifying appropriate instructional strategies, and evaluating the effectiveness of instruction. Multicultural education is addressed. Prerequisites: SPED 320; ELED 323 and 324 (rehabilitative science majors exempted). Each semester.

SPED 420: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR SEVERELY/PROFOUNDLY MULT/HANDICAPPED 3-6 s.h.

Participants engage in the process of individualizing instruction for individuals with severe/profound disabilities, including: designing basic instructional sequences using behavioral objectives, matching media, learner and goal characteristics; identifying appropriate instructional strategies; and evaluating the effectiveness of instruction. Prerequisites: SPED 320; ELED 323 and 324 (rehabilitative science majors exempted). Each semester.

SPED 425: BEHAVIOR MANAGEMENT IN SPECIAL EDUCATION SETTINGS 3 s.h.

Participants acquire knowledge and skills related to contemporary Curricular innovations in educational programs for individuals with disabilities with emphasis on sociocultural implications of changing curricular practices and the new instructional media and technology. Prerequisite: SPED 320 with exception of rehabilitative science majors. Each semester.

SPED 435: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR THE GIFTED AND TALENTED 6 s.h.

This course will be (when possible) a workshop with school children and intended to develop the capacity of the educator to plan, develop, deliver, and evaluate programs that will help the gifted and talented realize their individual and collective potential. Prerequisite: SPED 110 or teaching certificate.

SPED 440: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR CULTURALLY DIFFERENT CHILDREN 3 s.h.

This is a study of the process of individualizing instruction for children who are not members of the dominant culture and whose cultural membership significantly influences the educational process and school performance. It involves designing basic instructional sequences, selecting and matching media with learner and goal characteristics, identifying culture-appropriate instructional strategies, and evaluating the effectiveness of instruction. Summer only.

SPED 450: STUDENT TEACHING 6-12 s.h.

Observation and participation in teaching children with retarded mental development and in activities related to the performance of a teacher's work. Prerequisites: SPED 320,415,420,425.

SPED 455: PROFESSIONAL SEMINAR 2 s.h.

Problems, practices, and regulations attending student teaching professional experiences. Coordination of the student teaching program with the educational objectives of the student teaching centers. Pennsylvania school laws relevant to the work of the beginning special educator. Practical interpretations of professional ethics and the functions of professional organizations. Limited to student teachers. Each semester.

SPED 499: INDEPENDENT STUDIES IN SPECIAL EDUCATION 1-3 s.h.

This course is designed to provide students with an opportunity to explore an area of special needs or interest in special education in depth under the supervision of a faculty member of the department. Students must develop a proposed study plan and secure the approval of the department chair prior to registration. Prerequisite: junior or senior standing.

Waiver: Change in prerequisite maybe made with approval of department chair and course instructor

Speech Communication and Theatre

SCT 101-104: SPEECH COMMUNICATION AND THEATRE ACTIVITIES 1-3 s.h.

SCT 101-104 may be taken for one to three credits on a contract basis. Students may earn no more than three credits each semester through participation in one, or more than one, of the SCT activities, with a maximum of six credits possible in SCT 101-104. Credit for SCT activities is optional and voluntary participation (without credit) is also encouraged. Instructors determine the number of credits and have the authority to approve/reject any contract for credit in SCT 101-104 based on the student's interest and ability in the activity. Credits earned in SCT 101-104 may be counted toward graduation under personal development and life skills or free electives.

SCT 101: DEBATE 1-3 s.h.

One to three credits may be earned through participation on the Debate Team by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than three credits may be taken in SCT 101 during any one semester. Students should not enroll in SCT 101 and 256 for credit concurrently. Each semester.

SCT 102: INDIVIDUAL SPEAKING EVENTS PROGRAM 1-3 s.h.

One to three credits may be earned through participation on the Individual Events Team by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than three credits may be earned in SCT 102 during any one semester. Students may not enroll concurrently in SCT 102 and SCT 155, 213, or 254 without instructor permission. Each semester.

SCT 103: THEATRICAL PERFORMANCE 1-3 s.h.

One to three credits may be earned through performance in University Theatre productions by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than three credits may be earned in SCT 103 during any one semester. Students may not enroll concurrently in SCT 103 and SCT 254, 350, or 361 without instructor permission. Each semester.

SCT 104: THEATRICAL PRODUCTION 1-3 s.h.

One to three credits may be earned through participation in technical theatre by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than three credits may be earned in SCT 104 during any one semester. Students should not enroll for credit concurrently in SCT 104 and 161, 262, or 351. Each semester.

SCT 112: ORAL COMMUNICATION FOR NON-NATIVE SPEAKERS 3 s.h.

This course is designed to help college students who are non-native speakers of English to improve their oral communication competence in the U.S. An experiential learning approach, with emphasis on activities that promote involvement and interaction with the host culture will be adopted. Students are expected to make several oral

presentations. Native speakers of English are not permitted to enroll. A student may not take both SCT 112 and SCT 113 for credit.

SCT 113: *FUNDAMENTALS OF SPEECH* 3 s.h.

Study, application, and evaluation of principles of organization, evidence, reasoning, critical thinking, verbal and nonverbal behavior, one-way and two-way communication, and small group interaction in the oral communication setting; emphasis upon meeting the individual needs of students through individualized instruction utilizing communication experiences. Each semester.

SCT 115: *PARLIAMENTARY PROCEDURE* 3 s.h.

The objective of the course is to investigate procedures used by members and officers of decision-making bodies in committees, groups, government, and formal organizations. Fall, annually.

SCT 120: *THEATRE PLAY PRODUCTION* 3 s.h.

Introductory work in elements of theatre, including directing, acting, make-up, criticism, statecraft, and stage lighting. No prerequisites. Fall, annually.

SCT/ENG/

HON 125: *MODES OF DISCOURSE* 6 s.h.

An interdisciplinary course which aims to integrate the students' production of both written and spoken discourse. The course is an alternative method of teaching communication, and draws upon the skills of instructors from English and speech communication and theatre. Taken by freshmen enrolled in the Honors Program, and will replace both ENG 111 and SCT II 3. (Not open to students who have taken ENG III or SCT 113.)

SCT 155: *INTERPRETATION I* 3 s.h.

The objective of the course is to develop expressive presentational skills through practice in the oral interpretation of literature. Focus is on analyzing an author's meaning, responding to it, communicating that meaning to an audience, and correlation of oral interpretation with other arts. Fall, annually.

SCT 161: *STAGECRAFT* 3 s.h.

A study of the theory, materials, and practice of stage construction. In addition to technical instruction, significant emphasis is placed on the relationship between the dramatic function of the setting and its actual physical realization. Student projects and required production labs provide practical experience. Fall, annually.

SCT 200: *INTERPERSONAL COMMUNICATION THEORY AND PROCESSES* 3 s.h.

The course focuses on the study of interpersonal communication, specifically the investigation of major theories and research in the field and the application of those theories to improving the students' interpersonal skills. Prerequisite: SCT 113 or consent of instructor. Each semester.

SCT 201: *DANCE I* 3 s.h.

Focus on alignment, strength, flexibility, balance, and locomotor movement. Styles of dance surveyed include jazz, ballet, and tap. For actors: a working knowledge of dance styles for performance and auditions. For everyone: an exploration of personal movement potential and an appreciation for the art of dance. Fall, annually.

SCT 210: *INTRODUCTION TO RHETORICAL THEORY* 3 s.h.

The course is designed to investigate, on a fundamental level, the historical and conceptual development of the major theories of rhetorical discourse. Theories from classical to contemporary are applied to analysis of the spoken word. Course stresses speech making and criticism of historical and current political rhetoric. Spring, odd-numbered years.

SCT 213: *ADVANCED PUBLIC SPEAKING* 3 s.h.

Inquiry into the practice and principles of effective public speaking. Detailed analysis of the areas of invention, arrangement, style, and delivery, and an introduction to speech criticism as a tool to improve the speaker's own abilities. Prerequisite: SCT 113 or consent of instructor. Each semester.

SCT 214: *BUSINESS AND PROFESSIONAL SPEAKING* 3 s.h.

This course will focus upon how people use speech communication skills in business and professional settings. It will survey modern speech communication theory as well as coping in groups, listening, negotiation, influencing others, instructional communication, and barriers to effective business and professional speaking. This course is both theory and performance based, and students are expected to make several oral presentations. Prerequisite: SCT 113 or consent of instructor. Offered each semester; Spring Semester's designed section must be taken concurrently with COMM 405.

SCT 215: *SPECIAL TOPICS IN SPEECH COMMUNICATION AND THEATRE* 1-6 s.h.

This course focuses on offering special topics reflecting the interest of students. The course content varies from semester to semester. Suitable for both majors and non-majors in speech communication and theatre. May be taken for a maximum of nine credits in the major. On demand.

SCT251: *VOICE AND ARTICULATION* 3 s.h.

The objective of this course is to help students improve their speech by the elimination of faulty voice and articulation habits. Attention is given to such basic skills as vocal variety, projection, breath control, tone production, and articulation. Tape recordings are used as a helpful device of analyzing problems and noting progress. Each semester.

SCT 253: *INTRODUCTION TO THE THEATRE* 3 s.h.

A study of the techniques and contemporary practices in the organization of dramatic material, survey of division of labor for creation of dramatic material, and an analysis of the literary concepts such as realism and existentialism that motivate the contemporary audience. Each semester.

SCT 254: *ACTING I: IMPROVISATION* 3 s.h.

Creative exploration that tests student feelings and thoughts about the immediate environment and beyond. For actors: a foundation in technique. For everyone: the opportunity to respond spontaneously. Suitable general elective for non-theatre majors. Fall, annually.

SCT 255: *INTERPRETATION II* 3 s.h.

Training in the advanced techniques of the oral interpretation of the three major literary genres and their structures with respect to oral presentation: 1. poetry, 2. prose fiction, 3. drama. Prerequisite: SCT 155 or consent of instructor. Spring, odd-numbered years.

- SCT 256: ARGUMENTATION AND DEBATE** 3 s.h.
 Study of argumentation in the area of academic debate and the legal world. Emphasis is placed on applying theories and techniques of argumentation to developing analytical abilities, reasoning, use of data, and evidence to support arguments. Fall, annually.
- SCT 262: STAGE LIGHTING** 3 s.h.
 An introduction to the theory and practice of theatre lighting. Areas of study range from the purpose and aesthetics of lighting for the theatre and allied fields of television, film, and concerts, to its mechanics and control, including sections on optics, electrical theory, and color. Student projects and required production labs provide practical experience in stage lighting. Prerequisite: SCT 161 or consent of instructor. Spring, annually.
- SCT 264: DISCUSSION** 3 s.h.
 The course is designed to expand the students' knowledge of the concepts and theories of group communication. Emphasis is placed on the task, leadership, and interpersonal skills of group participants. Each semester.
- SCT 300: COMMUNICATION IN ORGANIZATIONS** 3 s.h.
 This course is designed to give insight into traditional and modern concepts of channels of communication in simple and complex organizations with emphasis on informal and formal group dynamics, interpersonal relationship, leadership, communication theory, and creativity. Considerable attention is given to interviewing. Each semester.
- SCT 302: DANCE II** 3 s.h.
 Continuation of technique learned in Dance I. Application of this technique is transferred to choreographed pieces. Students are given the opportunity to choreograph their own works and/or perform. Prerequisite: SCT 201 or consent of instructor. Spring, odd-numbered years.
- SCT 302: INTRODUCTION TO CHOREOGRAPHY** 3 s.h.
 An introduction to dance composition, with an emphasis on spatial design, sources of movement, and exploring the basic elements of space, time, and energy through improvisation, short movement studies, and dances which are presented, discussed, and reworked in class. Prerequisite: SCT 301.
- SCT 304: DANCE REPERTORY** 3 s.h.
 This course is designed to provide the student with the opportunity to learn and perform a complete dance choreographed in class by the instructor. Students will both gain experience as performers in an intensive company-workshop atmosphere and learn how an experienced choreographer uses skills of dance composition and the strengths of the dancers to choreograph a new work. The finished dance will be performed in class and as part of a student dance concert on campus. Prerequisite: SCT 301 or 302 or permission of instructor.
- SCT 310: THE RHETORIC OF CONFLICT** 3 s.h.
 This course introduces the student of rhetorical theory to the tools for analysis of individuals and groups which seek change in the political and social sphere, outside the normal decision-making process. Spring, even-numbered years.
- SCT 311: PERSUASION** 3 s.h.
 Study and practice in persuasive speaking. General theories of persuasion, the role of persuasion in a democratic society, and an introduction to modern experimental research in the area included. Spring, odd-numbered years.
- SCT 312: GENERAL SEMANTICS** 3 s.h.
 An investigation to the relationship between words and the realities they represent. Special emphasis will be given to an understanding of personal, political, and international problems that arise due to semantic breakdown in the communication process. Fall, annually.
- SCT 320: GENDER AND COMMUNICATION** 3 s.h.
 The course investigates the effects of gender roles on communication behaviors, such as naming behavior, language acquisition, professional orientation, conflict management, self-image, dress, and social roles.
- SCT 350: SUMMER DRAMA WORKSHOP** 3 or 6 s.h.
 The summer drama workshop combines study and practice in the dramatic arts and includes formal, intensive study in acting, play production, direction, makeup, scene design, stage lighting, and statecraft. In conjunction with the workshop, Clarion University sponsors a Summer Theatre Company, consisting of members of the workshop, which produces major shows. Summer, annually.
- SCT 351: ADVANCED THEATRE PRODUCTION** 3 or 6 s.h.
 Advanced study and practice in the dramatic arts, including projects in scene design, theatre management, and acting. Students will work with members of the Summer Drama Workshop in the production of major plays for the Clarion Summer Theatre. Prerequisite: SCT 120 or 350. Summer, annually.
- SCT 352: PLAY DIRECTING** 3 s.h.
 A study of the fundamentals and procedures of play directing and problems faced in educational theatre, including analysis of the script, methods of casting, and rehearsal. Students direct one-act plays for public presentation. Fall, even-numbered years.
- SCT 355: INTERPRETATION OF PROSE FICTION** 3 s.h.
 Practice in the oral expression of the dynamics of narrative prose fiction. Specifically, it affords the student of interpretation an in-depth experience with focus on gaining performance skills and developing knowledge of archetypal themes. Prerequisite: SCT 155. Spring, even-numbered years.
- SCT 357: ADVANCED DEBATE** 2 s.h.
 Further experience in competitive debating and in a variety of debating forms is provided. Prerequisite: consent of instructor. On demand.
- SCT 358: PSYCHOLOGY AND SPEECH COMMUNICATION** 3 s.h.
 This is a theoretical survey course which examines the psychological aspects of communication codes, interpersonal communication, structural communication, and the interaction of mediated communication. Spring, annually.
- SCT 359: HISTORY OF THE THEATRE** 3 s.h.
 History of plays and playwrights from the fifth century B.C. to the present. Spring, annually.
- SCT 361: ACTING 1: PRINCIPLES OF CHARACTERIZATION** 3 s.h.
 I. Basic concepts. 2. Characterization in scene study. 3. Ensemble and advanced scene study. Prerequisite: SCT 254 or consent of instructor. Spring, even-numbered years.

