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URSINUS

THE CATALOG



1988-89

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1988-89

Course Catalog



Ursinus College
Collegeville, Pennsylvania 19426

Communications with Ursinus College

Communications with the College should be addressed to the appropriate administrative officer.

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Correspondence should be directed to the appropriate administrative officer. The mailing address is Ursinus College, Collegetville, Pennsylvania 19426.

The College telephone number is (215) 489-4111.

Visitors to the College are welcome. Student guides are available when the College is in session. The office of admissions is located in Corson Hall. Applicants for admission should call or write for an appointment.

Directions and maps to Collegetville are found on the inside back cover of the catalog.

Contents

THIS IS URSINUS	5
The College in Brief.....	5
STUDENT LIFE ON CAMPUS.....	9
The Campus Setting	14
Career Planning and Placement.....	18
ADMISSION.....	22
FINANCIAL INFORMATION	28
Tuition, Board, Fees	28
Scholarships and Financial Aid.....	32
EDUCATIONAL PROGRAM.....	40
THE URSINUS PLAN.....	49
COURSES OF INSTRUCTION	61
SUGGESTED FIRST-YEAR PROGRAMS	145
DIRECTORY	148
The Board of Directors	148
The Administration	151
The Faculty	152
Prizes, Honors, Degrees 1987	164
Alumni Association.....	169
College Calendar for 1988-1989.....	170
INDEX.....	172

The mission of Ursinus
College is to develop
independent and responsible
individuals who are prepared
for a creative and productive
role in a changing world
through a program of liberal
education.

This is Ursinus



The College in Brief

Ursinus College is an independent, four-year liberal arts college with a tradition of academic excellence reaching back to 1869. It enrolls about 1,200 students, divided almost equally between men and women. Over 1,000 students are residents in College dormitories. The others live at home and commute from surrounding areas.

All students undergo a lively process of general education, while concentrating in one of 20 major fields. They also have an opportunity to take minor concentrations in areas outside their majors to allow for career options or for greater intellectual breadth or depth.

Seventy percent of the members of the full-time teaching faculty hold doctoral degrees. Faculty members, who engage in research, are committed first to teaching. Learning takes place in a friendly but challenging environment.

Ursinus College is part of the richly-varied higher educational community of the larger Philadelphia region. Its 140-acre campus in suburban Montgomery County is just 30 miles from center city. The small town ambience of Collegeville contrasts with busy Philadelphia and the huge shopping complex six miles away at King of Prussia.

A high percentage of Ursinus students enter graduate and professional schools. Alumni are leaders in civic and cultural life, and they are found in key positions in industry and the professions. Wherever they are, they bring a special attitude toward life, at once critical and creative, that marks them as Ursinus men and women.

Ursinus College is related to the United Church of Christ and has been church-related since its founding in 1869. The College was established by pastors and laity of the German Reformed Church, later known as the Reformed Church in the United States, from 1934 to 1957 known as the Evangelical and Reformed Church, and since 1957 known as the United Church of Christ.

How Ursinus Began

The beginning of educational work on what is now the campus of Ursinus College dates back to the construction two centuries ago of a primitive log schoolhouse. The ancient building was razed in 1832

when Todd's School was built in the town of Perkiomen Bridge, now Collegeville. In 1848 Freeland Seminary was opened on a tract adjacent to Todd's School. During the following two decades hundreds of young men were educated there.

In 1867 a group of men, members of the German Reformed Church, actuated by a desire to serve the interests of higher education and of evangelical Christian religion, laid plans to establish a college where, to quote their words, young men could be liberally educated under the benign influence of Christianity." They chose as the name of the College that of the distinguished 16th-century scholar and reformer, Zacharias Ursinus of the University of Heidelberg, Germany. In 1869 the College was granted a charter by the Legislature of Pennsylvania. The buildings of Freeland Seminary were bought, and instruction was begun on September 6, 1870. Women were admitted to the College for the first time in 1881.

When the College was established, a preparatory department, which succeeded Freeland Seminary, also was instituted. The preparatory school was called Ursinus Academy and was operated as such until 1910, when it was discontinued.

College Principles and Mission

Ursinus College is an independent, coeducational, liberal arts college which seeks to help the student to understand and to emulate excellence in scholarship and in conduct. Although the College prepares men and women for a variety of professions, it continues to emphasize the fact that however varied and specialized the changing needs of the day, the fundamental needs of man remain constant. All students, regardless of major, are required to study a core of subjects considered essential for a liberally educated person.

The mission of Ursinus College is to develop independent and responsible individuals who are prepared for a creative and productive role in a changing world through a program of liberal education that cultivates the following:

- (1) Familiarity with subject matter and methods of the major divisions of learning, combined with intensive knowledge of at least one major discipline;
- (2) A facility for making independent and responsible value judgments;
- (3) A spirit of inquiry and intellectual flexibility;
- (4) Critical, logical and imaginative thinking;
- (5) A heightened understanding of human nature, enlarged by compassion and moral obligation;
- (6) Ideals of morality and service consonant with the Christian character;

- (7) A comprehension of our natural and social environment and our cultural heritage; and
- (8) A sense of sharing in a community enterprise.

Students at Ursinus share the freedom of inquiry and the respect for the individual which are at the heart of a good liberal education. They also share the responsibility for maintaining the order and civility needed for learning and for personal growth. The College expects that when students decide to enroll they will abide by all the rules of the College.

The College reserves the right, through its established procedures, to modify the requirements for admission and graduation; to change the arrangement or content of courses, the texts and other materials used, the tuition and other fees; to alter any regulation affecting the student body; to refuse admission or readmission to any student at any time, or to require the withdrawal of any student at any time, should it be deemed in the interest of the College or of the student.

Ursinus College is a member of the National Association of College Admissions Counselors and subscribes to its Statement of Principles of Good Practice.

Cultural Environment

Students at Ursinus have the advantages of living in a small town. At the same time they are in the Philadelphia region and within a few hundred miles of New York City. They have opportunities to see plays and operas, hear some of the greatest symphonic music in the world, visit museums and historical sites, and observe the urban scene at its liveliest.

Ursinus is located a few miles from Valley Forge, in the heart of a region which is rich in historical tradition. In Colonial days, this region was a center for the cultural and political development of America.

Accreditation

Ursinus is a member of the Association of American Colleges and is on the approved list of the Middle States Association of Secondary Schools and Colleges, the American Association of University Women, the American Chemical Society, and has been given program approval by the Department of Education of the Commonwealth of Pennsylvania for the certification of teachers.

The College Year

The College year consists of two semesters of 15 weeks each and a summer session of 12 weeks. Students are admitted to the College at the beginning of either semester or at the beginning of the summer

session. Those who wish to accelerate their college programs may attend the summer session in addition to the fall and spring semesters. The summer session is available to all students who wish to take advantage of it.

College Advancement

On Nov. 1, 1985, Ursinus launched a five-year development program, The Campaign for Ursinus College, to continue to strengthen the College's resources. The campaign is seeking \$20 million for faculty endowment, scholarship endowment, improvements to the physical plant, support of annual operations, and for future interests. At the close of 1987, the campaign had raised over \$19 million dollars in gifts and pledges. In recent years, two other campaigns were successfully conducted, The Century II Program (1970-1975) and The Advance Ursinus 76/80 Program. The College generally has enjoyed strong financial support over years from the members of the board of directors, alumni and friends, which has contributed greatly to the College's success.

Student Life on Campus



Ursinus gives great emphasis to the quality of student life for both resident and commuting students. Our objective is to help each student grow in independence and responsibility. Students are encouraged to take an active role in the life of the campus community. They have many opportunities to contribute to group decisions, to practice leadership, to sort out their own priorities and make personal choices. As a part of the regular campus planning process, policies affecting student life are under continuous review with the goal of furthering the educational effectiveness of residence hall life, social activities, counseling and advising.

The student life program is administered by the Office of Student Life. It includes offices dealing with career planning and placement, counseling, financial aid, health services, student activities, and residential life.

Student Center

The Student Center, located in Wismer Hall, is a major social center on campus, providing many services and activities. It includes a snack bar, game room, television lounge, print shop, the Student Activities office, the offices of the student government, and Campus Activities Board.

Religious Life

From its founding, Ursinus College has maintained its relationship with the German Reformed Church, now the United Church of Christ, and has encouraged its students to explore and develop their spiritual life as part of a liberal arts education. In response to a heritage that recognizes diversity of expression and freedom of worship, no student is ever denied admission to the college because of sect or creed.

In addition to courses offered through the department of religion and philosophy, Ursinus College offers a variety of worship services on campus. The College chaplain is the coordinator of campus religious life and serves as a counselor to those in need. The chaplain's office sponsors ecumenical services and activities during the academic year and coordinates the activities of the five campus religious organizations (Fellowship of Christian Athletes, Ecumenical Society, Intervarsity Christian Fellowship, Newman Society for Catholic students, and

students, and Organization of Jewish Students). A Protestant worship service and Roman Catholic Mass are held weekly on campus. Jewish students are encouraged to attend one of the nearby synagogues. They have the opportunity through the Organization of Jewish Students to participate in activities on campus and with the Jewish student community in the greater Delaware Valley.

The Meditation Chapel is available to the Ursinus community for meditation and prayer and serves as a meeting place for religious groups.

Women and men considering the possibility of careers within their churches or synagogues are assisted in their preparation by the guidance of the chaplain and various resources on campus.

Medical Service

Resident students are entitled to ordinary medical care for minor accidents and ailments contracted while enrolled at the College. All care for the sick is under the direction of the College physicians and their decisions concerning the disposition of cases are final. The College reserves the right to enforce quarantine, and to require the removal from the campus of students who require extraordinary care. Transportation to home or hospital is the student's responsibility. College physicians will consult with students in the Health Center during regular office hours. The Health Center does not provide facilities for housing students who are ill or injured.

Students requiring allergy injections must present a signed permission slip from their personal physician and from their parents. A charge of \$1.00 will be made for each allergy injection administered by Health Center personnel. Only medication prescribed by licensed physicians will be administered.

Students are responsible for the cost of laboratory tests, x-rays and prescription medications not carried by the College.

The Health Center is open from 8:00 A.M. to 4:00 P.M. on weekdays. At other times, nurses are on call, but do not staff the health center. Except for extreme emergencies, the student seeking medical attention is responsible for reporting to the Health Center or to an area hospital to obtain treatment. When emergency treatment is required, the College will make every effort to assist the student in obtaining treatment. The cost of treatment by physicians and nurses not on the College staff is to be borne by the student.

Room and Meals

In order to fulfill its mission, Ursinus requires all students who do not live in their own homes to reside in college residence halls and take their meals in the College Dining Hall.

The College Dining Hall is located in Wismer Hall. The College meal plan serves students three meals a day during the academic year.

Athletics

Ursinus College recognizes the physical, social and moral benefits derived from athletic activity and offers a well-balanced sports program open to all. Athletics are part of the total educational program of the College. Athletes are students and students are athletes. The athletic program exists only because the academic program exists.

The primary emphasis in athletics is to enhance personal development through a broad-based program of spirited competition. Successful competition is recognized as a legitimate objective to be achieved in an ethical manner consistent with the stated mission of the College.

Coaches are educators and coaching is viewed as a specialized form of teaching the values of training, strategy, hard work, team play, and vigorous competition – all a part of a sound educational program. In addition, lessons in courtesy and sportsmanship, for participants and spectators alike, are to be fostered.

Equal opportunities are available for all men and women. The ultimate objective of the athletic program is to develop in students the recreational and social competencies for their effective use of leisure time.

Men's intercollegiate competition takes place in football, basketball, soccer, wrestling, swimming, cross country, golf, baseball, track and tennis. In addition there is an intramural program. Intramural athletics for men include touch football, basketball, volleyball, wrestling, softball, water polo, track and tennis. Club programs are sponsored in lacrosse and fencing.

For women students, the College supports intercollegiate competition in hockey, basketball, softball, tennis, swimming, lacrosse, badminton, gymnastics, volleyball, cross country and track. The women's intramural program provides additional recreational opportunities in tennis and water polo with inter-dorm competition in volleyball and table tennis. Club programs are sponsored in dancing, bicycling and sailing.

The College is a member of the Middle Atlantic Conference, the Centennial Football Conference; the Pennsylvania Association for Intercollegiate Athletics for Women; the Eastern Association for

Intercollegiate Athletics for Women; and the National Collegiate Athletic Association. These organizations govern the conduct of Intercollegiate Athletics at member institutions.

Organizations

Ursinus students find opportunities for education and recreation through a large number of organizations. Constitutions for all student organizations are approved by the Student Activities Committee and the faculty. In addition, members of the faculty and administration serve these groups as advisers, and the Student Activities Committee and the Student Activities Office serve as resources for student organizations. The Ursinus Student Government Association (USGA) has the principal responsibility for student participation in the planning and administration of student life. USGA members are elected by the student body and are advised by a member of the Office of Student Life. The Campus Activities Board (CAB) is the primary source of campus-wide programming, providing movies, dances, concerts, trips, and entertainment, as well as opportunities for leadership development.

Other organizations stimulate the interest of students in particular areas of study or in future occupations. Among them are the Brownback-Anders Pre-Medical Society, the Beardwood Chemical Society, the Biology Club, the Computer Society, the Society of Physics Students, the Spanish Club, the Haines-Barnard Pre-Legal Society, the G. Leslie Omwake Education Club, the Socratic Club, the Psychology Club and the Business and Economics Club. Interest in athletics and campus spirit is fostered by the Women's Athletic Association and the Spirit Committee. There are the following national honor societies: Beta Beta Beta, the biological honor society, which stimulates interest, scholarly attainment and investigation in the biological sciences and promotes information and interpretation among students of the life sciences; Sigma Pi Sigma, the national physics honor society, which is affiliated with the American Institute of Physics and the Association of College Honor Societies; Kappa Mu Epsilon, a national mathematics honor society; Omicron Delta Epsilon, the international honor society in economics; Phi Sigma Iota, the international honor society for foreign languages; Sigma Tau Delta, national English honor society; Pi Gamma Mu, the national social sciences honorary society, which offers scholastic recognition to outstanding junior and senior students; and Psi Chi, the national honor society in psychology, and an affiliate of the American Psychological Association and the Association of College Honor Societies. Outstanding junior men may be elected to Cub and Key and junior women, to the Whitians.

A large and varied program of dramatics is sponsored and carried out by proTheatre, which presents two major productions a year, in

addition to various group productions. There is an Ursinus chapter of Alpha Psi Omega, a national honorary dramatics fraternity.

Music plays a large part in the life of Ursinus. Faculty members in the music department advise the student musical organizations and provide professional musical leadership. The Meistersingers and Chamber Singers offer concerts on and off campus, including a one-week tour each year. The Ursinus College Choir offers a wide variety of literature, from modern to major classical works. Its annual presentation of Handel's *Messiah* is a highlight of the musical year on campus. The music department also provides opportunities for instrumental performance—the College Concert Band, Jazz Ensemble, Jazztet and Pep Band. In addition, the music department offers private instruction in piano, organ, guitar, voice, woodwinds, brass and percussion.

A chapter of Pi Nu Epsilon, the national honorary music fraternity, is active on the Ursinus campus.

There are numerous social organizations on the Ursinus campus. The fraternities are Sigma Rho Lambda; Alpha Chi Sigma, a local service fraternity; Alpha Phi Epsilon; Delta Mu Sigma; Pi Omega Delta; Beta Sigma Lambda; Delta Pi Sigma; Zeta Chi, and Alpha Phi Omega, a national service fraternity. The sororities are Omega Chi; Alpha Sigma Nu, a local service sorority; Kappa Delta Kappa; Phi Alpha Psi, and Tau Sigma Gamma.

Student Communications

The Grizzly is the Ursinus newspaper. It is managed by a publications committee consisting of student and faculty representatives and is edited and written entirely by the students. The editor-in-chief, the associate editors, and the business manager are elected by the committee on the basis of merit, and the staff is selected by the editors on the same basis. The paper is of interest to students and alumni as a record of life at Ursinus.

The Lantern serves as an outlet for those interested in creative writing and art. It is written and edited by an all-student staff under the direction of a faculty adviser. It is published twice a year.

The Ruby, the Ursinus yearbook, is published by an all-student staff each year. It is a volume presenting an intimate pictorial account of the year's activities, not only of the senior class, but of the entire College.

The Ursinus College Bulletin, official alumni magazine of the College, appears five times a year and includes the annual report of officers.

WVOU, the campus radio station, is designed to present a varied agenda of music, from classical to rock, and campus and world news.

The Campus Setting

A major building program, undertaken to celebrate the centennial of the College, transformed the Ursinus campus into a modern and highly-attractive setting for liberal education. The award-winning Residential Village and the Philip I. Berman Art Center are the most recent campus renovations.

Wisner Hall, completed in 1965, is one of the chief points of activity on campus. It contains the Student Center, Dining Hall, Parents' Lounge and a lecture hall. The building led in 1966 to a citation for excellence from the Pennsylvania Society of the American Institute of Architects. It is named for the late Ralph F. Wisner, '05, former Treasurer of the College and member of the Board of Directors.