- SCT 362:** *STENOGRAPHY* 3 s.h.
 Study and practice in the aesthetics, methods, and techniques of scenic design, utilizing epic and Stanislavskian stenographic analysis. Prerequisite: SCT 16 I or consent of instructor. Spring, odd-numbered years.
- SCT 363:** *THEATRICAL MAKE-UP* 3 s.h.
 Fundamentals and application of stage make-up. Fall, odd-numbered years.
- SCT 364:** *SCENE PAINTING FOR STAGE* 3 s.h.
 Studio instruction in the use of brushwork and pigment to develop landscape, ornament, panelling, and architectural detail in stage scenery based on the analysis of form and source of light. Fall, even-numbered years.
- SCT 365:** *ACTING FOR TELEVISION* 3 s.h.
 Designed to acquaint the student with the visual and oral techniques of movement, voice, and characterization required for television productions. Prerequisite: acting students enrolled in the B.F. A. program or instructor's consent. Spring annually, in conjunction with COMM 460.
- SCT 366:** *PRODUCTION AND STAGE MANAGEMENT* 3 s.h.
 A study of theory and practice of production and stage management in the professional, community and educational theatre environments, including theatrical organization, rehearsal procedures, and performance duties. Fall, odd-numbered years.
- SCT 367:** *THEATRICAL COSTUMING* 3 s.h.
 The emphasis of this course is on the designing and building of costumes for the stage. Related to this basic emphasis are understanding costume history, fashion trends, and rationales, developing a sense of visual design, incorporating the elements of color, tone, shape, texture, and a sense of theatre. Student projects and required lab provide experience in the craft. Spring, even-numbered years.
- SCT 368:** *PROFESSION PRACTICES: THE AUDITION PROCESS* 3 s.h.
 The course concentrates on the preparation and practices of talent in an audition situation. Emphasis is placed on presentation for both prepared and cold audition situations and familiarity with the business aspects that are part of the auditioning process. Limited to acting students in the B.F.A. program, or by instructor's consent.
- SCT 375:** *NONVERBAL COMMUNICATION* 3 s.h.
 This course is designed to increase the awareness of students in the areas of nonverbal communication. The course describes and analyzes the various concepts of nonverbal communication, applies them to actual situations, and relates them to the entirety of the communication process. Spring.
- SCT 400:** *CROSS-CULTURAL COMMUNICATION* 3 s.h.
 The course is designed to make the student aware of the role played by culture in developing personal attitudes, values, and behavior, and to apply this awareness to communicating across cultural differences in a variety of situations, including interviewing, group discussion, and negotiation. Offered on a tri-semester basis.
- SCT/ COMM 411:** *FOUNDATIONS OF BROADCASTING* 3 s.h.
 An introduction to the broadcasting industry, including history, technical aspects, station and network organization, advertising, ratings, social influences, programming, and production. A foundation course for radio-TV career preparation, related fields of communication, and the development of knowledgeable consumers of the broadcast media. Fall, annually.
- SCT 415:** *HONORS SEMINAR IN SPEECH COMMUNICATION* 3 s.h.
 This course is made available only to students who have demonstrated a willingness and ability to undertake advanced academic work in the area of speech communication. Admission by department invitation only. On demand.
- SCT 461:** *STYLES OF ACTING* 3 s.h.
 Playing the character within the framework of the theatrical event. The course focuses on how to recognize style/period through the text and how to solve the problems of assuming and communicating style. Prerequisites: SCT 254 and 361 or consent of instructor. Spring, odd-numbered years.
- SCT 464:** *SMALL GROUP DECISION-MAKING* 3 s.h.
 This course is designed to train students in helping groups to make decisions. Through such techniques as Nominal Group Technique, Ideawriting, Delphi Method, and Interpretive Structural Modeling, students will help outside clients to make decisions or solve problems.
- SCT 470:** *COMMUNICATION CONSULTING* 3 s.h.
 The course focuses on the roles and responsibilities of the communication consultant with emphasis on the latest consulting processes, assessment procedures, problem diagnoses, intervention strategies, and client presentations. The course is designed to facilitate hands-on learning and practical applications. Students will work with outside organizations in completing a communication consulting project. Prerequisite: SCT 300 or consent of instructor.
- SCT 490:** *INDEPENDENT STUDY* 1-3 s.h.
 Selected topics for research and/or performance projects in speech communication and theatre. Prior to registration students need to obtain an advisor who will direct their study. Approval by appropriate dean required.
- SCT 495:** *INTERNSHIP IN SPEECH COMMUNICATION AND THEATRE* 1-12 s.h.
 The internship program gives the student the opportunity to apply classroom theory and techniques in business, government, theatre, and other cooperating organizations. Course open to any speech communication and theatre major with a junior or senior standing with consent of department. Student must have a 2.5 QPA or higher and 3.00 QPA in a major. On demand.

Speech Pathology and Audiology

- SPA 125:** *INTRODUCTION TO COMMUNICATION DISORDERS* 3 s.h.
 This course serves as an introduction to the area of communication disorders and encompasses the wide variety of problems that humans may have in speech, language, and hearing. Focus of the course is on the nature of such problems, their causes, their impacts on people, methods for their evaluation, and methods for their management. Included is an orientation to the professions of speech-language pathology and audiology.

- SPA 422:** *CLINICAL EXTERNSHIP* 6 s.h.
Supervised observation of and participation in clinic and/or school environments.
- SPA 450:** *SPEECH SCIENCE* 3 s.h.
This course studies models of the speech mechanism. Normal aspects of the physiology and acoustics of speech production are strongly emphasized. Fall, annually.
- SPA 451:** *ANATOMY OF SPEECH AND HEARING MECHANISMS* 3 s.h.
Study of the anatomy and physiology of the speech and hearing mechanisms. Fall, annually.
- SPA 452:** *SPEECH PATHOLOGY I* 3 s.h.
This course is an introduction to the profession of speech pathology emphasizing the description, diagnosis, and treatment of voice, articulation, and stuttering disorders. Fall, annually.
- SPA 453:** *SPEECH PATHOLOGY H* 3 s.h.
This course emphasizes the description, diagnosis, and treatment of aphasia, dysarthria, apraxia, and orofacial anomalies. Spring, annually.
- SPA 454:** *ORGANIZATION AND ADMINISTRATION OF SPEECH AND HEARING PROGRAMS* 3 s.h.
The organization and administration of clinical programs in a variety of environments are studied. On demand.
- SPA 456:** *PHONETICS AND PHONOLOGY* 3 s.h.
Transcription of normal and deviant speech using the International Phonetic Alphabet. Application of phonetics and phonemics to language and speech pathology. Instruments used in speech and hearing are studied. Spring, annually.
- SPA 457:** *DEVELOPMENTAL SEQUENCES IN LANGUAGE AND SPEECH* 3 s.h.
This course is a study of the development of language and speech in the normal child. Normative data in speech and language development are studied. Each semester.
- SPA 458:** *LANGUAGE DISORDERS IN CHILDREN* 3 s.h.
This course is designed to provide students with an understanding of language disorders in children, etiological factors associated with them, diagnostic and evaluative techniques, and therapeutic methodologies. Prerequisite: SPA 457. Spring, annually.
- SPA 460:** *HEARING PROBLEMS* 3 s.h.
The nature of hearing disorders and the audiological, medical, social, psychological, and educational implications are investigated. Fall, annually.
- SPA 463:** *SPEECH READING AND AUDITORY TRAINING* 3 s.h.
A comprehensive study of auditory rehabilitation with emphasis upon auditory training, speech reading, and speech training. Prerequisite: SPA 460. Spring, annually.
- SPA 464:** *AUDIOLOGY* 3 s.h.
A continuation of SPA 460: Hearing Problems. Prerequisite: SPA 460.
- SPA 465:** *MANUAL COMMUNICATION* 3 s.h.
The course covers a comprehensive review of the theories of manual communication, including an introduction to the major manual communication systems. The student will learn to sign and finger spell for use in communicating with and rehabilitation of the deaf and hard of hearing.
- SPA 467:** *CLINICAL OBSERVATION* 3 s.h.
This course covers basic information pertaining to the profession of speech pathology and audiology. The student is given an orientation to the facilities, equipment, and operations of the Clarion University Speech and Hearing Clinic. Various types of clinical reports are studied and the student is taught basic observational skills both in the classroom and clinic as a prerequisite for client contact for speech and hearing science majors.
- SPA 472:** *SEMINAR IN SPEECH SCIENCE* 3 s.h.
This course begins with a review of the speech mechanism as a servosystem and transducer, and basic knowledge of the physics of sound. The remainder of the course focuses attention and is structured on the concept that the speech mechanism is a chain of events physiologically, acoustically, and perceptually. Each link in this chain of events is studied in terms of basic knowledge, pertinent research, and each link's contribution to the speech chain as a whole. Prerequisite: SPA 456 or a basic course in phonetics and/or speech science. Each semester.
- SPA 4981598:** *SPECIAL TOPICS* 1-6 s.h.
Topics in various areas of speech pathology and audiology. The format used will be selected by the professor as most suitable to the study. The course may be offered on request of students, subject to the availability of staff. Enrollment by consent of the instructor. On demand.
- SPA 499/599:** *INDEPENDENT STUDIES IN SPEECH PATHOLOGY AND AUDIOLOGY I-3* s.h.
This course is designed to provide students with an opportunity to explore an area of special need or interest in speech pathology and audiology in depth under the supervision of a member of the department. Students must develop a proposed study plan and secure the approval of the proposed director and department chair prior to registration. Prerequisite: junior or senior standing. Repeatable for a maximum of 6 s.h.

Women's Studies

- Ws 100:** *SURVEY OF WOMEN'S STUDIES* 3 s.h.
This course is a survey of women's studies topics which are offered in more advanced courses. Materials from many disciplines will be used to examine various topics from a feminist perspective. Thus, women's lives will be studied across the lifespan through examining feminist material in various disciplines. Such topics as feminist pedagogy, sex role socialization, women's relationships, women as students, and women in society and history, among others, will be discussed. No prerequisite. Fall, annually.
- WS 200/300:** *SPECIAL TOPICS IN WOMEN'S STUDIES* 1-4 s.h.
Course focuses on themes and topics of contemporary and/or historical interest in the study of women and their contributions across the disciplines and in the culture at large. The special subjects of each semester's offerings

will be announced in pm-registration. This course may be repeated with approval of the advisor, provided that different topics are offered.

Ws 490: SEMINAR IN WOMEN'S STUDIES

3 s.h.

An interdisciplinary seminar synthesizing knowledge and skills acquired in lower division courses through a unifying theme. The theme will be broad enough to offer a variety of dimensions for study and research. Prerequisites: Junior standing, WS 100 plus nine additional hours of women's studies courses, or consent of instructor. Spring, annually.

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 Robert Carlson, M. Ed. Director of Athletics
 Mary Ann Fricko, Psy.D. Counselor, Department of Counseling Services

Janice Grigsby, Ph.D.	Counselor, Department of Counseling Services
Kenneth E. Grugel, M.A.	Director of Financial Aid
Scott Horch, M.A.	Resident Director
James A. Johnson, M. Ed.	Resident Director
Nancy J. Latimore, M. Ed.	Associate Athletic Director
Connie Laughlin, M. Ed.	Director of Career Services
Lori Layman, M. Ed.	Resident Director
Anthony Linan, M. Ed.	Assistant Director of Career Services
Marilynn Mikolusky, Ph.D.	Dean of Student Life Services
Barry Morris, M. A., A.C.E.	Director of Residence Life
Donald A. Nair, Ed.D.	Counselor, Department of Counseling Services
John Postlewait, M.S.	Director, Alcohol and Drug Education/Training
David Tomeo, M.A.	Director of University Centers
Mary Walter, M. Ed.	Director of Orientation Program and Assistant to Dean of Student Life Services
Harold Wassink, M.A.	Coordinator of Student Activities
Ragan Watson, M.M.A.	Assistant Director of Financial Aid
Laura Zirkle, M.A.	Resident Director

Administration and Faculty

Year in parentheses indicates year of appointment to faculty

- LEONARD M. ABATE, (1966), M. A., Assistant Professor, History
Northern Illinois University, B. A., M.A.
- LEONARD ACKERMAN, (1981), Ed. D., Professor, Administrative Science
Rutgers, The State University, B. A.; George Washington University, Ed.D.
- LOUIS ADELSON, (1990), M. S. I. S., Assistant Professor, Computer Information Science
Control Data Institute, A. S.; Washington and Jefferson College, B. A.; University of Pittsburgh, M.S.I.S.
- PAULA AMROD, (1981), D. Mus., Associate Professor, Music
Memphis State University, B. M., M. M.; Indiana University, D.Mus.
- CAROLE J. ANDERSON, (1990), M. B.A., Associate Professor, Administrative Science
Clarion University, B. S., M.B.A.
- DIANA LYNN ANDERSON, (1987), M. A., Director, Special Activity Programs
Indiana University of PA, B. A., M.A.
- J. DAVID ARNOLD, (1990), Ph. D., Interim Dean, College of Arts and Sciences
Bloomsburg University, B. A.; University of New Hampshire, M. A., Ph.D.
- DONNA MUSIALOWSKI ASHCRAFT, (1988), Ph. D., Associate Professor, Psychology
State University of New York, College at Buffalo, B. A.; State University of New York at Albany, M. A., Ph.D.
- ROBERT BALOUGH, (1981), Ph. D., Professor, Economics
Northern Illinois University, B. A., M. A., Ph.D.
- ARTHUR H. BARLOW, (1980), M. A. J. C., Associate Professor, Communication
University of Puget Sound, B. A.; University of Washington, M. A.; University of Florida, M.A.J.C
- GREGORY D. BARNES, (1976), M. B.A., CPA, Assistant Professor, Accountancy
University of Maryland, B. S., M.B.A.
- WILLIAM S. BARNES, (1984), Ph. D., Professor, Biology
Marietta College, B. A.; University of Massachusetts, Amherst, Ph.D.
- MICHAEL BARRETT, (1983), M. S., Assistant Professor, Chair, Computer Information Science
Boise State University, B. B.A.; Texas Tech University, M.S.
- JULIA BARTKOWIAK, (1992), Ph. D., Assistant Professor, Philosophy
Wayne State, B. A.; University of Michigan, M. A.; University of Rochester, M. A., Ph.D.
- NORBERT BASCHNAGEL, (1974), M.Ed., Associate Professor, Health and Physical Education
State University of New York at Buffalo, B.Ed., M. Ed.
- JACQUELINE BAUMAN-WAENGLER, (1991), Ph. D., Associate Professor, Speech Pathology and Audiology
Colorado State University, B. S.; University of Colorado, M. A., Ph.D.
- PAUL E. BECK, (1966), Ph. D., Professor, Chemistry
Franklin and Marshall College, B. S.; Duquesne University, Ph.D.
- JERRY BELLOIT, Ph. D., Professor, Finance
University of Florida, B. S., M. B.A., Ph.D.
- WILLIAM R. BELZER, (1982), Ph. D., Professor, Biology
Franklin and Marshall College, B. A.; University of Pennsylvania, Ph.D.
- LINDA BENSON, (1983), Ph.D. Assistant Professor, Nursing
Oil City School of Nursing, Slippery Rock State College, B. S. N.; Edinboro University, M. S. N.; University of
Pittsburgh, Ph.D.
- VAHE H. BÉRBERIAN, (1965), Mus. DipI., Associate Professor, Music
Lebanese Academy of Fine Arts, Mus. Diploma
- C. LARRY BERING, (1988), Ph. D., Associate Professor, Chemistry
University of Houston, B. S.; Purdue University, Ph.D.
- JAMIE BERO-JOHNSON, (1988), M. A., Resident Director
The Ohio State University, A. A., B. S., M.A.
- NICHOLAS J. BEZAK, (1968), Ph. D., Professor, Mathematics
The College of Steubenville, B. A.; Carnegie-Mellon University, M. S.; University of Pittsburgh, Ph.D.

- DIPENDRA BHATTACHARYA, (1986), Ed. D., Professor, Mathematics
Banaras Hindu University, B. S., M. S.; Queens University, Canada, B.Ed.; State University of New York at
Stony Brook, M. S.; State University of New York at Buffalo, Ed.D.
- J. DOUGLAS BILLS, (1981), B. S., University Registrar
Clarion University, B.S.B.A.
- KAREN S. BINGHAM, (1986), M.Ed., Assistant Professor, Academic Support Services
Cornell University, B. A.; SUNY Fredonia, M. Ed.
- GERALD C. BISH, (1976), J. D., Assistant Professor, Finance
University of Pittsburgh, B. A.; Suffolk University Law School, J.D.
- DONALD F. BLACK, (1973), Ph. D., Professor, Music
Wayne State University, B. S., M.Ed.; University of Michigan, Ph.D.
- JACK N. BLAINE, (1966), M. S. T., Associate Professor, Physics
Clarion University, B.S.; Antioch College, M.S.T.
- JAMES W. BLAKE, (1990), Ph. D., Executive Dean, Venango Campus
Metropolitan State College, B. A.; University of Northern Colorado, M. S.; Marquette University, Ph.D.
- JOSEPH BODZIOCK, (1991), Ph. D., Assistant Professor, English
St. Joseph's College, B. A.; University of New Hampshire, M. A.; University of Minnesota, Ph.D.
- HERBERT R. BOLLAND, (1972), Ph. D., Professor, Chair, Counselor
Baylor University, B. A., M. A.; Texas Tech University, Ph.D.
- MARY BRAGG, (1987), M. A., Director, Publications
Morehead State University, B. A., M.A.
- WILLIAM N. BRENT, (1976), Ph. D., Professor, Chemistry
Purdue University, B. S.; Pennsylvania State University, Ph.D.
- LISBETH J. BROWN, (1973), D.Ed., Associate Professor, Education
Mercyhurst College, B. A.; Edinboro State College, M.Ed.; Indiana University of Pennsylvania, D. Ed.
- ROBERT G. BUBB, (1966), M.Ed., Professor, Health and Physical Education
University of Pittsburgh, B. S.; Pennsylvania State University, M. Ed.
- WILLIAM E. BUCHANAN, (1993), Ed. D., Assistant Professor, Library Science
The University of North Carolina, A. A.; Georgia State University, B. A.; The University of Southern Mississippi,
M. L. S., M. S.; Greensboro, Ed.D.
- TERRY P. CAESAR, (1968), Ph. D., Professor, English
University of Redlands, B. A.; University of Washington, Ph.D.
- MARTHA M. CAMPBELL, (1973), M.Ed., Assistant professor, English
Dakota State College, B. S.; South Dakota State University, M. Ed.
- WILLIAM D. CAMPBELL, (1974), Ph. D., Professor, Accountancy
Gannon College, B. S.; University of Pittsburgh, M. B.A., Ph. D.; Commonwealth of Pennsylvania, CPA.
- EDWARD CAROPRESO, (1991), Ph. D., Assistant Professor, Education
University of North Carolina, B. A.; University of Georgia, M. A., Ph.D.
- ROBERT CARLSON, (1987), M.Ed., Associate Professor, Health and Physical Education; Director, Athletics
Utah State University, B.S. M.Ed.
- SHIMIN CHEN, (1992), Ph. D., Professor, Accountancy
Shanghai University, B. A., M. A.; University of Georgia, Ph.D.
- FRANK M. CLARK, (1967), M. F. A., Professor, Speech Communication and Theatre
Indiana University of Pennsylvania, B. S.; Ohio University, M.F.A.
- GREGORY K. CLARY, (1981), M. A., Assistant Professor, Director, Student Support Services and Chair, Academic Support Services
Marshall University, B. A., M.A.
- RICHARD COUCH, (1990), Ed. D., Assistant Professor, Education
Emporia State University, B. S. E.; Virginia Polytechnic Institute and State University, M. S., Ed.D.
- ANNE CREANY, (1991), D.Ed., Assistant Professor, Education
St. Mary's College Notre Dame, B. A.; Indiana University of Pennsylvania, M.Ed., D.Ed.
- GEORGE W. CURTIS, JR., (1968), Ph. D., Professor, Vice President for Student Affairs
Michigan State University, B. A., M. A.; United States International University, Ph.D.
- PETER L. DALBY, (1976), Ph. D., Professor, Biology
Genesee County Community College, Associate in Science; Michigan State University, B. S., M. S., Ph.D.
- JACK D. DAVIS, (1975), M.Ed., Assistant Professor, Health and Physical Education
Clarion University, B. S.; Indiana State University, M. Ed.
- MARY LYNNE DAVIS, (1988), Ph. D., Assistant Professor, Special Education
Youngstown State, A. B.; Winthrop College, M. S.; University of Pittsburgh, Ph.D.
- ANNE L. DAY, (1972), Ph. D., Professor, History
Emmanuel College, B. A.; Salem State College, M.Ed.; St. Louis University, Ph.D.
- DEBRA E. DECKER, (1973), M.Ed., Assistant Professor, Librarian
Lock Haven University, B. S.; West Chester University, M.Ed.; Clarion University, M.S.L.S.
- RICHARD S. DELUCA, (1993), Ph. D., Assistant Professor, Education, and Director, Center for Educational Leadership
St. Vincent College, B. A.; Duquesne University, M.Ed.; University of Pittsburgh, Ph.D.
- ENID DENNIS, (1976), Ph. D., Professor, Chair, Economics
Harpur College, B. A.; Pennsylvania State University, M. A.; SUNY at Binghamton, Ph.D.
- LARRY R. DENNIS, (1979), Ph. D., Professor, Chair, English
Harpur College, B. A.; University of Washington, M. A.; Pennsylvania State University, Ph.D.
- RAFAEL DIAZ Y DIAZ, (1966), B. A., Assistant Professor, Spanish
University of Denver, B.A.

- BARBARA DILLMAN, (1992), M. A., Director, Educational Talent Search Program
Bloomsburg University, B. A.; Ohio State University, M.A.
- DONALD H. DININNY, (1965), Ph. D., Professor, Speech Pathology
Clarion University, B. S.; Pennsylvania State University, M.Ed.; Ohio University, Ph.D.
- MICHELLE DOAS, (1989), M. S., Instructor, Nursing, Pittsburgh Program
University of Steubenville, B. S.; West Virginia University, M.S.
- T. AUDEAN DUESPOHL, (1970), Ph. D., Dean, School of Nursing
University of Pittsburgh, B. S. N.; Edinboro University, M.Ed.; State University of New York at Buffalo, M. S.;
University of Pittsburgh, Ph.D.
- EDWARD G. DUFFY, (1961), Ph. D., Professor, History
Pennsylvania State University, B. A., M. A., Ph.D.
- CHARLES H. DUGAN, (1967), M. F. A., Assistant Professor, Art
Ohio University, B. A.; Bowling Green State University, M.F.A.
- CHARLES R. DUKE, (1989), Ph. D., Dean, College of Education and Human Services
Plymouth State College, B.Ed.; Middlebury College, M. A.; Duke University, Ph.D.
- TERRI L. DUNKLE, (1971), M. A., Associate Professor, Special Education
Clarion University, B. S.; University of New Mexico, M.A.
- BRIAN DUNN, (1978), Ph. D., Associate Professor, History
Clarion University, B. A.; Bryn Mawr, Ph.D.
- KATE H. EGGLETON, (1986), Ph. D., Associate Professor, Biology
Iowa State University, B. S., M. S.; University of Massachusetts, Amherst, Ph.D.
- JEFFEY EICHER, (1983), J. D., Professor, Finance
Clarion University, B. S.; University of Pittsburgh, J. D.; State of Pennsylvania, CPA.
- JOHN G. EICHLIN, (1979), J. D., Associate Professor, Finance
Hiram College, B. A.; University of Akron School of Law, J.D.
- PATRICIA C. ELMORE, (1992), Ph. D., Assistant Professor, Education
Tennessee State, B. A.; University of Alabama, M. A.; Iowa State University, Ph.D.
- ROGER A. ENGLE, (1967), M. S., Associate Professor, Mathematics
Slippery Rock University, B. S.; University of Alaska, M.S.
- WILLIAM G. ENGLISH, (1972), M.Ed., Assistant Professor, Health and Physical Education
Lock Haven University, B. S.; Slippery Rock University, M. Ed.
- JOHN J. ERNISSEE, (1983), Ph. D., Associate Professor, Geography and Earth Science
SUNY Oneonta, B. A.; University of South Carolina, M. S., Ph.D.
- SOGA EWEDEMI, (1988), Ph. D., Professor, Chair, Finance
Georgia State University, B. B.A., M. B.A.; University of Pennsylvania, M. A., Ph.D.
- ALBERT R. EXTON, (1969), Ph. D., Professor, Physics
Carnegie-Mellon University, B. S.; University of Pittsburgh, Ph.D.
- NANCYANN FALVO, (1988), M. S. N., Assistant Professor, Nursing, Pittsburgh Program
Duquesne University, B. S. N.; LaRoche College, M.S.N.
- JEANNE M. FANNING, (1989), Ph. D., Associate Dean, College of Education and Human Services
College of Saint Teresa, B. S.; University of Illinois-Urbana, M.Ed.; University of Wisconsin-Madison, Ph.D.
- CARL S. FARINACCI, (1983), J. D., CPA, Associate Professor, Accountancy
University of Akron, B. S. C. E., J. D.; Kent State University, M. B.A.; Case Western Reserve University, M.Acc.
- DEAN A. FARNHAM, (1969), D.Mus. Arts, Professor, Music
Boston University, B. A., M. M., D.Mus. Arts.
- CARMEN S. FELICETTI, (1970), Ed. D., Professor, Chair, Communication
California University, B. S.; Indiana University, M. S., Ed.D.
- LINDA FELICETTI, (1971), Ph. D., Professor, Marketing
Western College, B. A.; Indiana University, M. B.A.; University of Pittsburgh, Ph.D.
- RAYMOND FERROZ, (1990), Ph. D., Associate Professor, Special Education
Kent State University, B. A.; Boston University, M.Ed.; University of Pittsburgh, Ph.D.
- CHRISTOPHER FERRY, (1991), D. A., Assistant Professor, English
LaSalle College, B. A.; Virginia Tech, M. A.; SUNY at Albany, D.A.
- DARLYNN FINK, (1986), Ph. D., Professor, English
Clarion University, B. S., M. A.; Indiana University of Pennsylvania, Ph.D.
- JAMES FLAHAVERN, (1988), M. F. A., Assistant Professor, Art
North Texas State University, B. F. A.; The Ohio State University, M.F.A.
- RITA RICE FLANINGAM, (1990), Ph. D., Dean, College of Communication, Computer Information Science, and
Library Science and Dean of Graduate Studies and Extended Programs
California State University at Long Beach, B. A.; Northern Illinois University, M. A.; State University of New
York at Buffalo, Ph.D.
- TIMOTHY P. FOGARTY, (1991), M. S., Interim Assistant Vice President for Human Resources
Gannon University, B. A., M.S.
- CARIE L. FORDEN, (1992), Ph. D., Assistant Professor, Psychology
University of California at Santa Cruz, B. A.; State University of New York at Stony Brook, M. A., Ph.D.
- PIERRE N. FORTIS, (1977), Ph. D., Associate Professor, Modern Languages and Cultures
University of California at Los Angeles, B. A., M. A., Ph.D.
- ROBERT M. FRAKES, (1991), Ph. D., Assistant Professor, Chair, History
Stanford University, A. B., A. M.; University of California, Santa Barbara, M. A., Ph.D.
- JOHN M. FRANCES, (1977), M. B.A., Comptroller
Clarion State College, B. S. B.A.; Clarion University, M.B.A.
- BENJAMIN M. FREED, (1975), Ph. D., Professor, Chair, Mathematics
Marietta College, B. S.; Kent State University, M. A., Ph.D.