Bomberger Memorial Hall, built in 1891, provides classrooms for many courses in the humanities, languages and social sciences. It also houses the College chapel, study and recreation areas. This Romanesque hall, made of Pennsylvania blue marble, is named for the first President of Ursinus, Dr. J. H. A. Bomberger. The building was made possible by the benefactions of Robert Patterson and was completely renovated in 1972. In November 1981, the restored tower of Bomberger Hall was named Wagner Tower in honor of James E. Wagner, D.D., former president of the Evangelical & Reformed Church (1953-1961), co-president of the United Church of Christ (1957-1961), and vice president of Ursinus College (1962-1968).

Pfahler Hall of Science, built in 1932, is named in honor of Dr. George E. Pfahler, famed radiologist. It houses classrooms and laboratories for work in chemistry, physics, mathematics, computer science and geology. The building is equipped with the Elihu Thomson Memorial Telescope for astronomical observation in the Walter W. Marsteller Memorial Observatory. The development plan of the College brought extensive renovation of the building in 1971, and the expansion of the chemistry, mathematics and physics departments into areas formerly occupied by psychology and biology, now located in the Life Science Building.

The Life Science Building opened for use in September 1970. Along with the Myrin Library and the physical education building, completed in 1972, it was financed by a special All-Ursinus Anniversary Drive that coincided with the College's 100th year. As the home of the psychology and biology departments, it complements Pfahler Hall of Science. It is the home of the following endowed laboratories: Levi

Jay Hammond Laboratory of Comparative Anatomy, the W. Wayne Babcock Laboratory of General Biology, the Anna Heinly Schellhamer Laboratory.

The Myrin Library, located at the center of the campus, is designed to support the liberal arts program of the College, as well as research and independent study. The open-stack structure houses more than 165,000 volumes, 130,000 microforms, 20,500 audiovisual materials, and 800 current periodical subscriptions. It is also a selective depository for U.S. Government documents and Pennsylvania documents.

Study facilities for 500 persons are provided in carrels, seminar rooms, private study rooms, and lounges. During the academic year the library is open 100 hours per week. Media Services, the Curriculum Materials Center, the Pennsylvania German Studies Archive, and the Ursinusiana Collection also are located in the Library.

An experienced staff of librarians provides reference and information service 55 hours per week to assist students and faculty in the use and interpretation of library collections. An ongoing program of library orientation and instruction, in cooperation with the academic departments, is designed to familiarize students with research materials and appropriate search strategies. Direct access to over 7 million volumes is available through the Tri-State Library Cooperative. Over 500 online databases are available for computerized literature searches in all academic disciplines.

Three terminals connected to the Online Computer Library Center's bibliographic network provide worldwide access to 6,100 research collections and over 14 million volumes. The Interlibrary Delivery Service of Pennsylvania supports interlibrary loan functions.

The Myrin Library received a \$750,000 grant from the Mabel Pew Myrin Charitable Trusts in 1986. This grant is funding a three-year renovation project.

The Ursinus College Computer Center, an IBM microcomputer lab and an Apple microcomputer lab, are also located in the Myrin Library. See page 17.

Corson Hall, the Administration Building, named in honor of the late Philip L. Corson, a member of the Board of Directors, and his wife, the late Helen Payson Corson, was dedicated in the spring of 1970. Located near the main entrance to the campus, it houses the Admissions Office, where candidates for entrance to the College make application. The main administrative offices are found here.

The D. L. Helfferich Hall of Health and Physical Education and The William Elliott Pool were dedicated October 21, 1972, Founder's Day, in honor respectively of the ninth president of Ursinus College, and

Dr. William Elliott, Board member, neighbor and benefactor of the College. The physical education complex serves both men and women with three full-size basketball courts, one of them a multi-purpose section; locker rooms and team rooms; wrestling room; weight room; dance studio; classrooms; a regulation collegiate-sized swimming pool; and squash and handball courts. A sculpture of a bear (Ursinus' mascot), chiseled by Charles Sherman from the trunk of a 250-year-old sycamore tree, which until 1983 stood next to the end zone of the football field, is located in the lobby.

Helfferich Hall is supplemented by the Utility Gym, located adjacent to Ritter Center and dedicated October 11, 1980. The Utility Gym is used for both athletic and social events.

The Ritter Center for the Dramatic Arts opened in the fall of 1980, housing a 260-seat theater with flexible staging, a television studio and various auxiliary rooms. It was dedicated October 4, 1980, in honor of Dr. Rolland A. Ritter, LL.D., '60, and his wife, Lullis M. Ritter. Ritter Center occupies the former Thompson-Gay Gymnasium, built in 1927. The memory of the original namesakes is specially preserved in the building. They were Robert W. Thompson, '12, and George H. Gay, '13, noted Ursinus athletes, both of whom died in their senior years at the College.

Among the outdoor athletic and recreational facilities are Price Field, Patterson Field, and Evans Field. Price Field, which includes the baseball diamond, soccer field, softball diamond and football practice fields, is named for Dr. John Price, '05, one of the great athletes in Ursinus history. Football games and track meets take place at Patterson Field, named for the College's first benefactor, Robert Patterson. The Effie Brant Evans Hockey Field is located at the east end of campus near Stauffer Hall. Eight tennis courts and an outdoor shuffle-board court are located behind Helfferich Hall.

Other structures include Super House, a residence on Main Street opposite the campus, bequeathed to the College by the late Henry W. Super, D.D., LL.D., vice president and professor of mathematics, 1870-1891, and president, 1892-1893; Sprankle Hall, on the east campus fronting Fifth Avenue, the Student Health Center; The Eger Gateway, erected through the generosity of George P. Eger, of Reading, Pennsylvania, at the entrance of the walk leading from Main Street to Myrin Library; the statue of Zacharias Ursinus in front of Bomberger Hall, donated by Philip and Muriel Berman and sculpted by Michael Price; The College Store; The power plant, a building put into operation in 1963; and the Marjorie T. Elliott House, 785 Main Street, former home of the late Dr. Edward Platte, College physician, now occupied by the president and his family. The house is named in

memory of the late wife of William Elliott, a member of the Board of Directors.

Computer Facilities

The Ursinus College academic computing facilities consists of a VAX 11/780 mainframe system, a P.C. network, and various other microcomputers located around campus. The main academic computer facility is located in the Myrin Library where students may use the Ursinus College VAX 11/780, or use the College's two microcomputer labs. These computers may be used whenever the library is open. The library is open 7 days a week for a total of 100 hours. Additionally, dialup facilities are available so that students may call up the mainframe 24 hours a day, seven days a week.

The Ursinus VAX 11/780 is a Digital Equipment Corp. 32-bit superminicomputer capable of handling a total of 192 simultaneous users. This system is exclusively for student and faculty use. Administrative computing and the Library automated system run on other systems. The VAX 11/780 has 16 megabytes of internal memory and a Floating Point Accelerator for improved speed and accuracy. Currently a total of over 1.6 gigabytes of disk storage is attached. The system uses Digital's Virtual Memory operating System (VMS). Additionally, the 11/780 has Digital's Unix shell installed. Programming languages currently supported are BASIC, C, COBOL, FORTRAN, and Pascal. Software currently available includes SAS statistical system, IMSL math and statistical Library; the data base software Datatrieve, VMS/RDB, and VAX Common Data Dictionary; and the computer algebra system REDUCE.

The College has two general purpose microcomputer labs in Myrin Library. One Lab contains 23 IBM-PC compatible microcomputers networked over a 3COM network. Several word processors, Lotus 1-2-3, dBASE IIIPLUS and R:BASE for DOS are available on this network. Several printers in the lab and a laser printer in the main computer area are also on the network. The other lab contains six Apple IIe's and three Macintosh SE's, each connected to a printer. Both labs are open for general student use whenever not scheduled for class use.

Residence Halls

The College offers living accommodations for 1100 students. Thirty-two residence halls and houses provide a variety of sizes and programming styles. Approximately half of the resident students live in traditional residence halls, and half reside in residence houses, many of which are part of the College's Residential Village. Residence halls range in size from 5 to 250 residents. Quiet halls, which implement a 24-hour quiet policy, are offered to men and women in both houses and large residence halls.

Musser Hall, Ursinus College's newest residence hall, offers an international experience program. Students selected for the program participate in the planning and implementation of programs that broaden the College community's understanding of international cultures.

Shipment of Belongings

The College will accept United Parcel shipments at the Corson Hall Mail Room between the hours of 8 A.M. and 4:30 P.M., Monday through Friday, one week prior to opening date providing:

1. the mail room has been notified in writing when to expect shipment and from whom;
2. the shipment arrives prepaid.

The College can accept no responsibility for the condition of the shipment.