- MARY ANN M. FRICKO, (1985), PsY.D., Associate Professor, Counselor
University of Michigan, B. A.; Central Michigan University, Psy.D.
- HENRY L. FUEG, (1968), Ph. D., Associate Professor, Communication
West Virginia Institute of Technology, B. S.; West Virginia University, M. A.; Indiana University, Ph.D.
- WILLIAM FULMER, (1976), M. B.A., Professor, Administrative Science
Westminster College, B. S.; Clarion University, M.B.A.
- AHMAD F. M. GAMALUDDIN, (1970), Ph. D., Professor, Chair, Library Science and Director,
Library Science Program
Cairo University, B. A.; Western Michigan University, M. S. L. S.; University of Pittsburgh, Ph.D.
- CONSTANCE E. GAMALUDDIN, (1978), M. L. S., Assistant Professor, Librarian
Indiana University of Pennsylvania, B. S.; University of Pittsburgh, M.L.S.
- BARBARA GARLAND, (1989), Ph. D., Professor, Marketing
SUNY at Binghamton, B. A.; University of Arizona, M. B.A., Ph. D.; Indiana University, Ph.D.
- STEPHEN I. GENDLER, (1969), Ph. D., Professor, Mathematics
University of Pennsylvania, B. A.; Pennsylvania State University, M. A., Ph.D.
- PAMELA GENT, (1988), M.Ed., Assistant Professor, Special Education
Youngstown State University, B.S. in Ed.; Kent State, M. Ed.
- ROBERT B. GIRVAN, (1973), Ph. D., Associate Professor, Sociology
Gettysburg College, B. A.; University of Denver, M. A.; University of Colorado, Ph.D.
- GEORGE S. GLANDER, (1991), Ph. D., Assistant Professor, Physics
Carleton College, B. A.; University of Wisconsin-Madison, Ph.D.
- PATRICIA A. GRACY, (1978), M. S. N., Assistant Professor, Nursing
Spencer Hospital School of Nursing, R. N.; Villa Maria College, B. S. N.; State University of New York at Buffalo, M.S.N.
- KATHRYN GRAHAM, (1977), Ph. D., Professor, English
Salisbury State College, B. A.; Virginia Polytechnic Institute and State University, M. A.; Indiana University of Pennsylvania, Ph.D.
- EMMETT D. GRAYBILL, JR., (1967), M. A., Associate Professor, Political Science
Kenyon College, B. A.; The Ohio State University, M.A.
- LOIS IPSON GREEN, (1986), Ph. D., Associate Professor, English; Director, The Writing Center; Project Director,
Writing Across the Curriculum
University of Utah, B. A., M. A.; New York University, Ph.D.
- GARY B. GREENBERG, (1992), M. F. A., Assistant Professor, Art
Northern Illinois University, B. F. A.; Arizona State University, M.F.A.
- EDWARD S. GREJDA, (1961), Ph. D., Professor, English
Clarion University, B. S.; University of Pittsburgh, M. Litt., Ph.D.
- GAIL GREJDA, (1988), Ph. D., Associate Professor, Education
Clarion University, B. S., M.Ed.; Pennsylvania State University, Ph.D.
- JANICE E. GRIGSBY, (1989), Ph. D., Assistant Professor, Counselor
University of Iowa, B. A.; Indiana University, M. S., Ph.D.
- BARBARA J. GRUGEL, (1993), Ed. D., Assistant Professor, Education
Ohio State University, B. S.; Clarion University, M.Ed.; Indiana University of Pennsylvania, Ed.D.
- KENNETH E. GRUGEL, (1981), M. A., Director, Financial Aid
University of Toledo, B.Ed.; The Ohio State University, M.A.
- JOSEPH P. GRUNENWALD, (1978), D. B.A., P. E., Dean, College of Business Administration
Youngstown State University, B. E.; Kent State University, M. B.A., D.B.A. Registered Professional Engineer.
- LOUIS E. GURECKA, (1978), M. A., Associate Professor, Special Education
Clarion University, B. S., M. S.; Duquesne University, M.A.
- THOMAS E. GUSLER, (1984), S.Ed., Associate Provost for Administration
Shippensburg University, B. S., M.Ed.; Florida State University, S. Ed.
- MARK E. HAGGERTY, (1989), Ph. D., Associate Professor, Economics
Rutgers College, B. A.; Lehigh University, M. S.; Washington State University, Ph.D.
- ANITA J. HALL, (1977), M. S., Assistant Professor, Finance
Indiana University of Pennsylvania, B. S.; University of South Carolina, M. A. T.; Clarion University, M. B.A.;
Pennsylvania State University, M.S.
- JACK S. HALL, (1970), Ed. D., Associate Professor, Music
University of Kentucky, B. A.; Eastern Kentucky University, M. A.; Indiana University of Pennsylvania, Ed.D.
- MARY R. HARDWICK, (1967), Ph. D., Professor, Speech Communication and Theatre
Oklahoma State University, B. A.; Ohio University, M. F. A.; Michigan State University, Ph.D.
- STEVEN C. HARRIS, (1993), Ph. D., Assistant Professor, Biology
Lock Haven University, B. S.; West Virginia University, M. S.; North Dakota State University, Ph.D.
- MARITE RODRIGUEZ HAYNES, (1987), Ph. D., Associate Professor, Psychology
University of Miami, B. A.; University of Florida, M. S., Ph.D.
- JOHN W. HEAD, (1973), Ph. D., Associate Professor, Library Science
University of Wisconsin, B. S., M. S., Ph.D.
- CHRISTINA L. HEARST, (1989), M. S., Learning Skills Specialist, Academic Support Center
Clarion University, B. S., M.S.
- CLARE HEIDLER, (1990), M. S., Director, Facilities
Auburn University, B. S.; Air Force Institute of Technology, M.S.
- IRVIN C. HENRY, (1967), M. A., Associate Professor, Mathematics
Clarion University, B. S.; Kent State University, M.A.
- RICHARD P. HERMAN, (1980), B. A., Assistant Director, Public Affairs; Sports Information Director
Point Park College, B.A.

- R. DENNIS HETRICK, (1972), Ph. D., Professor, Chair, Speech Pathology and Audiology
Clarion University, B. S.; Purdue University, M. S.; Kent State University, Ph.D.
- SUSAN HILTON, (1992), M. S., Assistant Professor, Communication
Clarion University, B. S., M.S.
- DAVID M. HIPFEL, (1992), Ph. D., Assistant Professor, Mathematics
Northwestern University, B. A.; Rensselaer Polytechnic Institute, M. A., Ph.D.
- JAMES HOLDEN, (1978), M.Ed., Assistant Professor, Computer Information Science
Edinboro University, B. S.; The Pennsylvania State University, M. Ed.
- SCOTT HORCH, (1990), M. A., Resident Director
St. Ambrose University, B. A.; University of North Alabama, M.A.
- JANICE H. HORN, (1966), A. M. L. S., Assistant Professor, Librarian
Luther College, B. A.; University of Michigan, A. M.L.S.
- ROGER HORN, (1966), A. M. L. S., Assistant Professor, Librarian
Louisiana State University, B. M. E.; University of Michigan, A. M.L.S.
- DAVID W. HOWES, (1986), Ph. D., Professor, Geography and Earth Science
Michigan State University, B. A., M. A.; University of Wisconsin-Milwaukee, Ph.D.
- JOAN HUBER, (1991), Ph. D., Associate Professor, English
Duquesne University, B. A.; University of Pittsburgh, M. A., Ph.D.
- BRYAN HUWAR, (1977), Ph.D. Professor, Chair, Special Education
Slippery Rock University, B. S.; Temple University, M.Ed.; Kent State University, Ph.D.
- ALBERT A. JACKS, JR., (1963), M.Ed., Associate Professor, Chair, Health and Physical Education
Pennsylvania State University, B. S., M. Ed.
- JUDITH JANES, (1988), M.Ed., Clinical Supervisor and Instructor, Speech Pathology and Audiology
Indiana University of Pennsylvania, B. S.; Clarion University, M. Ed.
- JANIS M. JARECKI-LIU, (1988), Ph. D., Assistant Professor, Speech Pathology and Audiology
Allegheny College, B. S.: Clarion University, M. S.; Kent State University, Ph.D.
- WANDA JETKIEWICZ, (1973), Ph. D., Assistant Professor, Biology
University of Pittsburgh, B.S. Ph.D.
- MARGARET ANN JEITER, (1973), Ph. D., Associate Professor, Library Science
Mercyhurst College, B. A.; University of Michigan, M. A.; Michigan State University, Ph.D.
- TONY R. JOHNS, (1992), Ph. D., Associate Professor, Administrative Science
Auburn University, B. M. E., M. B.A.: Florida State University, Ph.D.
- JAMES JOHNSON, (1991), M.Ed., Resident Director
Pennsylvania State University, B. S.: Bridgewater State College, M. Ed.
- LISA JOHNSON, (1991), D. M. A., Assistant Professor, Music
SUNY at Purchase, B. F. A.: SUNY at Stony Brook, M. M.; CUNY Graduate Center, D.M.A.
- SHIRLEY JOHNSON, (1983), M. L. S., Assistant Professor, Librarian
College of St. Rose, B. S.; SUNY, Albany, M.L.S.
- STEPHEN R. JOHNSON, (1993), Ph. D., Assistant Professor, Music, and Director of Bands
Mansfield University, B. S.; Arizona State University, M. A.; University of Maryland, Ph.D.
- JANINA JOLLEY, (1984), Ph. D., Professor, Psychology
California State University, Dominguez Hills, B. A.; The Ohio State University, M. A., Ph.D.
- CATHERINE R. JOSLYN, (1979), M. F. A., Professor, Chair, Art
Colby College, B. A.; Indiana University, M.F.A.
- DONNA M. KAHLE, (1978), Ed. D., Assistant Professor, Computer Information Science
Clarion University, B. A., B. S.; University of Florida, M.Ed., Ed. D.: University of Pittsburgh, M.S.I.S.
- SHELLY SCHLESINGER KARP, (1983), Ph. D., Associate Professor, Library Science
University of Illinois, B. A., M. L. S.; Florida State University, Ph.D.
- APRIL KATZ, (1989), M. F. A., Assistant Professor, Art
State University College of New York at Buffalo, B. S.; Arizona State University, M.F.A.
- JEHAN G. KAVOOSI, (1974), M. A., Assistant Professor, Administrative Science
University of Mashad, Iran, B. A.; Northern Illinois University, B. S., M.A.
- MARY C. KAVOOSI, (1982), Ph. D., Assistant professor, Chair, Nursing
Northern Illinois University, B. S. N.; Edinboro University, M. S. N.; University of Pittsburgh, Ph.D.
- FREDERICK I. KEEN, (1989), Ph. D., Assistant Professor, Chemistry
Indiana University of Pennsylvania, B. S., M. S.; Arizona State University, Ph.D.
- ALVIN S. KENNEDY, (1971), M. A., Associate Professor, Director, Alumni Relations
Clarion University, B. S.; Indiana University of Pennsylvania, M.A.
- WAYNE C. KEY (1990), M. A., Interim Vice President for Finance and Administration
University of Maryland, B. S.; Ohio University, M.A.
- MOHAMMAD I. KHAN, (1968), Ph. D., Professor, History
St. John's College, Agra, B. A.; University of Lucknow, M. A., L. L. B.; Claremont Graduate School, Ph.D.
- PAUL Y. KIM, (1978), Ph. D., Professor, Chair, Marketing
University of Minnesota, B. A., M.S., Ph.D.
- DEBORAH ALDEN KING, (1982), M.Ed., Assistant Professor and Director, Women's Studies Program
Clarion State College, B. S.; Slippery Rock State College, M. Ed.
- ERIKA KLUESENER, (1982), Ph. D., Associate Professor, Chair, Modern Languages, German
Muenster University, West Germany, B. A.; Munich University, West Germany, M. A.; Washington University,
Ph.D.
- DEON KNICKERBOCKER, (1985), M. L. S., Assistant Professor, Chair, Librarian
Washington State University, B. A.; Clarion University, M.L.S.
- JAMES P. KOLE (1976), Ed. D., Assistant Professor, Academic Support Services
The Pennsylvania State University, B. S., M.Ed.; Nova University, Ed.D.

- GUSTAV A. KONITZKY, (1963), Ph. D., Professor, Anthropology, Curator of Museum; Director, Archaeological Field Programs
University of Glessen (B.S. equiv.); University of Bonn (B.A. equiv.); University of Kiel. Purdue University. M. S.; Indiana University, Ph.D.
- ISELI KRAUSS, (1990), Ed. D., Associate Professor, Psychology
University of Michigan, B. A.; New York University, M. A.; Rutgers University, Ed.D.
- JAMES P. KROUSE, (1986), Ph. D., Associate Professor, Special Education
Pennsylvania State University, B. S., M. S.; University of Virginia, Ph.D.
- WILLIAM KRUGH, (1974), Ph. D., Professor, Chair, Chemistry
Juniata College, B. S.; Pennsylvania State University, Ph.D.
- MYRNA KUEHN, (1987), Ph. D., Associate Professor, Chair, Speech Communication and Theatre
Lynchburg College, B. A.; Texas Tech, M. A.; Penn State, Ph.D.
- SCOTT KUEHN, (1987), Ph. D., Assistant Professor, Communication
Purdue University, B. A.; Northern Illinois University, M. A.; Pennsylvania State University, Ph.D.
- JOHN F. KUHN, (1991), Ph. D., Provost and Academic Vice President
Loyola University, A. B., M. A.; Notre Dame, Ph.D.
- CHRISTOPHER LÄMBL, (1992), M. F. A., Assistant Professor, Art
Carnegie-Mellon University, B. F. A.; Pratt Institute, M.F.A.
- ALLAN D. LARSON, (1971), Ph. D., Professor, Communication
St. Olaf College, B. A.; Michigan State University, M. A.; Ohio University, Ph.D.
- GEORGE M. IARUE, (1992), Ph. D., Assistant Professor, History
University of Michigan, A. B.; Boston University, M. A., Ph.D.
- JAROPOLK LASSOWSKY, (1977), Ph. D., Associate Professor, Music
New York College of Music, B. Mus.; New York University, M.A. in Music Education: The Ohio State University, Ph.D.
- PATTY H. LASWICK, (1970), Ph. D., Professor, Chemistry
Oberlin College, B. A.; Brooklyn College, M. A.; University of Michigan, Ph.D.
- NANCY J. LATIMORE, (1991), M.Ed., Assistant Professor, Health and Physical Education: Associate Athletic Director
West Chester University, B. S., M. Ed.
- ROGERS J. LAUGAND, III, (1989). B. A., Director, Minority Student Services
University of Dubuque, B.A.
- CONNIE J. LAUGHLIN, (1983), M.Ed., Director, Career Services
Indiana University of Pennsylvania, B. S., M. Ed.
- PAMELA J. LAWRENCE, (1985), M. S. N., Assistant Professor, Nursing
Mercy Hospital School of Nursing, R. N.; Indiana University of Pennsylvania. B. S. N.; Arizona State University, M.S.N.
- LORI LAYMAN, (1993), M.Ed., Resident Director
B. S., Mount Saint Mary's College; M.Ed., North Eastern University
- MILUTIN LAZICH, (1968), M. Mus., Associate Professor, Music-Voice, Music Education and Director of Choirs
Indiana University, B. M. E., M. S.Ed., M.Mus.
- RALPH M. LEARY, (1989), Ph. D., Associate Professor, English
Rocky Mountain College, B. A.; Rutgers University, M. A., Ph.D.
- DONALD E. LEAS, (1966), M. S., Associate Professor, Health and Physical Education
Michigan State University, B. A.; Southern Illinois University, M.S.
- REBECCA RUTT LEAS, (1979), Ph. D., CHES, Associate Professor, Health and Physical Education
West Chester University, B. S., M.Ed.; University of Pittsburgh, Ph.D.
- ROBIN LENOX, (1988), M. S., Instructor, Counselor, Upward Bound Program
Mansfield State College, B. A.; Shippensburg University of Pennsylvania, M.S.
- ROBERT E. LEONARD, (1970), L. P. T., M. P. E., Associate Professor. Health and Physical Education
Purdue University. B. P. E., M. P. E., L.P.T.
- HELEN S. LEPKE, (1984), Ph. D., Associate Academic Vice President
Connecticut College, B. A.; Middlebury College, M. A.; University of Akron, Ph.D.
- ROBERT G. LEVY, (1986), M. F. A., Assistant Professor, Speech Communication and Theatre
University of North Carolina at Chapel Hill, B. A.; University of Virginia, M.F.A.
- ANTHONY C. LINNAN, (1983), M.Ed., Assistant Director, Career Services
Indiana University of Pennsylvania, B. A., Clarion University, M. Ed.
- KATHY LINNAN, (1991), M. A., Instructor, Speech Pathology and Audiology
Clarion University, B. S.; Kent State University, M.A.
- LOIS S. LINNAN, (1968), M. A., Associate Professor, Mathematics
Clarion University, B. S.; Boston College, M.A.
- WILLIAM H. LLOYD, (1980), M. S., Assistant Professor, Communication
University of Pittsburgh, B. A., M.S.
- JOHN LOVELACE, (1984), M. S., Instructor, Advisor, Equal Opportunities Program-Act 101
Clarion University, B. S., M.S.
- HERBERT W. LUTHIN, (1990), M. A., Assistant Professor, English
University of Montana, B. A., University of California at Berkeley, M.A.
- JAMES T. MACCAFERRI, (1991), Ph. D., Assistant Professor, Library Science
The George Washington University, B. A.; University of California, Los Angeles. M. L. S., M. A., Ph.D.
- ELIZABETH J. MacDANIEL, (1990), Ph. D., Assistant Professor, English
The Ohio State University, B. A.; Rice University, M. A.; The Ohio State University, Ph.D.
- DANA E. MADISON, (1993), Ph. D., Associate Professor, Computer Information Science
SUNY at Brockport, B. S., M. A.; Naval Postgraduate School, Ph.D.

- RICHARD W. MAINZER, JR., (1990), Ed. D., Associate Professor, Special Education
The Catholic University, B. A.; The American University of Washington, D.C., M.Ed., Ed.D.
- PATRICIA MARINI, (1973), M. A., Associate Professor, Communication
Mercyhurst College, B. A.; Wayne State University, M.A.
- KRISTEN MARSHALL, (1991), Ph. D., Assistant Professor, Speech Communication and Theatre
Syracuse University, B. S., M. A., Ph.D.
- BASIL D. MARTIN, JR., (1992), M. L. S., Instructor, Librarian
Clarion University, B. S., M.L.S.
- THOMAS H. MARTIN, (1992), Ph. D., Assistant Professor, Biology
Lincoln Memorial University, B. S.; East Tennessee State University, M. S.; North Carolina State University,
Ph.D.
- RONALD S. MARTINAZZI, (1990), Ph. D., Director, Public Safety
California State College, B. S.; Indiana University of Pennsylvania, M. A.; University of Pittsburgh, Ph.D.
- COLLEEN McALEER, (1982), Ph. D., Professor, Speech Pathology and Audiology
The Pennsylvania State University, B. S.; Clarion University, M.Ed.; Kent State University, Ph.D.
- GERARD B. McCABE, (1982), A. M. L. S., Director, Libraries
Manhattan College, B. A.; University of Michigan, A. M. L. S.; Michigan State University, M.A.
- BARRY L. McCAULIFF, (1974), M. A., Assistant Professor, Speech Communication and Theatre
Clarion University, B. A.; Central Michigan University, M.A.
- JUDITH D. McCRARY, (1991), Ph. D., Assistant Professor, French, Modern Languages and Cultures
University of Missouri-Columbia, B. S., M. A., Ph.D.
- JOHN McCULLOUGH, (1993), M. S., Instructor, Education
Clarion University, B. S., M. Ed.
- GLENN R. McELHAITAN, (1968), Ed. D., Professor, Chemistry
Clarion University, B. S.Ed.; Western Reserve University, M. S.; University of Pittsburgh, Ed.D.
- WILLIAM C. McGOWAN, (1982), Ph. D., Professor, Chair, Physics
Spring Hill College, B. S.; University of North Carolina, Ph.D.
- PATRICK McGREEVY, (1991), Ph. D., Assistant Professor, Geography and Earth Science
University of Notre Dame, B. A.; SUNY at Buffalo, M. A.; Minnesota University, Ph.D.
- ROBERT McKAY, (1987), Ph. D., Associate Professor, Geography and Earth Science
Southwest Texas State University, B. B.A.; University of Oklahoma, M. A., Ph.D.
- SAUNDRA J. McKEE, (1987), Ph. D., Associate Professor, Education
Indiana University of Pennsylvania, B. S., M.Ed.; University of Pittsburgh, Ph.D.
- MARY ANN McLAUGHLIN, (1982), Ph. D., Associate Professor, Education
Butler University, B. A., M. S.; Indiana University, Ph.D.
- JOHN McLEAN, (1977), Ed. D., Associate Professor, Music
Manhattan School of Music, B. M., M. M., M. Mus.Ed.; Teachers College Columbia University, Ed.D.
- SUSANNE M. McMILLEN, (1978), M. S., Associate Director, Admissions
Clarion University, B. S., M.S.
- ROGER J. McPHERSON, (1981), Ph. D., Professor, Biology
Limestone College, B. S.; University of North Carolina at Charlotte, M. S.; University of Alabama in Birmingham,
Ph.D.
- KENNETH R. MECHLING, (1966), Ph. D., Professor, Biology
Indiana University of Pennsylvania, B. S., M.Ed.; Michigan State University, Ph.D.
- GARY MERZ, (1990), M.B.A. Associate Professor, Accountancy
Indiana University of Pennsylvania, B. A.; Clarion University, M.B.A.
- MARILOUISE MICHEL, (1990), M. F. A., Assistant Professor, Speech Communication and Theatre
Trinity University, B. A.; Tulane University, M.F.A.
- MARILYNN MIKOLUSKY, (1970), Ph. D., Dean, Student Life Services
Michigan State University, B. A., M. A.; The Ohio State University, Ph.D.
- ANDREA L. MILLER, (1992), M. S. L. S., Instructor, Library Science
Clarion University, B. S., M. A., M. S.L.S.
- MARK MITCHELL, (1988), Ph. D., Associate Professor, Psychology
Washington and Lee University, A. B.; The Ohio State University, M. A., Ph.D.
- ELAINE E. MOORE, (1970), M. L. S., Associate Professor, Librarian
Clarion University, B. S.; University of Pittsburgh, M.L.S.
- DON L. MORGAN, (1968), Ph. D., Professor, Admissions Counselor
Northwest Nazarene, B. A.; University of Idaho, M.Ed.; University of Iowa, Ph.D.
- BARRY S. MORRIS, (1984), M. A., Director, Residence Life
Southern Methodist University, B. A.; College of William and Mary, M. A., A.C.E.
- TERRY MORROW, (1975), Ph. D., Professor, Biology
Grove City College, B. S.; Bowling Green State University, M. A., Ph.D.
- DONALD A. NAIR, (1968), Ed. D., Professor, Counselor
The Pennsylvania State University, B. S., M.Ed., Ed.D.
- CHERYL C. NELSON-SOMERVILLE, (1989), M. A., Assistant Professor, Nursing, Pittsburgh Program
Duquesne University, B. S. N.; New York University, M.A.
- HENRY W. NEWMAN, (1962), Ph. D., Associate Professor, English
Syracuse University, B. A.; University of Pennsylvania, M. A.; State University of New York at Buffalo, Ph.D.
- RICHARD J. NICHOLLS, (1981), Ph. D., Professor, Chair, Psychology
Monmouth College, B. A.; Texas Tech University, Ph.D.
- THOMAS W. OLIVER, (1992), Ph. D., Professor, Accountancy
Gettysburg College, A. B.; Shippensburg University, M. B.A.; University of Massachusetts, Ph.D.
- RANDON C. OTTE, (1976), M. B.A., Assistant Professor, Accountancy
Clarion University, B. S., M. B.A.; State of Pennsylvania, CPA.

- MARY LOU PAE, (1990), M. B.A., Assistant Dean, MBA Coordinator, College of Business Administration
Pennsylvania State University, B. S.; Clarion University, M.B.A.
- RICHARD L. PAE, (1968), M.Ed., Associate Professor, Health and Physical Education
Pennsylvania State University, B. S.; Shippensburg University, M. Ed.
- NANCY PALMA, (1991), M. L. S., Assistant Professor, Librarian
Youngstown State University, B. S.; Kent State University, M.L.S.
- LINDA J. PAYNE, (1992), Ph. D., Associate Professor, Education
Ashland College, B. S.; State University of New York at Brockport, M. S.; University of Akron, Ph.D.
- CYNTHIA PELLWK. (1986), M. S. W., Assistant Professor, Director, Upward Bound Program
Bloomsburg University of Pennsylvania, B. A.; University of Maryland, M.S.W.
- JAMES G. PESEK, (1980), Ph. D., Professor, Chair, Administrative Science
Bowling Green State University, B. S., M. A.; University of Pittsburgh, Ph.D.
- LEONARD A. PFAFF, (1964), M. A., Associate Professor, Communication
Southwest Missouri State College, B. S.; George Peabody College, M.A.
- MARY JO PHILLIPS, (1985), M. S., Assistant Director, Admissions
Cannon College, B. A.; Clarion University, M.S.
- CHARLES J. PINENO, (1979), Ph. D., Professor, Chair, Accountancy
The Pennsylvania State University, B. S.; University of Scranton, M. B.A.; The Pennsylvania State University,
Ph.D.
- STEVEN L. PLOIT, (1985), Ph. D., Professor, History
University of Utah, B. A., M. A.; University of Missouri, Ph.D.
- DONNA POLJANEC, (1980), Ph. D., Assistant Professor, Academic Counselor, Academic Support Services
Clarion State College, B. S.; Towson State University, M.Ed.; University of Pittsburgh, Ph.D.
- JOHN POSTLEWAIT, (1989), M. S., Director, Alcohol and Drug Education/Training
Indiana University of Pennsylvania, B. A.; Clarion University, M.S.
- RANDALL M. POTTER, (1981), Ph. D., Director, Honors Program and Professor, Psychology
University of Michigan at Flint, A. B.; Miami University, M. A., Ph.D.
- KIMBERLEE PRICE. (1987), B. S., Director, Student Activities, Venango Campus
Clarion University, B. A., B.S.
- LINDA A. PRITCHETT. (1990), Ph. D., Associate Professor, Nursing, and Director, Pittsburgh Program
Medical College of Georgia, B. S. N., M. S. N.; University of Texas, Ph.D.
- ANTONIO L. QUE, (1985), Ph. D., Professor, Accountancy
University of the East, Philippines, B. B.A.; New York University, M. B.A., Ph. D.; Philippines and State of Vir-
ginia, CPA.
- LEGENE QUESENBERRY, (1992), J. D., Associate Professor, Finance
Washington State University, B. A.; Gonzaga University School of Law, J.D.
- ROD D. RAEHSLER, (1992), Ph. D., Assistant Professor, Economics
University of Wisconsin-River Falls, B. A.; University of Nebraska, M. A.; University of Iowa, Ph.D.
- ROBERT A. RATH, (1975), Ph. D., Professor, Chair, Anthropology, Philosophy, Political Science, and Sociology
University of Southern Mississippi, B. S.; Pennsylvania State University, M. A., Ph.D.
- JOHN REED (1971), Ph. D., Professor, Administrative Science
University of North Carolina, B. A.; American University, M. A., Ph.D.
- MARY JO REEF, (1991), Ph. D., Assistant Professor, Sociology
Purdue University, B. A.; Mankato State University, M. S.; University of Minnesota, M. A.; Ph.D.
- P. BRENT REGISTER, (1990), D. M. A., Assistant Professor, Music
University of North Carolina at Greensboro, B.Me.; Manhattan School of Music, M. M.; University of North
Carolina at Greensboro, D.M.A.
- DIANE L. REINHARD, (1990), Ph. D., President
University of Wisconsin-Milwaukee, B. S., M. S.; The Ohio State University, Ph.D.
- JAMES J. REYNOLDS, (1991), D.Ed., Associate Professor, Mathematics
Colgate University, A. B.; Penn State, M. A., D. Ed.
- J. IVAN RHODE, (1982), Ph. D., Associate Professor, Physics
Purdue University, B. S., Ph.D.
- SHELLY RICHARDS, (1989), M.Ed., Instructor, EOP/Act 101 Program
Penn State University, B. S.; Clarion University, M. Ed.
- SALLY J. RINGLAND (1967), M. S., Associate Professor, Mathematics
Purdue University, B. S., M.S.
- MARTHA M. RITTER, (1988), Ed. D., Associate Professor, Biology
Ball State University, B. S., M. S., Ed.D.
- GLENN W. ROCK, (1986), Ph. D., Associate Professor, Mathematics
Indiana University of Pennsylvania, B. A.; West Virginia University, M. S.; Kansas State University, Ph.D.
- WILLIAM N. ROSS, (1972), Ph. D., Professor, Economics
University of Missouri, B. S., M. S.; Kansas State University, Ph.D.
- CAROL ROTH, (1986), B. S., Associate Director, Clarion University Foundation
Slippery Rock University, B.S.
- KEVIN ROTH, (1990), M. B.A., Associate Professor, Administrative Science
Slippery Rock University, B. S.; Clarion University, M.B.A.
- JEAN RUMSEY, (1988), Ph. D., Associate Professor, Philosophy
University of Arkansas, B. A.; University of Chicago, M. A.; University of Wisconsin, Ph.D.
- PAUL T. RYBERG, (1992), Ph. D., Assistant Professor, Geography and Earth Science
Lehigh University, B. S.; University of Oregon, M. S.; University of Arizona, Ph.D.
- RICHARD A. SABOUSKY, (1992), M. S.; Assistant Professor, Special Education and Rehabilitative Services
Clarion University, B. S., M.S.