Career Planning and Placement

An Ursinus education prepares students for a broad range of careers. Resources for career planning are wide and varied. They include the Career Planning and Placement Office, faculty advisers, and hundreds of alumni members of the Grizzly Network. Career counseling begins during the freshman year, when students meet with trained faculty advisers and take part in discussions organized by the Career Planning and Placement Office, located in Studio Cottage. It continues as students decide on major and minor concentrations for their sophomore years. Placement services bring students and prospective employers together as students near graduation. Professional clubs on campus, the Ursinus Business Economics Council, and departmental groups all provide students with information and advice about career options.

Among the many careers pursued by Ursinus graduates are the following:

Accounting. Ursinus College offers a complete series of courses in accounting and prepares students to sit for the examination for certified public accountants.

Business. Graduates from all majors are employed by many types of industrial concerns, banking institutions, public utilities, transportation companies, department stores, chain stores, and the like. By electing languages, students may prepare for growing opportunities in world trade.

Communications. In the past decade, a number of Ursinus graduates have pursued careers in communication industries, including broadcast and cable television, radio, newspaper and magazine publishing, and

advertising and public relations. Since these industries recommend broad liberal arts training, interested students should major in English, politics, economics/business administration, modern language, or communication arts.

Chemical Research: Industrial Chemistry. The College provides opportunities for students desiring to major in chemistry with a view to devoting their lives to some type of chemical research. Graduates find employment in the chemical industry doing pioneer work in the field of chemical research and development.

Computer Science. An increasing number of Ursinus graduates are entering this rapidly-growing field of employment. A major in computer science/mathematics is the usual path into computer work after graduation, but majors in the natural sciences and social sciences and sometimes the humanities also are entering the field.

Dentistry. Many graduates of the College have entered the field of dentistry. Ursinus provides the basic science program prescribed by the Council on Education of the American Dental Association.

Educational Administration. Basic courses in education are provided which are prerequisite to the professional courses in educational administration offered in graduate schools of education of leading universities.

Engineering. Students who wish to study chemical, civil, electrical, mechanical or metallurgical engineering may avail themselves of a program which is being offered at Ursinus College in cooperation with engineering schools. A student at Ursinus College may transfer to an engineering school after completing three years of prescribed work toward a B.A. at Ursinus.

Ursinus College will grant the B.A. after the student has satisfied all requirements for that degree. The engineering school will grant the engineering degree upon completion of the fifth year.

Foreign Service. The American Foreign Service presents attractive opportunities to a limited number of young people who are willing to prepare themselves adequately for service abroad. The history and social science courses, together with offerings available in the modern languages, provide preparation for the examinations required of applicants for positions in foreign service. Upon graduation, students are urged to pursue additional work at a recognized graduate school.

Graduate Study. One purpose of the curriculum of the modern liberal arts college is to prepare students for advanced study in various fields of knowledge. Preliminary study is done by the student at the undergraduate level in his chosen major field. Those intending to enter graduate schools should have a thorough grounding in their chosen

fields. As a reading knowledge of French and German is essential for most higher degrees, this knowledge should be acquired in the undergraduate school.

Health, Physical Education and Recreation. It is possible to specialize in health, physical education and recreation, and at the same time obtain a general cultural education. Health and physical education graduates meet the requirements for certification to teach in this field in Pennsylvania and other states.

Journalism. A student interested in journalism should enroll in the departments of history, politics, English or communication arts and elect widely in other fields. A year at a professional school of journalism is recommended.

Law. A broad selection of courses, emphasizing writing and analytical skills, is considered the best preparation for legal study. While no one undergraduate major is recommended, many students preparing for law school concentrate their studies in economics, English, history or politics.

Medicine. Concentration in biology or chemistry is recommended in order to prepare students who are interested in the various aspects of medicine. Preparation is provided for schools of osteopathy and of veterinary medicine, as well as for the allopathic medical schools. Students should also investigate the opportunities in the allied medical fields, such as occupational and physical therapy, in which many opportunities are being offered.

Military Service. Ursinus College does not have a Reserve Officer Training Corps program. However, most branches of military service offer a variety of programs involving full time study at Ursinus combined with differing amounts of military leadership training during some summers. These programs lead to a commission as a junior grade officer upon graduation from Ursinus.

Nursing. Students who plan to enter the profession of nursing should register for courses in biology, chemistry, and liberal arts in order to qualify for consideration by schools of nursing. Ursinus does not give a degree in nursing but recommends transfer after two years, to a university school of nursing.

Physical Research. A program of concentration in physics and mathematics is offered to students interested in physics as a career.

Psychology. Undergraduate work in psychology is designed for those who seek admission to graduate schools or who wish to enter personnel work in industry. Undergraduate study in psychology is of assistance in the fields of teaching, guidance, law, clinical psychology, personnel and social work, nursing, and preparation for medicine.

Social Work. A professional career in social work requires two years of graduate education in one of the approved schools of social work associated with a number of universities. There are, however, many opportunities for the untrained person holding a baccalaureate degree to find employment in both public welfare and voluntary social agencies; the former is entered through Civil Service examination. Positions are open in work with individuals and with groups. Many of these situations offer funded plans for graduate study upon satisfactory completion of a year of employment.

Teaching. Secondary school teaching preparation which meets the requirements of the State Department of Education in Pennsylvania and of many other states is offered to those who look forward to a career in education. Ursinus offers programs for secondary school certification in English, French, Spanish, German, Latin, mathematics, mathematics-physics, biology, chemistry, physics, general science and social studies. Students seeking certification in social studies will specialize in economics and business administration, psychology, history or political science. Advisers should be consulted in each of these areas early in the student's college career. The program for certification for health, physical education and recreation covers both the elementary and secondary fields. Students should follow the curricula which have been approved by the Pennsylvania Department of Education, a copy of which is in the hands of the advisers. See page 37 for details about the Scholars in Education Awards for Pennsylvania residents entering the mathematics or science fields of secondary education.

Church Vocations. Most leading theological schools have as a requirement for admission, a degree in liberal arts. Students who are preparing for church vocations should plan a broad course of study which will include history, languages, literature, religion, and philosophy.

Career Planning and Placement Office

This office provides career counseling and placement services for all students and alumni. A vital part of this office is the Career Resources Center with its files on corporations, occupational references and career materials. The Grizzly Network of several hundred alumni helps students and alumni clarify career directions and meet potential employers. Campus recruiting is conducted by business and industrial firms, by graduate and professional schools, and by governmental agencies. Career seminars and workshops are provided for students each year. This office maintains part-time and full-time employment listings, internship, fellowship and scholarship information as well as placement files for seniors and alumni.

Admission

The first step in seeking admission to Ursinus College is to file an application. The Office of Admissions will supply a form for this purpose to all who request it. Each completed application must be accompanied by a \$25 application fee. The applicant then must request that an official transcript of his or her secondary school records be sent to the College by the secondary institution. The transcript should include records for the ninth grade through at least the first marking period of the senior year, including class rank and recommendation.

All applicants must arrange for a personal interview on campus, unless, of course, the distance makes such a visit impossible. This requirement must be completed before the application is presented to the Committee on Admissions.

It is the responsibility of the candidate to make arrangements to take the Scholastic Aptitude Test of the College Board and to have the test results sent to the Director of Admissions.

Tests

Candidates for admission to the freshman class are required to take the Scholastic Aptitude Test. It is recommended that applicants take the November or December Scholastic Aptitude Test in their senior year. Although not required, achievement tests are strongly recommended, especially in English composition and mathematics. Full information concerning the dates of the administration of these tests can be obtained from the high school guidance office or by writing directly to the College Board, P.O. Box 592, Princeton, New Jersey 08540. The College Board number for Ursinus College is 2931.

Requirements

A candidate for admission to the freshman class must be a graduate of a secondary school.

If the applicant is a graduate of a four-year high school he or she must offer for admission at least 16 units, which are to be distributed as follows:

Basic Academic Credits (10 units)
English, Four years, Four units

Elementary Mathematics (Algebra and/or Geometry) *Two Units*
 Science, *One Unit*
 Social Studies, *One Unit*
 Foreign Language, *Two Units in One Language*

Additional Academic Credits (at least 2½ Units)

Advanced Mathematics
 Solid Geometry
 Plane Trigonometry
 Science
 Social Studies
 Foreign Language

Electives (Maximum of 3½ Units)

Not more than one unit will be granted for any single elective
 Accounting
 Drawing (Mechanical, Prepared Course)
 Stenography or Shorthand
 Business Training
 Music and Art (History or Appreciation)
 Business Law

Candidates graduated from a three-year high school should offer at least 12 units, which must include the basic credits above. Not more than one unit may be presented from the group designated as electives.

Applicants whose preparation does not coincide precisely with the foregoing outline may, in exceptional cases, be admitted to the College if, in the judgement of the Committee on Admissions, they are qualified to do college work satisfactorily.