- WILLIAM SANDERS, (1981), Ph. D., Professor, Economics
Indiana University of Pennsylvania, B. A.; Long Island University, M. C., M. A.; Pennsylvania State University, Ph.D.
- HALLIE E. SAVAGE, (1992), Ph. D., Assistant Professor, Speech Pathology and Audiology
Baldwin-Wallace College, B. A.; Cleveland State University, M. A.; Kent State University, Ph.D.
- NANCY E. SAYRE, (1986), Ph. D., Associate Professor, Education
Eastern Michigan University, B. S.; Slippery Rock University, M.Ed.; University of Pittsburgh, Ph.D.
- THOMAS E. SCHAEFFER, (1976), Ph. D., Professor, Computer Information Science
University of Missouri, B. A., M. A.; St. Louis University, Ph.D.
- WILLIAM M. SCHELL, (1969), M. S., Assistant Professor, Computer Center
Geneva College, B. S.; Westminster College, M.S.
- RONALD V. SCHLECHT, (1973), M. S., Administrative Coordinator, Venango Campus
Coming Community College, A. A.; State University of New York at Buffalo, B. S.Ed.; Kansas State Teachers College at Emporia, M. S. Ed.
- DAVE SCHLUETER, (1987), Ph. D., Associate Professor, Psychology
Texas A & M University, B. S., M. S., Ph.D.
- RICHARD E. AVI SEAVER, (1993), Ph. D., Assistant Professor, Speech Communication and Theatre
Washburn University of Topeka, B. A.; The University of Kansas, B. S., M. A.; Wayne State University, Ph.D.
- ISAIAH SESSOMS, (1985), Ph. D., Associate Professor, Educational Opportunities program
Kentucky State University, B. A.; California Lutheran College, M. A.; Cornell University, Ph.D.
- WILLIAM R. SHARPE, (1970), Ph. D., Professor, Chemistry
LaSalle College, B. A.; University of Pittsburgh, Ph.D.
- C. FRANK SHEPARD, JR., (1990), J. D., Assistant Professor, Finance
Clarion University, B. A., M. A.; University of Akron School of Law, J.D.
- C. DARREL SHERAW, (1978), Ph. D., Professor, English
Clarion University, B. S.; Ohio University, M. A., Ph.D.
- MARTHA A. SHILEY, (1979), M. N., Assistant Professor, Nursing
University of Pittsburgh, B.S. N., M.N.
- GEORGE S. SHIREY, (1966), Ph. D., Professor, Geography and Earth Science
Slippery Rock University, B. S.; Miami University, M. A.; University of Pittsburgh, Ph.D.
- JOHN S. SHROPSHIRE, (1972), B. S., Dean of Enrollment Management and Academic Records
Clarion University, B.S.
- STEPHEN J. SHULIK, (1989), Ph. D., Assistant Professor, Geography/Earth Science, Planetarium Director
Duquesne University, B. S.; University of Pittsburgh, M. S., Ph.D.
- RONALD C. SHUMAKER, (1964), Ph. D., Professor, English
Clarion University, B. S.; Purdue University, M. A.; University of Pittsburgh, Ph.D.
- DILNAWAZ A. SIDDIQUI, (1984), Ph. D., Professor, Communication
Aligarh Muslim University, B. A., M. A.; University of London (U. K), Post-grad Dip. Ed.; Syracuse University, Ph.D.
- SAHIB SINGH, (1971), Ph. D., Professor, Mathematics
Punjab University, B. A., M. A.; University of Pennsylvania, M. A.; Pennsylvania State University, Ph.D.
- BEVERLY SMABY, (1991), Ph. D., Assistant Professor, History
Stanford University/University of Washington, B. A.; Yale University, M. A. T.; University of Pennsylvania, M. A., M. A., Ph.D.
- RICHARD SMABY, (1992), Ph. D., Associate Professor, Computer Information Science
Yale University, B. A.; University of Pennsylvania, M. A., Ph.D.
- DOUGLAS M. SMITH, (1992), Ph. D., Assistant Professor, Biology
Saint Vincent College, B. S.; Shippensburg University, M. S.; The Pennsylvania State University, Ph.D.
- JOHN W. R. SMITH, (1977), Ph. D., Professor, Education
University of Texas, B. B.A., M. B.A.; Texas Women's University, Ph.D.
- KAREN SMITH, (1992), Ph. D., Assistant Professor, English
Smith College, B. A.; University of Michigan, M. A., Ph.D.
- KATHLEEN A. SMITH, (1973), Ph. D., Professor, Chair, Education
Indiana University of Pennsylvania, B. S.; Clarion University, M.Ed., M. S.; Pennsylvania State University, Ph.D.
- LYNN A. SMITH, (1989), Ph. D., Associate Professor, Economics
University of Pittsburgh-Johnstown, B. A.; West Virginia University, M. A.; University of Pittsburgh, Ph.D.
- EDWARD SMOLSKY, (1988), M. S., Director, Computer Services
Western Michigan University, B. S., M.S.
- C. RICHARD SNOW, JR., (1973), M. S., Assistant Professor, Librarian
Kent State University, B. A.; Florida State University, M.S.
- EUGENE S. SOBOLEWSKI, (1971), M.Ed., Associate Professor, Health and Physical Education
University of Pittsburgh, B. S.; Slippery Rock University, M. Ed.
- SOONG NARK SOHNG, (1981), Ph. D., Professor, Economics
Seoul National University, B. A.; Wayne State University, M. A., Ph.D.
- WILLIAM SPEIDEL, 111, (1986), M. B.A., Director, Development
Slippery Rock University, B. S.; Clarion University, M.B.A.
- VINCENT SPIN A, (1987), Ph. D., Assistant Professor, Modern Languages
Fordham, B. A.; New York University, M. A., Ph.D.
- JAMES STAGRAY, (1990), Ph. D., Assistant Professor, Speech Pathology and Audiology
Michigan State University, B. A., M. A.; Kent State University, Ph.D.
- SYLVIA STALKER, (1985), Ph. D., Associate Professor, Education
Keuka College, B. A.; Stephen F. Austin State University, M.Ed.; Indiana University, Ph.D.
- WILLIAM STINE, (1981), Ph. D., Professor, Economics
University of New Haven, B. B.A.; Baruch College, M. B.A.; Fordham University, Ph.D.

- DEAN F. STRAFFIN, (1973), Ph. D., Professor, Anthropology
University of Iowa, B.A., M. A., Ph.D.
- BARBARA R. STRIGHT, (1981), Ph. D., Assistant Professor, Nursing
Pennsylvania State University, B.S.N.; Catholic University, M.S.N., University of Pittsburgh, Ph.D.
- THOMAS J. STUHLDRER, (1985), D. B.A., Professor, Finance
Borromeo College, B.A.; University of Notre Dame, M.A.; Kent State University, M.B.A., D.B.A.
- FRANKLIN S. TAKEI, (1962), Ph. D., Professor, Philosophy
University of Hawaii, B. A.; Fuller Theological Seminary, B. D.; University of Hawaii, M. A.; Pennsylvania State University, Ph.D.
- JANE FOX TARR, (1986), M. S. N., Assistant Professor, Nursing
Harnot Hospital School of Nursing, R. N.; Long Island University, B. S. N.; Adelphi University, M.S.N.
- DAVIE TATE, JR., (1987), Ph. D., professor, Education
Community College of the Air Force, A. A. S.; Ohio University, B. S.; The Ohio State University, M. A., Ph. D.;
Northern Kentucky University, J.D.
- RICHARD W. TAYLOR, (1982), D. P. E., Professor, Health and Physical Education
Syracuse University, B. A., M. S.; Springfield College, D.P.E.
- PHILIP TERMAN, (1991), Ph. D., Assistant professor, English
Ohio University, B. A., M. A.; Ohio State University, Ph.D.
- JOE A. THOMAS, (1993), Ph. D., Assistant Professor, Art
North Texas State University, B. F. A.; Southern Methodist University, M.A.; University of Texas at Austin,
Ph.D.
- DAVID A. TOMEIO, (1975), M. A., Director, University Centers
Indiana University of Pennsylvania, B. S.Ed., M.A.
- FRANK H. TOWERS, (1993), Ph. D., Assistant Professor, History
University of Wisconsin-Madison, B. A.; UCLA, M. A.; University of California-Irvine, Ph.D.
- KENNETH TRAYNOR, (1976), Ph. D., Professor, Marketing
Montclair State College, B. A.; The University of Connecticut, M.A., Ph.D.
- SUSAN TRAYNOR, (1976), M. A., Associate Professor, Computer Information Science
The University of Connecticut, B. A.; Fairfield University, M. A.; Clarion University, M.B.A.
- LOUIS F. TRIPODI, (1973), Ph. D., Associate Professor, Director, Academic Support Center
Hiram Scott College, B. A.; Cleveland State University, M.Ed.; University of Pittsburgh, Ph.D.
- GAYLE A. TRUITT-BEAN, (1979), M. A., Associate Professor, Health and Physical Education
DePaw University, A. B.; Kent State University, M.A.
- NGO DINH TU, (1966), Ph. D., Professor, Political Science
National College, Vietnam, B. A.; American University, M. A.; Harvard University, Ph.D.
- GILBERT L. TWIEST, (1968), Ph. D., Professor, Biology-Science Education
Michigan State University, B. S., M. S.; University of Toledo, Ph.D.
- GRACE E. URRICO, (1970), M. M., Associate Professor, Music
New England Conservatory of Music, B.M. Mus. Ed., M. M., Piano.
- MARGUERITE H. VANLANDINGHAM, (1981), Ph. D., Professor, Finance
University of Florida, B. A., Ph.D.
- BERNARD F. VAVREK, (1971), Ph. D., Professor, Library Science; Coordinator, Center for Rural Librarianship
California University, B.S.; University of Pittsburgh, M.L.S., Ph.D.
- FRANK VENTO, (1986), Ph. D., Professor, Chair, Geography/Earth Science
Community College of Allegheny County, A. S.; University of Pittsburgh, M. S., M. S., Ph.D.
- THOMAS T. VERNON, (1969), Ph. D., Professor, Economics
Colorado State University, B. S., M. S.; Kansas State University, Ph.D.
- THOMAS R. VILBERG, (1989), Ph. D., Associate Professor, Psychology
University of Wisconsin, B. S.; North Dakota State University, M. S.; Bowling Green State University, Ph.D.
- AMGAD WAHBA, (1991), Ph. D., Associate Professor, Nursing, Pittsburgh Program
Higher Institute of Nursing, B. S. N.; University of Pittsburgh, M. N., Ph.D.
- JAMES E. WALKER, (1989), Ph. D., Professor, Education
St. Pius X Seminary College, B. A.; Newark State College, M. A.; Syracuse University, Ph.D.
- MARY WALTER, (1987), M.Ed., Assistant to Dean, Student Life Services; and Director, Orientation Program
Ohio University, B. S., M.Ed.
- JOANNE WASHINGTON-LAW, (1987), M.Ed., Assistant **Professor**, Communication
Indiana University-Bloomington, B. A.; Trenton State College, M. Ed.
- HAL R. WASSINK, (1973), M. A., Associate Professor, Coordinator, Student Activities
Bowling Green University, B. S., M.A.
- RAGAN WATSON, (1990), M. M. A., Assistant Director, Financial Aid
Allegheny College, B. A.; Indiana University of PA, M.M.A.
- BRUCE H. WEBB, (1985), M. L. S., Assistant Professor, Librarian
SUNY, Brockport, B.S.Ed.; SUNY, Geneseo, M.L.S.
- FRANCES E. WEBER, (1971), M. S. N., Assistant Professor, Nursing
University of Pennsylvania Hospital School of Nursing, R. N.; University of Pennsylvania, B. S. N., M.S.N.
- LAWRENCE J. WELLS, (1977), D. M. A., Assistant Professor, Chair, Music, Assistant Conductor of Bands
University of Idaho, B. S.; University of Oregon, M. M.; Eastman School of Music, D.M.A.
- CHARLES E. WILLIAMS, (1992), Ph. D., Assistant Professor, Biology
Drew University, B. A.; Rutgers University, M. S.; Virginia Tech, Ph.D.
- JOHN E. WILLIAMS, (1963), Ph. D., Professor, Chair, Biology
Pennsylvania State University, B. S.; University of Illinois, Ph.D.
- RONALD J. WILSHIRE, (1978), M. S., Director, University Relations
Clarion University, B. S., M.S.

- DONALD A. WILSON, (1969), Ph. D., Professor, English
Niagara University, B. A.; State University of New York at Buffalo, M. A., Ph.D.
- TIMOTHY WILSON, (1987), Ph. D., Professor, Marketing
Carnegie Mellon, B. S., M. S., Ph. D.; Case-Western, M. B.A., Ph.D.
- THOMAS V. WIMER, (1968), Ph. D., Associate Professor, Mathematics
University of Pittsburgh, B. S., M. S.; Clemson University, Ph.D.
- ALFRED V. WINN, (1993), Ph. D., Assistant Professor, Political Science
Pacific Union College, B. A.; University of California-Berkeley, M. S. W.; University of Michigan, Ph.D.
- JEAN SCOTT WOLF, (1989), B. S., Assistant Director, Development
Clarion University, B.S.
- PAULA WOLF, (1988), M. S., Assistant Professor, Special Education; Director, Adult Development Program
Indiana University of Pennsylvania, B. S.; Clarion State College, M.S.
- GEORGE F. WOLLASTON, (1961), Ph. D., Professor, Chemistry
Clarion University, B. S.; Pennsylvania State University, M.Ed.; University of Pittsburgh, Ph.D.
- DAVID R. WRIGHT, (1971), Ph. D., Professor, Speech Communication and Theatre
Southwest Baptist College, A. A.; University of Missouri, B. J., M. A.; Ohio University, Ph.D.
- JOSEPH B. WYAIT, (1990), M. S., Assistant Professor, Computer Information Science
Edinboro University of Pennsylvania, B. S.; Virginia Polytechnic Institute and State University, M.S.
- J. KENNETH WYSE, (1964), M.S. in L. S., Assistant Professor, Librarian
Clarion University, B. S.; Western Reserve University, M.S. in L.S.
- GEORGE Q. XU, (1990), Ph. D., Assistant Professor, English
East China Teachers' University, B. A.; Shanghai International Studies University, M. A.; Indiana University of
Pennsylvania, Ph.D.
- CHIN-WEI YANG, (1981), Ph. D., Professor, Economics
College of Chinese Culture, B. A.; Northwest Missouri State University, M. B.A.; West Virginia University,
M. A., Ph.D.
- HWEI-JEN YANG, (1985), Ph. D., Assistant Professor, Speech Communication and Theatre
National Taiwan University, B. A.; Murray State University, M. A.; The Ohio State University, Ph.D.
- WOODROW W. YEANEY, (1975), Ph. D., Professor, Finance; Director, Small Business Development Center, En-
trepreneurial Development Center, Entrepreneurial Technology Center, Small Business Institute, and indus-
trial Resource Center
Pennsylvania State University, B. S., M. B.A., Ph.D.
- CRAIG E. ZAMZOW, (1983), D. G. S., Professor, Geography and Earth Science
University of Wisconsin, B. S.; University of Minnesota-Duluth, M. S.; University of Texas at El Paso, D.G.S.
- EDWARD ŻIELINSKI, (1987), Ph. D., Associate Professor, Biology
University of Texas at Austin, B. S., M. A., Ph.D.
- LAURA ZIRKLE, (1989), M. A., Resident Director
Findlay College, B. A., B. A.; Bowling Green State University, M.A.

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 Gloria Winger
 Susan Winkler
 Jill Winslow
 Larry Wisner
 Diane Wisinski
 Phillip Witkowski
 Bill Wolbert
 Bonnie Wolbert
 Judith Wolbert*
 Kerry Wolbert*
 Jeanne Wondering
 Christine Worokey
 Linda Whren
 Linda Wright
 Mary Ellen Wright
 April Wujcik
 Becky Yates
 John Yates
 Judith Yates
 Paulette Yeaney*
 Diane Zaffuto*
 Catherine Zerbe
 Charles Zerbe
 Amy Ziegler
 Cindy Zimmerman*

Retired Administration and Faculty

- ERNEST C. AHARRAH, (1956- 1986), Ph. D., Professor, Biology
Clarion University, B. S.; Pennsylvania State University, M.Ed.; University of Pittsburgh, M. S., Ph.D.
- PRABHAKAR S. AKOLEKAR, (1966- 1978), Ph. D., Professor, Economics
Holkar College, Indore (India), B. A.; Bombay University, M. A.; University of Virginia, M. A.; John Hopkins University, Research Fellow; University of Pennsylvania, Ph.D.
- LORRAINE AMSDELL, (1971- 1991), M.Ed., Assistant Professor, Nursing
Oil City School of Nursing, R. N.; University Pittsburgh, B. S. N.; Edinboro University, M. Ed.
- INEZ BAKER, (1966-199 I), M. A., Associate Professor, Communication
University of Cincinnati, B. S.; Teachers College, Columbia University, M. A., Prof. Diploma.
- ROBERT H. BALDWIN, (1971 - 1993), Ph. D., Professor, Education
Wesleyan University, B. A., M. A. T.: University of Pittsburgh, Ph.D.
- FRANCIS C. BAPTIST, (1961- 1985), Ed. D., Professor, Art
Wisconsin State College, B. S.; State University of Iowa, M. F. A.; Pennsylvania State University, Ed.D.
- GEORGE BARBER, (1967- 1985), Ph. D., Professor, English
The Pennsylvania State University, B. A., M. A., Ph.D.
- FRANK T. BAITISTA, (1970-1990), Ed. D., Associate Professor, Education
University of Chicago, Roosevelt University, B. M.; The Pennsylvania State University, M.Ed., Ed.D.
- GWENDOLYN M. BAYS, (1962- 1981), Ph. D., Professor, French
Agnes Scott College, B. A.; Emory University, M. A.; Yale University, Ph.D.
- ROBERT A. BAYS, (1962- 1981), Ph. D., Professor, Modern Languages
Emory University, B. A.; Yale University, M. A., Ph.D.
- CHARLES H. BLOCHBERGER, (1966- 1985), Ed. D., Professor. Education. Director, Counseling and Career Planning Center
University of Scranton, B. S.; University of Maryland, M.Ed.; University of Virginia, Ed.D.
- JOHN J. BODOH, (1974- 1994), Ph. D., Professor, Humanities
St. Paul Seminary, B. A.; University of Wisconsin-Madison, M. A., Ph.D.
- CHRISTIAN BOHLEN, (1965- 1989), M. M., Associate Professor, Music
Amsterdam Conservatory of Music, Mus. Dipl.; Indiana University, M.M.
- OLIVE C. BOWER, (1966- 1986), Ph. D., Professor, Chemistry
Florida Southern, B. S.; Pennsylvania State University, M. S., Ph.D.
- MARGARET A. BOYD, (1929-1956), M. A., Associate Professor, English
Graduate, two-year course, Bethany College; University of Pittsburgh, B. A., M.A.
- RICHARD M. BRADLEY, (1968- 1978), Ed. D., Associate Professor, Education
Millersville University, B. S.; Temple University, M.Ed., Ed.D.
- MARGARET V. BUCKWALTER, (1965- 1982), M. L. S., Assistant Professor, Librarian
University of Michigan, B. S., M. A.: University of Pittsburgh, M.L.S.
- CARL E. CALDWELL, (1956- 1977), M. A., Associate Professor, French
Hobart College, A. B.; Middlebury College, M.A.
- THOMAS A. CARNAHAN, (1946- 1975), M.Ed., Professor, Mathematics
Grove City College, B. A.; Pennsylvania State University, M. Ed.
- FOREST C. CARTER, (1967- 1981), D. B.A., CPA. Dean. School of Business Administration; Professor, Accounting and Finance
University of Michigan, B. B.A., M. B.A.; Indiana University, D. B.A.; State of Tennessee, CPA.
- WILLIAM D. CHAMBERLAIN, (1965- 1981), Ed. D., Professor, Science Education and Biology
Wayne State University, B. S., M.Ed., Ed.D.
- FREDERICK G. CLARK, (1973-199 I), M. B.A., Associate Professor, Administrative Science
Ursinus College, B. A.; University of Pennsylvania, M. B.A.; Rutgers University, C. P.C.U.
- ALFRED B. CLARKE, (1970- 1991), M.Ed., Professor Administrator, Associate Director, Admissions
Slippery Rock University, B. S.; Pennsylvania State University, M. Ed.
- JAMES H. COLE, (1967-1988), Ed. D., Professor, Dean, College of Communication and Computer Information Science
Eastern Illinois University, B. S.; Indiana University, M. S., Ed.D.
- WILLIAM F. COMBS, (1965- 1991), Ph. D., Professor, Psychology
University of West Virginia, B. A., M. A.; University of Oklahoma, Ph.D.
- DALPH O. COOK, (1964- 1986), M. S., Assistant Professor, Biology
Clarion University, B. S., Syracuse University, M.S.
- BOB H. COPELAND, (1959- 1985), Ph. D., Professor, Chair, Speech Communication and Theatre
University of Wichita, B. A.; University of Denver, M. A., Ph.D.
- ALASTAIR T. CRAWFORD, (1963- 1991), M. A., Assistant Professor, History
Upsala College, B. S.; Montclair State College, M.A.
- ROBERT E. CRAWFORD, (1962- 1991), M. A., Vice President for Administration
Slippery Rock University, B. S.; University of Pittsburgh, M.A.
- DANIEL D. CRONIN, (1970- 1989), Ph. D., Professor, Mathematics
Duquesne University, A. B.; St. Louis University, Ph.D.
- THOMAS DAVIS, (1976-1986), Ph. D., Associate Professor, Administrative Science
University of Wyoming, B. S., M. S.; University of Arkansas, Ph.D.
- BRUCE H. DINSMORE, (1947- 1978), Ph. D., Professor, Chair, Biology
Indiana University of Pennsylvania, B. S.; Columbia University, M. A.; University of Pittsburgh, M. S., Ph.D.
- JAMES A. DON ACHY, (1960- 1991), M. S., Associate Professor, Biology
Clarion University, B. S.; Ohio University, M.S.

- NADINE D. DONACHY, (1962- 1991), M. S., Professor, Biology; Coordinator, Medical Technology
Ohio University, A. B., M.S.
- DEMPSEY DUPREE, (1967- 1993), Ph. D., CPA, Professor, Accountancy
University of Michigan, B. B.A., M. B.A.; Michigan State University, Ph.D.
- CHARLES ECONOMOÛS, (1964-1986), M.S. in L. S., Associate Professor, Chair, Library Science
University of North Carolina, B. A., M.S. in L.S.
- WILLIAM T. EDWARDS, (1969- 1991), Ed. D., Associate Professor, Art
Indiana University of Pennsylvania, B. S.; Florida State University, M. S.; Pennsylvania State University, Ed.D.
- ALLEN R. ELLIOTT, (1955- 1977), Ed. D., Professor, Psychology
Western Michigan University, B. A.; Stanford University, M. A., Ed.D.
- KENNETH F. EMERICK, (1963- 1989), M. L. S., Assistant Professor, Librarian
Clarion University, B. S.; Rutgers University, M.L.S.
- JAMES M. GLEIXNER, (1967- 1990), B. S., Assistant Vice President for Human Resources
Duquesne University, B.S. in Bus. Adm.
- RACHEL M. GLENN, (1965- 1978). B. S., Instructor, Librarian
Simmons College, B.S. in L.S.
- DAN W. GRAVES, (1965-1981), A. M.; Associate Professor, Director, Libraries
University of Denver, A. B.A.; University of Michigan, A.M.
- BRYCE C. GRAY, (1966- 1987), M. A., Assistant Professor, Education, Assistant to the Dean, College of Business
Administration
Juniata College, B. A.; Bucknell University, M.A.
- FRANCIS G. GRECO, (1967-1991), Ph. D., Professor, English
Duquesne University, B. S., M. A., M. in Mus. Ed., Ph.D.
- GEORGE A. HARMON, (1966- 1984), Professor, Biology
University of California, Los Angeles, A. B.; Stanford University, M. A., Ph.D.
- LEE-OLIVE HARRISON, (1975- 1993), M.Ed., Associate Professor, Nursing
Flower-Fifth Avenue Hospital School of Nursing, R. N.; Wittenberg University, B. S. N.; Slippery Rock University, M. Ed.
- WALTER L. HART, (1940- 1977), M. F. A., Professor, Director, Admissions
Grove City College, B. M.; Carnegie Institute of Technology, M. of F.A.
- HAROLD V. HARTLEY, JR., (1963-1990), Ph. D., Professor, Speech Pathology and Audiology
Bloomsburg University, B. S.; Pennsylvania State University, M.Ed.; Kent State University, Ph.D.
- LEE W. HEILMAN, (1968- 1976), M. A., Assistant Professor, English
Gettysburg College, A. B.; Duke University, M. A.; Lutheran Theological Seminary at Gettysburg, M.A.
- ROBERT D. HOBBS, (1971 - 1988), Ed. D., Professor, Art
Howard County Junior College, A. A.; West Texas University, B. S.; Colorado State College of Education, M. A.;
Pennsylvania State University, Ed.D.
- NORMAN B. HUMPHREY, (1961- 1983), M. S., Associate Professor, Geography
Slippery Rock University, B. S.; Florida State University, M.S.
- ARNOLD L. JESCHKE, (1966- 1984), M.Ed., Instructor, English
Edinboro University, B. S., M. Ed.
- MARGERY C. JOHNSON, (1957- 1981), M. S. L. S., Assistant Professor, Librarian
Geneva College; Clarion University, B. S., M. S.L.S.
- JOHN A. JOY, (1961- 1976), M.Ed., Associate Professor, Health and Physical Education
Slippery Rock University, B. S.; University of Pittsburgh, M. Ed.
- ALFRED E. JUNOD, (1967- 1980), EdD., Associate Professor, French
New York University, B. C. S., M. A.; University of Buffalo, Ed.D.
- WILLIAM J. KARL, (1959-1988), M. A., Assistant Professor, English
Michigan State University; Clarion University, B. S.; Columbia University, M.A.
- GAIL L. KENEMUTH, (1971-1987), Ed. D., Associate Professor, Education
Clarion University, B. S.; Pennsylvania State University, M.Ed., Ed.D.
- ROBERT L. KERN, (1970- 1988), Ed. D., Professor, Special Education
Eastern Nazarene College, A. B.; Nazarene Theological Seminary, B. D.; Pennsylvania State University, M.Ed.,
Ed.D.
- CLIFFORD M. KEITH, (1959- 1991), Ed. D., Professor, Physics
Clarion University, B. S.; Pennsylvania State University, M.Ed., Ed.D.
- ELAINE M. KING, (1963- 1978), M.Ed., M. A., Associate Professor, English
Southwestern Oklahoma State College, B. A.; Indiana University of Pennsylvania, M.Ed., M.A.
- DAVID H. KLINDIENST, (1969-1988), Ed. D., Associate Professor, Education
University of Pittsburgh, B. A., M. Litt.; Pennsylvania State University, Ed. D.
- JAMES H. KNICKERBOCKER, (1970-1993), Ph. D., Professor, English
Stanford University, B. A., M. A.; Washington State University, Ph.D.
- JOSEPH J. KNOWLES, (1961- 1977), M.Ed., Associate Professor, Health and Physical Education
Waynesburg College, B. S.; University of Pittsburgh, M. Ed.
- HELEN KNUTH, (1958- 1977), Ph. D., Professor, History
University of Dubuque, A. B.; Northwestern University, M. A., Ph.D.
- KATHERINE M. KOCHNO, (1967- 1978), Ph. D., Associate Professor, Psychology
Institute of Natural and Medical Services, (Kharkov); Medical School, (Vinnytza); Medical School (Lvov),
Lemberg, Free University of Munich, Ph.D.
- RONALD A. KOPAS, (1967-1993), M. S., Associate Professor, Mathematics
University of Pittsburgh, B. S.; Purdue University, M.S.
- WILLIAM R. KODRICH, (1967-1991), Ph. D., Professor, Biology
Hartwick College, B. A.; University of Pittsburgh, Ph.D.