Early Admission

A limited number of outstanding juniors who have completed all or nearly all requirements for graduation from high school may be considered for early admission. Such students will be considered only upon the strong written recommendation of the guidance counselor and with the assurance that the student will receive his or her high school diploma either before or upon successful completion of the freshman year in college. It is the responsibility of the applicant to have the recommendation sent to the Office of Admissions.

The admissions process is identical with the following early decision procedure.

Early Decision

Outstanding juniors may apply for admission in the late spring or during the summer preceding the senior year. Applicants should have

their counselors send transcripts for the ninth through eleventh grades together with class rank, personality rating, and recommendation. They also should have junior year Scholastic Aptitude Test scores sent and arrange for interviews, preferably prior to Oct. 1. We strongly recommend that all candidates take achievement tests. Early decisions will be made and applicants notified in the late summer and early fall. Applications for early decision must be received prior to Nov. 1.

Special Program for High School Students and Senior Citizens

Ursinus College has established a program for area high school students and senior citizens (defined as 62 years of age or older). Further information may be obtained from the Admissions Office.

Engineering Program

Arrangements have been made with the engineering schools of the University of Pennsylvania, the Georgia Institute of Technology, and the University of Southern California, to which a student may apply for transfer after completing three years of prescribed work toward a B.A. at Ursinus College.

Ursinus College will grant the B.A. after a student has satisfied the requirements for that degree. The engineering school will grant the engineering degree on satisfactory completion of the fifth year. For the outline of the program see *Suggested Programs*.

Candidates for the engineering program must present 4 years of entrance credit in mathematics. Their background in foreign language should be such that they are capable of entering the second year of language in college. If not so prepared they may make up the deficiency in foreign language in summer school.

Placement in Foreign Languages

Students who wish to take the same foreign language in college that they took in high school, must take the language placement test given by the modern language department at Ursinus. The result of this test combined with their high school language experience will determine the students' language placement at Ursinus.

Advanced Placement

Students who wish to be considered for advanced courses upon admission may submit the results of the advanced placement examinations given by the College Board. If the scores are satisfactory, the student may be advanced beyond the basic course and credit may be given toward the degree. Certain courses offer no advanced placement; therefore it is suggested that a candidate consult the director of admissions if any question arises. *After acceptance for*

degree standing, a student who wishes to receive transfer credits must receive written permission from the dean of the College or the director of admissions to take a course at another college.

College Level Examination Program (CLEP)

Another means by which incoming students may earn advanced credit is through the College Level Examination Program (CLEP). These are examinations offered by the College Board as a means by which colleges may offer credit to students who have completed the equivalent of specified college courses through special experience or study. Ursinus College offers credit only in the subject examinations and not in the general examinations. The examinations are given at centers throughout the country. Applicants interested in the CLEP Program should write for a *CLEP Bulletin of Information for Candidates* to the Program Director, College Level Examination Program, Box 1821, Princeton, N.J. 08540.

Special Students

A limited number of applicants who are not candidates for degrees may be admitted as special students, providing that they have satisfactory preparation for the college courses which they wish to pursue. Special students who reside at the College must register for at least 12 hours of work in each semester. They are subject to the same regulations as other students.

Transfer Students

To transfer to Ursinus College, an applicant must request that each institution he or she has attended, including the secondary school, send to the director of admissions a transcript of his or her academic record. In addition, a letter of personal clearance from the dean of students is required if the applicant has been a full-time student during the preceding year. It will be helpful if the candidate sends a catalog of the college he or she has been attending, marked to indicate the courses taken. Credit will be given for courses for which we offer a reasonable equivalent and in which a grade of C or better has been earned.

A maximum of 62 hours of work taken elsewhere can be credited to students transferring to Ursinus College.

Part-Time Students

Commuting students who are candidates for a degree and who wish to pursue fewer than 12 hours of work are classified as part-time students.

Handicapped Students

The Office of Admissions should be advised of any disabilities to assure that the student is provided suitable accommodations. Ursinus College is aware that handicapped persons may have special needs and is willing to make adjustments to meet these needs in order to make the program accessible to them.

Notification of Admission

When candidates for admission are notified of acceptance by the College, each must make an advance payment of \$250.00 in accordance with the provisions of the letter of acceptance. This payment is credited to the bill for the first term. The payment is non-refundable and forfeited if the candidate does not enroll.

Summer School

Ursinus College Summer School (day session) is open to candidates who may be classified in the categories below, upon approval of the College:

1. College graduate (two-year and four-year).
2. Degree candidates (bachelor and associate), including recent high school graduates accepted as freshmen by Ursinus or other accredited schools.
Applicants from other institutions must have written permission from their respective institutions indicating that they will be given transfer credit for successful work in the courses selected.
3. Evening School students at Ursinus or elsewhere, with a high school diploma and with a minimum of 15 semester hours of work successfully completed (equivalent of 70 average).
4. High School students who have just completed their junior year, on recommendation of their counselors and of the Committee on Admissions. High School graduates 62 years or older, on recommendation of the Committee on Admissions. These two groups pay only half of the regular tuition.

Applications of those whose qualifications do not fit the above categories must be acted upon by the Committee on Admissions.

Admission to the Summer School does not carry with it an assurance of transfer to degree standing at Ursinus College. For information and application forms, address the Director, Summer School, Ursinus College, Collegeville, Pa., 19426.

Continuing Education

Ursinus College conducts a comprehensive educational program for students who are older than the traditional full-time Ursinus student. Continuing education at Ursinus, like the traditional program, has the general mission of liberally educating students for responsible leadership in our society. Because of the professional orientation of continuing education students, the program has certain emphases, particularly in business, that are not found in the traditional program. There are two components of continuing education:

Evening School: Founded in 1952, the Evening School is organized to make college work available to men and women employed in business, industry or teaching, and to others who may be interested. The degree programs generally emphasize courses in business administration, but a strong liberal arts component is available.

Full-time Ursinus students enrolled in the College may register for Evening School courses, with the permission of their advisers and the dean of the College, when class space is available. Evening School registration procedures must be followed.

The Summer Evening School is open to students with all the above qualifications, and also to all other high school graduates.

Special Programs: This area of the curriculum comprises credit and noncredit courses for students of non-traditional age. The College offers new learning opportunities in short courses, workshops, and seminars, without credit, to community residents and to students on campus.

The College also sponsors special credit programs for the non-traditional student, including teaching internships and courses leading to teacher certification in secondary education. In addition, the College has an agreement with Saint Joseph's University of Philadelphia enabling the University to offer its Master of Business Administration courses on the Ursinus campus.

Of equal importance, the College provides counseling, support services, individualized academic advising and special tuition grants for qualified adult students seeking admission to day school programs, part-time or full-time. This opportunity is attractive to those who wish to begin college for the first time, re-enter college after a period of absence, change career direction or study for personal enrichment.

For information on both Evening School and special programs, address the Dean of Continuing Education, Ursinus College, Collegetown, Pa., 19426.

Financial Information

Tuition, Board, Fees

Student Charges Per Year

Basic student charges at Ursinus College include tuition, room and board for resident students and an activities fee. To meet these charges, a student is advised to consult the Financial Aid Office, which administers a comprehensive program of aid from Federal, state, Ursinus College and other private sources. Approximately 75% of all students receive some form of assistance in paying tuition and fees.

For 1988-89, the following rates apply: tuition, \$8,900; room and board, \$3,650; activities fee, \$100.

Payments are made as follows: new students, \$250 advance payment as requested and \$100 reserve deposit as indicated on bill; old students, \$250 advance payment as requested. All students pay one-half annual charges in August less credit for advance payment, and one-half of the activities fee. The second one-half payments are made in January.

Charges quoted are made on an annual basis. Billings are presented semiannually and are due for payment no later than the date indicated on the billing. A \$50 deferred payment fee is charged each account which remains unpaid on the first day of each semester.

When the student is a recipient of an Ursinus College scholarship award, credit for one-half the value of the annual award will be applied in the account to each semester bill.

For those who prefer to pay college costs on a monthly basis, the College offers an installment payment plan managed by the Knight Insurance Agency Incorporated of Boston. In addition, for those who prefer longer-term extended payments, the College makes available three other plans: the EduCheck plan through the Mellon Bank of Delaware, a loan program; also, an insured tuition payment plan, a prepayment plan, and an extended repayment plan, an insured loan program, both available through the Knight Insurance Agency. Information about these programs is available through the Treasurer's Office.

The College is not prepared to accept any other payment program. For 1988-89, there is a federally supported Parent Loan Program (PLUS) and a state subsidized Help Loan Program. For additional information, see page 38. These arrangements should be made early enough to assume payment of bills no later than the date indicated on the billing.