- MARGARET M. KORDECKI, (1964- 1984), M. A.**, Associate Professor, Geography and Earth Science
Western Michigan University, B. S., M. S.; University of Hawaii, M.A.
- WALTER F. KOUKAL, (1966-1978), Ed. M.**, Associate Professor, Education
State University of New York, College at Buffalo, B.S.Ed.; State University of New York at Buffalo, Ed.M.
- JOHN A. LASWICK, (1966- 1988), Ph. D.**, Professor, Chemistry
University of Colorado, B. A.; Cornell University, Ph.D.
- CHARLES D. LEACH, (1969-1986), Ed. D.**, Professor of Education, Vice President for Finance and University
Treasurer
Lycoming College, B. S.; Pennsylvania State University, M.Ed., Ed.D.
- THOMAS A. LEAVY, (1976-1993), Ph. D.**, Professor, Geography and Earth Science
Slippery Rock University, B. S.; The Pennsylvania State University, M. S.; University of Pittsburgh, Ph.D.
- FRANK LIGNELLI, JR. (1957-1990), M.Ed.**, Professor, Director, Athletics
Clarion University, B. S.; University of Pittsburgh, M.Ed.; Penn State, M. Ed.
- DONALD K. LOWE, (1968- 1991), M. A.**, Associate Professor, Mathematics and Statistics
University of Pittsburgh, B. S., M.A.
- BRUCE MacBETH, (1967-1993), B. S.**, Instructor, English
Clarion University, B.S.
- JOHN G. MAGER, (1965- 1985), M. L. S.**, Associate Professor, Librarian
Concordia Seminary, B. A., Div. M., S. T. M.; Washington University, M. A.; University of California, M.L.S.
- DAVID R. MARCHAND, (1984- 1993), M. S.**, Assistant Professor, Mathematics
Western Illinois University, B. S., M.S.
- CHARLES L. MARLIN, (1966- 1991), Ph. D.**, Associate Professor, Speech Communication and Theatre; Director,
Sandford Art Gallery
University of Missouri, B. S.Ed.; Indiana University, M. A., Ph.D.
- ALLENE H. MASTERSON, (1962-1980), Ph. D.**, Associate Professor, French and Spanish
Geneva College, B. A.; University of Pittsburgh, M. Litt., Ph.D.
- JAMES E. McDANIEL, (1965- 1991), A. M. L. S.**, Assistant Professor, Chair, Librarian
Eastern Michigan University, B. A., M. A.Ed.; University of Michigan, A. M.L.S.
- HELEN McDONALD, (1974- 1978), M. S., C. N. M.**, Assistant Professor, Nursing
Clarion University, B. S.Ed., Johns Hopkins University, B. S. N.; Yale University School of Nursing, M. S. N.,
C.N. M.
- WILLIAM M. McDONALD, (1957-1981), M. A.**, Associate Professor, Music, Director of Choirs
Indiana University of Pennsylvania, B. S.; New York University, M.A.
- NANCY S. MCKEE, (1958- 1984), M. L. S.**, Associate Professor, Librarian
Wilson College, A. B.; Carnegie-Mellon University, M.L.S.
- RICHARD M. METCALF, (1967- 1986), Ed. D.**, Professor, Communication
Illinois State University, B. S., M. S.; Indiana University, Ed.D.
- STANLEY F. MICHALSKI, JR., (1961-1991), Ed. D.**, Professor, Music and Music Education, Conductor of Bands
Pennsylvania State University, B. S., M.Ed., Ed.D.
- J. REX MITCHELL, (1966- 1989), Ed. D.**, Professor, Music
Muskingum College, B. S.; Kent State University, M. E. M.; The Pennsylvania State University, Ed.D.
- MELVIN A. MITCHELL, (1965- 1991), M.Ed.**, Professor, Mathematics
Indiana University of Pennsylvania, B. S., M. Ed.
- LESTER D. MOODY, (1956- 1974), Ph. D.**, Professor, English
Washington State University, B. A.; University of Washington, M. A., Ph.D.
- ELEANOR D. MOORE, (1956-1972), M. S. L. S.**, Associate Professor, Library Science
Clarion University, B. S.; University of Pittsburgh, M.Ed.; School of Library Science, Columbia University, M.S.
- J. ROBERT MOORE, (1965-1991), Ph. D.**, Professor, Biology
Clarion University, B. S.; University of Pittsburgh, M. S., Ph.D.
- JOHN N. MOORHOUSE, (1961- 1991), Ed. D.**, Professor, Education
California University, B. S.; University of Pittsburgh, M.Ed.; Pennsylvania State University, Ed.D.
- ELBERT R. MOSES, JR., (1959-197 1), Ph. D.**, Professor, Chair, Speech and Dramatic Arts
University of Pittsburgh, A. B.; University of Michigan, M. S., Ph.D.
- PAUL R. MOSSER, (1965- 1983), M. A.**, Associate Professor, Education
Kutztown University, B. S.; Lehigh University, M.A.
- PETER H. NACHTWEY, (1968-1991), Ph. D.**, Professor, Psychology
University of Rochester, B. A.; Columbia University, M. A.; Professional diploma, Vocational Counseling,
Teachers College, Columbia University; University of Pittsburgh, Ph.D.
- JOHN NANOVSKY, (1967- 1980), P. E. D.**, Professor, Director, College Centers
Miami University, B. S.Ed.; University of Pittsburgh, M.Ed.; Indiana University, P.E.D.
- ROBERT NORTHEY (1963- 1989), M. A.**, Assistant Professor, Mathematics
Clarion University, B. S.; Rutgers University, M.A.
- LESTER C. OAKES, (1961- 1980), M. S.**, Associate Professor, Geography
Teachers College of Connecticut, B.Ed.; New York University, M. A.; Union College, M. S.; Teachers College,
Columbia University, Professional Diploma.
- GALEN L. OBER, (1956- 1983), M.Ed.**, Assistant Professor, Physical Science
Indiana University of PA, B. S.; University of Pittsburgh, M. Ed.
- MICHEL G. OSSEZIA, (1966- 1986), Ph. D.**, Professor, Mathematics
University of Pittsburgh, B. S., M. Litt., Ph.D.
- DONALD R. PAGANO, (1962- 1985), M. S.**, Assistant Professor, Mathematics
Duquesne University, B. S.; Syracuse University, M.S.
- FRANK A. PALAGGO, (1964- 1989), M.Ed.**, Associate Professor, Assistant Dean, Education
Clarion University, B. S.; Pennsylvania State University, M. Ed.

- HUGH WINSTON PARK**, (1959-1986), **Ph. D.**, Professor, English
Hiram College, B. A.; Western Reserve University, M. A.; University of Utah, Ph.D.
- LAWRENCE L. PENNY**, (1959-1977), Ed. D., Professor, Psychology
Oklahoma State University, B.S. in Ed., M. S.; Kansas University, Ed.D.
- ANNETTE ROUSSEL-PESCHE**, (1966- 1981), M. A., Associate Professor, Music
Carnegie-Mellon University, B. A.; Ecole Normale de Musique de Paris, M.A.
- ANDOR S. P-JOBB**, (1963-1991), M. A., Associate Professor, Art
Kent State University, B. F. A., M.A.
- RICHARD K. REDFERN**, (1968- 1981), Ph. D., Professor, English
University of Illinois, B. S.; Cornell University, M. A., Ph.D.
- JOHN F. REINHARDT**, (1962- 1989), Ph. D., Associate Professor, English
Grove City College, B. A.; New York University, M. A.; University of Pittsburgh, Ph.D.
- EUGENE L. RHOADS**, (1961- 1984), M.S. in Ed., Associate Professor, Mathematics
Clarion University, B. S.; University of Pennsylvania, M.S. in Ed.
- ELIZABETH L. ROSS**, (1972- 1991), Specialist in Business. Professor, Computer Information Science
Missouri Valley College, B. S.; University of Kansas, M. S.; Central Missouri State University, Specialist in Business.
- ELIZABETH A. RUPERT**, (1961- 1985), Ph. D., Professor, Dean, College of Library Science
Clarion University, B. S.; Syracuse University, M.S. in L. S.; University of Pittsburgh, Ph.D.
- CHARLES A. RUSLAVAGE**, (1964- 1991), M.Ed., Associate Professor, Health and Physical Education
Pennsylvania State University, B. S., M.Ed.; Slippery Rock University, M. Ed.
- ROY H. SCHREFFLER**, (1966- 1988), Ed. D., Professor, Special Education
Juniata College, B. S.; Pennsylvania State University, M.Ed., Ed.D.
- EUGENE A. SEELYE**, (1961- 1991), M. A., Associate Professor, Chair, Art
Indiana University of Pennsylvania, B. S.; Columbia University, M.A.
- ROBERT C. SEGEBARTH**, (1968-1977), A. B., Professor, Director, Financial Aid Services
Colgate University, A.B.
- FRANK H. SESSIONS**, (1977-1990), Ph. D., Dean, College of Graduate Studies and Continuing Education
The Ohio State University, B. S.Ed., M. A.; Kent State University, Ph.D.
- DANIEL K. SHIREY, JR.**, (1964- 1990), Ed. D., Professor, Special Education
Pennsylvania State University, B. S., M. S., Ed.D.
- JAMES D. SHOFESTALL**, (1959-1985), M.Ed., Associate Professor, Physics
Clarion University, B. S.; University of Pittsburgh, M. Ed.
- CHARLES J. SHONTZ**, (1957- 1983), Ph. D., Professor, Associate Vice President for Academic Affairs and Dean of Summer Sessions
Indiana University of Pennsylvania, B. S.; University of Pittsburgh, M. S., Ph.D.
- FRANCES M. SHOPE**, (1967-1986), M.Ed., Associate Professor, Health and Physical Education, Associate Director, Athletics
West Chester University, B. S.; Pennsylvania State University, M. Ed.
- SARJIT SINGH**, (1964-1991), Ph. D., Professor, Economics
Oklahoma State University, M.S., Ph.D.
- GLENN L. SITZMAN**, (1969- 1983), M. S., Associate Professor, Librarian
Oklahoma Baptist University, B. A.; Baylor University, M. A.; Columbia University, M.S.
- DEWAYNE E. SLAUGENHAUPT**, (1965- 1982), M. S., Associate Professor, Physics
Clarion University, B. S.; University of Pittsburgh, M.Ed.; Clarkson College of Technology, M.S.
- JACK H. SMITH**, (1968- 1987), M. A., Associate Professor, Speech Pathology and Audiology
St. Cloud State College, B. S.; University of Nebraska, M.A.
- PHYLLIS W. SMITH**, (1968- 1989), Ph. D., Professor, Education
Corcordia College, B. A.; Temple University, M.Ed.; Southern Illinois University, Ph.D.
- WILLIAM H. SNÉDEGAR**, (1967-1991), Ph. D., Professor, Physics
West Virginia University, A. B., M. S.; University of Kentucky, Ph.D.
- ELDON K. SOMERS**, (1969-1991), Ed. D., Associate Professor, Social Science
Canisius College, B. S.; University of Buffalo, Ed. D.; Christ the King Seminary, Div. M.; State College of New York at Buffalo, Ed.D.
- DANA S. STILL**, (1948- 1983), Ph. D., Professor, Provost and Academic Vice President
The Ohio State University, B. S., M. A.; University of Pittsburgh, Ph.D.
- IMOGENE SUMNER**, (1962-1985), M. A., Associate Professor, Chair, History
Coe College, B. A.; University of Chicago, M.A.
- ZOE SWECKER**, (1966-1984), Ph. D., Professor, History
University of North Carolina at Greensboro, A. B.; University of Chicago, Ph.D.
- GIVENS L. THORNTON**, (1971-1988), Ph. D., Professor, Psychology
Michigan State University, B. A.; University of Denver, M. A., Ph.D.
- CHRISTINE M. TOTTEN**, (1965-1982), **Ph. D.**, Professor, German
University of Berlin; University of Heidelberg, Ph.D.
- DON E. TOTTEN**, (1965- 1985), Ph. D., Professor, Geography and Earth Science
University of Chicago, M. A.; University of Heidelberg, Ph.D.
- SILAS TOWNSEND**, (1986-1991), M. S. L. S., Instructor, Librarian
Oberlin College, B. A.; Western Reserve University, M. S.L.S.
- JOSEPH UZMACK**, (1965-1985), Ed. D., Professor, Education
Clarion University, B. S.; Indiana University of Pennsylvania, M.Ed.; Pennsylvania State University, Ed.D.
- JAY VAN BRUGGEN**, (1962- 1991), M. A., Associate Professor, Political Science
Calvin College, B. A.; Western Michigan University, State University of Iowa, M.A.
- R. SUZANNE VAN METER**, (1965-1991), Ph. D., Professor, History
Hastings College, A. B.; Indiana University, M. A., Ph.D.

- KENNETH G. VAYDA, (1962-1984), Ed. D.** Professor, Special Education
Pennsylvania State University, B. S., M. S., Ed.D.
- PHILIP N. WALLACE, (1967- 1980), M. A.,** Associate Professor, Director, Professional Education Services
Clarion University, B. S.; University of Pittsburgh, M.A.
- ADAM F. WEISS, (1965-1991), Ph. D.,** Professor, Chair, Speech Communication and Theatre
University of Pennsylvania, B. A.; University of Denver, M. A., Ph.D.
- ARTHUR A. WICHMANN, (1969-1981), Ph. D.,** Professor, Chair, Economics
Southeast Missouri State College, B. S.; Northwestern University, M. B.A., Ph.D.
- SAMUEL A. WILHELM, (1941-1972), Ph. D.,** Professor, History
Clarion University, B. S.; University of Pittsburgh, M. Litt., Ph.D.
- MARY ELIZABETH WILLIAMS, (1962- 1990), M. L. S.,** Assistant Professor, Librarian
Clarion University, B. S.; University of Pittsburgh, M.L.S.
- SUSAN B. WILLIAMS, (1966- 1986), Ph. D.,** Professor, Psychology
Grove City College, B. S.; University of Pittsburgh, M.Ed., Ph. D., Pennsylvania Psychologist License.
- ROBERT M. YOHO, (1968- 1989), Ed. D.,** Associate Professor, Education
Miami University, Juniata, B. A.; Pennsylvania State University, M.Ed., Ed.D.
- ARNOLD ZAESKE, (1968-1988), Ed. D.,** Professor, Education
Elmhurst College, B. A.; University of Illinois, M. A.; University of Missouri, M.Ed., Ed.D.

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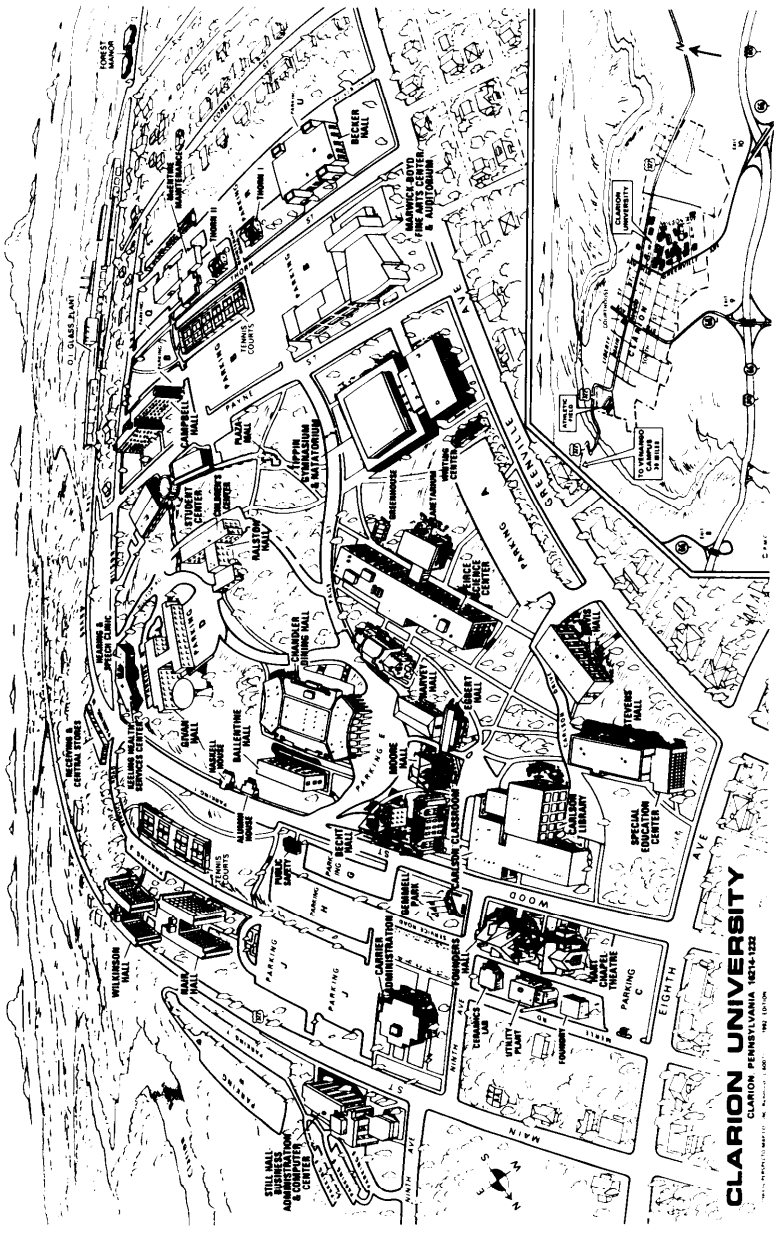
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