Explanation of Charges

Application Fee: A fee of \$25 is paid by the candidate at the time the application is filed. *This fee is not refundable and is not applied toward the student's bill.* Special and part-time students are charged at the rate of \$295 per semester hour. If registered for 12 or more hours, students will be charged full tuition.

Checks should be made payable to Ursinus College.

Advance Payment (a) Upon acceptance by the College, applicants must make an advance payment of \$250 by May 1. This payment is credited on the bill for the first term. If they fail to complete matriculation, this payment is forfeited. (b) All regularly enrolled students must make an advance payment of \$200 at such time as may be designated by the College. This payment is forfeited if the student fails to complete registration.

Fee for Tuition covers classroom instruction, use of libraries, gymnasium, and the infirmary; ordinary medical attention; care by the resident nurse. Room and board charges cover lodging for the period that classes are in session.

The College reserves the right to make reasonable adjustments in the comprehensive fee at the beginning of any term to cover possible unforeseen costs.

Freshman Orientation Fee. A fee of \$45 is charged to all freshman students on their fall term bill, and is applied to the costs associated with the orientation programs.

Activities Fee is charged to all full-time students, and to all special and part-time students enrolled for nine or more semester hours of credit. This fee supports the programs of the Campus Activities Board, activities approved by the Student Activities Committee, and the maintenance of the student center. It also covers subscription to the *Grizzly*, the Ursinus College Forum, admission without further charge to all athletic contests at the College, and use of College athletic facilities as scheduled.

Student Accident Insurance Plan. A mandatory insurance plan for accidental injury is billed to each full-time student on the bill for the fall term, unless the student is first enrolled for the spring term, when a pro rata billing will appear on the student's bill.

Student Medical Insurance Option. An optional insurance plan is available to extend accident coverage through the summer months and purchase sickness medical expense and major medical expense benefits for a full 12 months. Students may also enroll their dependents in the optional accident and sickness plans. Announcement of the plan is mailed with the first billing, either fall or spring semesters. This insurance is mandatory for all foreign students.

Room Drawing. Previously-enrolled students must pay \$50 in order to qualify for drawing a room. Credit for this amount will be applied to the charge for room and board for the following term, and is forfeited if the students fail to complete their registration.

Science Major Fee. \$125 per semester: All students majoring in biology, chemistry, physics, pre-engineering and freshmen who are enrolled in undesignated natural science. \$30 per semester: All sophomores, juniors and seniors majoring in psychology.

Fine Arts Fee. A fee of \$35 per semester is charged for students enrolled in Fine Arts 221, 222, 321 and 322.

Reserve Deposit. A deposit of \$100 is required from all full-time, and all special and part-time students enrolled for nine or more semester hours of credit. The deposit is required to defray expenses incurred through damage to College property or through fines. This is included in the bill for the first term.

In order to maintain a balance of \$100 per student in the reserve deposit account at all times, students will be billed for each fine or instance of damage as it occurs. Any balance remaining will be refunded when the student graduates or withdraws from the College.

Student Teaching. An additional fee of \$125 is required of each student engaged in student teaching or supervised field experience. This is payable upon presentation of the bill.

Graduation Fee. A graduation fee of \$25 is charged to all students on the last bill of their senior year. An additional deposit of \$25 will be required for the use of cap, gown, and hood. This deposit will be refunded upon return of the attire.

Private instruction in music fee. A fee of \$180 per semester is charged for students taking private music instruction. The fee is for 14 half-hour lessons per semester.

Transcript Fee. A charge of \$2.00 is made for each transcript of a student's record after the first. Requests for transcripts should be made to the Office of the Registrar. No grade reports or transcripts will be issued if there is an unpaid balance in a student's account.

ID Card Fee. A charge of \$1.00 is made for the issuance of an ID card. If the card is lost a charge of \$5.00 will be made for its replacement.

Change of Status Fee. When students change their resident/day status, a new ID card must be issued. There is a \$5.00 change of status fee.

Placement Service Fee:

- (a) Students until September 1 following their graduation: No charge.
- (b) Alumni from September 1 following their graduation, using existing credentials: \$1.50 per set of credentials.
- (c) Alumni who newly register or re-register with changes in references resulting in a reorganized placement folder: \$2.50 for registration or re-registration; \$1.50 per set of new credentials.

Regulations

Bills for student fees are issued approximately 30 days before the beginning of each term. A student's bill must be settled no later than the date indicated on the statement.

No student who is indebted to the College or to any of its departments or agencies will be permitted to register at the beginning of any term, and all items due the College from a candidate for graduation must be paid before the candidate may be presented for a degree.

Delinquent accounts will be placed for collection, and the College will add collection costs to the delinquent amount. The total amount will then be payable in full.

Students who are absent from College because of sickness and retain their place in class pay student fees in full during their absence, except that when the absence is continuous over a period exceeding four weeks, resident students are allowed a pro rata rebate for each full week of absence.

Changes in marital status should be reported to the College immediately.

Address changes must be reported to the College as soon as possible.

A student who voluntarily withdraws from the College must notify the dean of the College *in writing* and settle all bills within 30 days or be liable to dishonorable dismissal.

The College reserves the right to exclude at any time students whose conduct or academic standing renders them undesirable members of the College community, and in such cases the fees due or paid in advance to the College will be refunded according to the policy shown below. Other regulations and procedures of vital concern to students are contained in the pamphlets, *Ursinus College Student Handbook* and *Financial Aid Brochure*.

Refund Policy

Upon a student's dismissal, suspension or withdrawal from the College prior to the first day of class, the student will receive a full refund of monies paid, less \$250.00 to cover application, enrollment and registration charges. Additionally, any student indebtedness to the College or to any of its departments or agencies will be deducted from any remainder due the student. There is no refund after the first half of an academic term because of a student's dismissal, suspension or withdrawal from the College, and no refund is made of amounts paid for dormitory rooms. After the first day of class and until the end of the first half of an academic term, the pro rata refund shall be as follows:

Withdrawal Within Week	Percentage Refund	Withdrawal Within Week	Percentage Refund
1	87.5	5	37.5
2	75.0	6	25.0
3	62.5	7	12.5
4	50.0	8	0

Date of withdrawal shall be the date on which the student notifies the Dean of the College in writing of such action, or the date on which the College determines that the student has withdrawn, whichever is earlier. Date of dismissal or suspension shall be the date on which the College has notified the student of such action.

Scholarships and Financial Aid

Student Financial Assistance

The primary mission of the Financial Aid Office at Ursinus is to provide counseling and assistance to those students who would be unable to attend college without such aid. An application for financial aid does not hinder a student's chance for admission to the College. Awards are made without reference to ethnic origin, religion, sex, handicap or marital status.

The financial aid program assists full-time degree candidates in meeting college costs through institutional grants, scholarships, loans, and employment as well as aid through state and Federally supported grant and loan programs. (Part-time degree candidates may qualify for Pell Grants, Charlotte Newcombe Grants, or Guaranteed Student Loans.) Ursinus College is pleased to offer merit scholarships and also recognizes merit awards given by outside organizations.

Financial aid may be offered in a single form or in combinations of grant, loan, and employment. The financial aid package is based on demonstrated need as determined through uniform methodology. Proven academic excellence and leadership abilities may also be considered.

Application Procedure

All students wishing consideration for scholarship assistance or financial aid must submit a Financial Aid Form (F.A.F.), sides 1 and 2, to the College Scholarship Service (C.S.S.) no later than March 1. All late applications will be considered if funds are available. The F.A.F. and the student's individual state application, where applicable (i.e., Pa. State/Federal Aid Application), are the only applications required to be filed for financial aid consideration. These forms must be filed for each year the student wishes to continue aid.

The F.A.F. can be obtained from secondary school guidance offices, or the Ursinus College Financial Aid Office. The Ursinus College Code is #2931. If the F.A.F. is filed before March 1, freshman and transfer students will receive award notices by early April. Upperclass applicants should obtain the F.A.F. by January and submit it to C.S.S. before March 1. Upperclass award notices will be sent by early July if all required documentation is received in the Financial Aid office. *The College requires parent and student Federal income tax verification for any aid offered by Ursinus College.*

An independent (self-supporting) student must file an F.A.F., sides 1 and 2, with C.S.S. under the same guidelines as above. Also, student and parent federal income tax forms are required as documentation. All students who enter Ursinus as dependent aid filers will remain dependent for all campus-based funds for the entire period of enrollment. Independent students are those who are over 24 years of age and are not claimed by parents as a federal tax exemption; orphans or wards of the court; married and not claimed by parents as a federal tax exemption; veterans; a parent of dependent children, or those determined as independent by the director of financial aid with appropriate documentation.

All students should realize that financial aid is not automatic and requires formal application for each year that aid is expected. Financial aid normally continues at the same level unless financial need deviates from prior years or Federal regulations change. Full time attendance is required for all scholarship and need-based aid except for the Pell Grant, GSL and PLUS. Foreign students must submit the Declaration of Finances and Application for Foreign Students, available from the Office of Admissions.

Ursinus College Scholarship and Aid Programs

The College administers scholarship, loan and student employment funds totaling over \$4 million each year. Of the entire student body, approximately 70% receive some form of financial aid whether it be through student employment, loans, college grants or scholarships. Every student submitting an F.A.F. will be considered automatically for all aid programs administered by the College.

Scholarships

The Scholarship Committee will award as many as 10 full tuition scholarships to outstanding freshmen enrolling in the fall of 1988. A separate scholarship application is required for all merit applicants and is due on March 1.

Steinbright Scholarships, supported by endowments through the generosity of Harold D. and Edith C. Steinbright, and their daughter, Dr. Marilyn Lee Steinbright, are offered to a maximum of four entering freshmen, known as Steinbright Scholars.

Board of Directors Scholarships are granted to a maximum of six entering freshmen, known as Board of Directors Scholars.

Both the Steinbright and Board of Directors Scholarships will be granted without regard to financial need. The recipients will be selected on their academic merit. All awards are subject to yearly review and will be continued at the initial tuition rate for four years provided the scholar maintains a yearly average of 85 or better and demonstrates responsible citizenship.

Ursinus College Community Scholarships will be awarded to as many as 10 freshmen from area high schools. The recipients must demonstrate academic excellence and commute from their homes to the College. The candidates will be chosen on the basis of academic merit and without regard to financial need. The Community Scholarships will provide up to one-half of tuition and will be renewed yearly in the original amount, provided the recipients maintain a yearly average of 80 or better and continue to commute from their homes to the College.

Bomberger Scholarships, named in memory of the College's first president, Dr. John H. A. Bomberger, are awarded to entering freshmen who have demonstrated both outstanding citizenship and leadership qualities while participating in various types of extracurricular activities in high school and in the community. Bomberger Scholarships will be granted without regard to financial need and will be awarded in amounts ranging between \$1,000 and \$2,500. These scholarships will be reviewed yearly and will be continued, provided the recipient maintains a yearly average of 75 or better and continues to demonstrate responsible citizenship and leadership on campus.

Freeland Scholarships, named in honor of Freeland Hall which stood at the center of campus for over 100 years, are awarded to entering freshmen who have demonstrated both academic strength and leadership qualities. Freeland Scholarships are made without regard to financial need and range from \$1,000 to \$3,500. These awards will be reviewed yearly and will be continued provided the recipient maintains a yearly average of 80 or better and continues to demonstrate leadership through campus activities.

Other Campus and Aid Programs

Ursinus College Grants: Grants which are awarded by the College do not have to be repaid. Recipients must have demonstrated financial need each year as determined by the financial need analysis system and are expected to remain in good academic and social standing.

Supplemental Educational Opportunity Grants (S.E.O.G.): These grants are Federally funded and must be designated by the College to students with substantial financial need; especially those receiving negligible state or grant assistance. The average grant is \$1,000 although higher need students may receive up to \$4,000. The S.E.O.G. Program is subject to change according to government regulations. Those filing the Financial Aid Form with Ursinus will be considered for this program.

Charlotte Newcombe Scholarships: This fund is supported by the Charlotte Newcombe Foundation. Women, age 25 or above, may apply for this scholarship. One half of the required coursework towards a bachelors degree must be completed and financial need must be demonstrated. Those pursuing teaching certificates will also be considered.

Perkins Loan: This Federally funded student loan is offered to applicants with high financial need, especially when state or Pell Grant assistance is negligible. Loans from \$500 to \$2,250 are awarded with

the total not to exceed \$9,000 for the four years of undergraduate study. The interest rate is 5 percent. Perkins Loans must be paid within 10 years after a student graduates or leaves the College for other reasons, with repayment beginning nine months after this established date. If a student continues with graduate study, repayment is deferred as long as half-time enrollment is maintained. Upon graduation, repayment begins on a normal schedule. The Perkins Loan program is subject to changing Federal regulations.

Gulf Oil Loan Program: The Gulf Oil Student Loan Fund is available to junior and senior students as an emergency fund. Total loans may not exceed \$1000. Recipients must be degree candidates and maintain a satisfactory academic average. The loans are at low interest with deferred repayment benefits, similar to the Perkins Loan program. Need for the loan must be substantiated by a Financial Aid Form.

Student Employment: The College provides students an opportunity to earn part of their college expenses through campus employment in more than 400 positions on campus. College Work-Study will be offered to eligible applicants to meet any remaining need after grant, scholarship, and loan assistance has been utilized. The C.W.S. entitlement is determined by subtracting all aid from the established need. Priority in job placement is given to students assigned to C.W.S. Students not eligible for C.W.S. will be placed on the college payroll if possible. Working just seven hours a week, a student can expect to earn about \$700 during the academic year. Examples of the positions available are: dining hall helper; lab assistants in biology and chemistry; library assistants; house managers in the Student Center; bookstore clerks; departmental typists; administrative clerks; maintenance helpers; and resident assistants in the dormitories. Students are employed on a contractual basis and should contact the various campus employers upon arriving on campus in the fall. Earnings may be applied directly to student accounts at the end of each semester or paid in cash on the bi-weekly payroll. Students are permitted to work a maximum of 20 hours per week. The number of hours may be further limited by excessive Perkins Loan or G.S.L. borrowing.

When off-campus openings are made available by private employers, these positions are advertised by the Career Planning and Placement Office.

Federal and State Programs

Pell Grant: This is a Federal grant made available to students with exceptional financial need. Application is made by filing either a Financial Aid Form or a Pennsylvania State Grant/Federal Student Aid

form. Both forms are available in high school guidance offices. Four to six weeks after filing, students receive a Student Aid Report (S.A.R.) with an index number. All copies of the S.A.R. should be sent to the Financial Aid Office for validation and determination of the grant award.

State Grant Programs: Many states have a separate state grant application or a State Specific Financial Aid Form. The states which allow grants to be utilized at Ursinus include: Pennsylvania, Maryland, Connecticut, Delaware, Massachusetts, Ohio, Rhode Island and West Virginia. Applications are available in high school guidance offices and must be filed between January 1 and May 1, depending on the state. The maximum Pennsylvania state grant is \$1,850 currently, but is subject to change by the Pennsylvania legislature.

Guaranteed Student Loans: Freshmen and sophomores may borrow up to \$2,625, while juniors and seniors may borrow up to \$4,000 annually. The interest rate is 8 percent through the fifth year of repayment, and then becomes 10 percent. Repayment is deferred until six months after graduation or withdrawal. Applications are available at participating banks and other lending institutions and must be renewed annually. These loans are based on financial need for all families. The loan amounts, interest rates and eligibility rules are subject to change by the Federal government.

Sources of Assistance Not Based on Need

National Merit Scholarship: Ursinus sponsors four National Merit Scholarships each year. These scholarships are awarded through the National Merit Scholarship Corporation and are open to any National Merit Finalist who has selected Ursinus College as his first choice. The awards do not limit in any way the number of finalists who may be sponsored by other contributing organizations. Application should be made to the National Merit Scholarship Corporation through the secondary school.

Scholars in Education Awards: The Scholars in Education Awards program is available to Pennsylvania residents only who intend to major in mathematics or science and who plan to enter the teaching profession under the public school system. To be eligible to apply, Ursinus freshmen must have a combined SAT score of at least 1000 with a minimum mathematics score of 550, or an ACT score of 22 in English and a minimum of 27 in mathematics. Freshmen must also be in the top fifth of their high school class. All current Ursinus candidates must have a 3.0 average in science or mathematics, depending on the major. Awards are made without regard to financial

need and are valued at 50 percent of annual tuition. Questions concerning the program may be directed to the Financial Aid Office.

Parent Loan Program (P.L.U.S.): This is a Federally supported program of loans to parents of dependent undergraduate students. The maximum amount a parent may borrow for any one student in any academic year is \$4,000. The aggregate loan limit for each dependent student is \$20,000. *Please note that repayment is required to begin within 60 days after the loan disbursement.* There is no Federal interest subsidy on parent loans. The current interest rate for the Parent Loan Program is the T-bill plus 3.75 points, not to exceed 12 percent. Loan applications are available at local banks and other lending institutions and many require standard commercial credit checks.

Tuition Exchange: Ursinus College is a member of the Tuition Exchange Program. Requests for tuition remission by children of faculty members of member institutions will be considered upon their application. Those who receive aid through the Tuition Exchange Program are not eligible for additional Ursinus College grants.

Other Sources of Aid: In addition to the programs described above students should investigate other grant and scholarship programs sponsored by a variety of private organizations, including business corporations, foundations, civic clubs, and the like. High school guidance counselors usually maintain lists of the local organizations sponsoring awards for college bound students.

Recipients of financial aid are required to maintain satisfactory academic progress in order to be considered for continued financial assistance from Federal, state, and college sources.

Satisfactory progress will be reviewed on an annual basis at the end of the spring semester. Students who do not meet the standards of satisfactory progress will lose all financial aid for one year, at which time their progress will be re-evaluated.

Financial aid recipients must successfully complete the required number of credits listed below:

Full-time Freshman	24
Full-time Sophomore	48
Full-time Junior	72
3/4 time Freshman	18
3/4 time Sophomore	36
3/4 time Junior	54
1/2 time Freshman	12

1/2 time Sophomore	24
1/2 time Junior	36

The maximum time in which to complete the 122 credits for graduation is five years for a full-time student, seven years for a three-quarter-time student, and 10 years for a half-time student. The assumption is that a full-time student will need to take a minimum of 24 credits a year in order to complete a degree in five years. The same concept applies to three-quarter-time and half-time-students.

The minimum acceptable grade average is determined by the faculty. If a student drops below a 70 yearly grade average, the faculty will decide if the student may continue at Ursinus. If the decision is positive, and the student has completed the necessary number of credits, he or she may continue to receive financial aid.

However, if the student has below a 70 yearly grade average and is permitted to remain at Ursinus, his or her Ursinus grant will be reduced by 10 percent for the following academic year. Whenever possible, this reduction in grant may be compensated for by an increase in loan or campus job earnings.

Both deficiencies in grades or earned credits may be made up by taking summer school classes at Ursinus or courses approved by our faculty to be taken at another college.

The Ursinus College Financial Aid Brochure, entitled "Lists for Planning Your College Finances," provides detailed information on all programs and is available in the Financial Aid Office.

Educational Program



The departmental system is employed in the organization and administration of instruction at Ursinus College. By this system, 17 majors are offered in 14 departments: biology; chemistry; classical studies; communication arts; English; economics and business administration; health, physical education and recreation; history; mathematics and computer science; modern languages; philosophy and religion; physics; politics; and psychology. In addition, there are interdisciplinary majors in American public policy, applied mathematics/economics, and international relations.

Choice of Studies

At matriculation, students designate areas of academic interest: either the humanities, social sciences, or natural and physical sciences. If they feel certain about their future plans, they may designate the major concentration they intend to pursue. New students are assigned freshman advisers, with whose advice and consent they select their courses of study.

By the end of the freshman year, each student must designate a major field of study. The chairman of the student's major department will assign him or her an academic adviser. The approval of the adviser is necessary before a student may register for or enter any course of study, or discontinue any work.

Registration

First-year students register for the fall semester in consultation with their advisers on freshman orientation days held during the summer. Returning students register for the fall semester during the spring registration period listed in the back of the catalog. Registration for the spring term is completed for all students during the fall registration period listed in the back of the catalog.

Students are registered after they submit course-of-study sheets to the registrar, according to the schedule for the registration period published by the Registrar's Office. Before that, students consult with their advisers to prepare schedules of courses for their college careers. Courses prescribed as degree or departmental requirements or those taken to satisfy conditions must take precedence over and be scheduled before elective courses.

Students must remember that they alone are responsible for making sure they have completed college requirements and departmental requirements. When students change their majors, they must fulfill the requirements of the most-recent major department in order to be graduated.

Students may add or drop courses at any time during the first two weeks of classes. No full semester course may be added after the second week of classes, and no physical education activity course may be added after the first week of classes.

Courses dropped after the second week of classes (first week for physical education activities courses) but before the mid-point of the course will be designated with a W on the student's record. Students who withdraw after the mid-point of a course will receive a grade of WF. Students who withdraw from a course without permission will receive a grade of F. A fee is charged for any change in registration after the specified registration period for each class.

Study Elsewhere

Students are not permitted to earn credit towards graduation from Ursinus College by study at another college unless they have been granted permission by their academic advisers and the Committee on Academic Standing. Required courses in the department of a student's major should be taken at Ursinus. Approval to take such courses elsewhere will be granted by the Academic Standing Committee only with the approval of the chairman of the major department and if special or mitigating circumstances exist. Credit for approved courses taken elsewhere will be transferred upon successful completion of the course with a grade of C (2.00/75.00) or better and upon receipt of an official transcript from the other college. It is recommended that students take these courses at a four-year institution.

Withdrawal

Students who seek to withdraw from the College must notify the dean of the College in writing of this intention and its effective date, and must satisfy all obligations (including bills, the return of keys, equipment, and other College property). Failure to meet any such obligation will render the student liable to dishonorable dismissal.

Requirements for Graduation*

The requirement for the degree of Bachelor of Arts or Bachelor of Science is the completion of 122 semester hours, with a cumulative average of 70.00, which must include all the courses required by the faculty of all students for graduation and the courses required by the department in which the student majors.

*Currently under review. The requirements may change for students entering after June, 1988.

To qualify for the degree of Bachelor of Arts or Bachelor of Science and to receive a diploma from the College, not the Evening School, a student must be registered for a minimum of 60 semester hours of credit at Ursinus and must have spent a minimum of the two terms of the senior year as a full-time student, taking at least 12 credits during each of the last two semesters before graduation.

A full-time student may not take fewer than 12 semester hours of work in any one term. The normal load for a term is five courses, or 15 semester hours. Three hours above the normal load may be scheduled with the adviser's approval; more than 18 is not normally permitted, but provided the student's average for the preceding term is at least 85 permission may be requested from the dean of the College. Students carrying fewer than 12 hours are not permitted to remain or become residents of College residence halls.

All requirements for graduation must be satisfied before the end of the last day of examination week preceding commencement. *Each student must bear responsibility for fulfilling the requirements for graduation.*

Class Attendance

Ursinus College is committed to the principle that class attendance is a vital part of its academic program, making possible that dialogue between student and teacher which is the foundation of the educational process. Students should therefore recognize that absence from class denies them access to the full measure of college education. While urging regular class attendance, the College at the same time wishes to allow students an opportunity to develop a personal responsibility toward academic work. In keeping with these convictions, the following policies govern class attendance.

Each student is expected to exercise reasonable judgement regarding class attendance. Every student is accountable for all work missed because of class absence. *Instructors, however, are under no obligation to make special arrangements for students who are absent.*

A first-year student who is not on the Dean's List and who is absent from a course for a total of more than two weeks' meetings may be excluded from the course with a grade of F unless the dean, after consultation with the faculty member, permits the student to be reinstated.

Students on academic probation are subject to the same regulations as first-year students.

Students for whom an academic warning is issued must limit future absences in that course to the number of times the course meets per week. After the issuance of an academic warning, a student who exceeds the allowed number of absences may be excluded from the

course with a grade of F unless the dean, after consultation with the faculty member, permits the student to be reinstated.

Any instructor may set attendance regulations for courses, but in no case will a student be limited to fewer absences than twice the number of weekly meetings of the course. The faculty member must announce the attendance policy and its consequences on the class syllabus.

Grades of Scholarship*

When a course has been completed, the standing of the student is expressed, according to his or her proficiency, by one of the following grades: A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. Letter grades have the following percentage equivalence assigned:

A+	98.33	A	95.00	A-	91.67
B+	88.33	B	85.00	B-	81.67
C+	78.33	C	75.00	C-	71.67
D+	68.33	D	65.00	D-	61.67
F	45.00	WF	45.00		

A grade of F denotes a failure in the course. Students who have received passing grades are not permitted to retake courses for the purpose of raising their grades.

The mark of I, which may be given only with the written permission of the dean, is reserved for cases of incomplete work or of failure under extenuating circumstances. If the mark of I is not removed within one month after the beginning of the following regular term, the grade F will be assigned for the course.

Academic Probation*

A student is required to have both a cumulative and a semester average of 70.00 at the end of each semester in College. Students who fail to do so will be placed on academic probation by the Committee on Academic Standing or by the faculty and may be restricted in their extra-curricular activities. A student currently on academic probation who fails to achieve the average specified by the faculty will be subject to dismissal. On-campus employment and Ursinus College financial aid will be restricted for a student whose average for the preceding academic year, including summer session, is below 70.00.

Dismissal*

Students whose semester average at the end of their first or second semester at Ursinus College is below 65.00, whose cumulative average is below 65.00 at the end of the first year, or whose cumulative

*Currently under review. The requirements may change for students entering after June, 1988.

average is below 70.00 at the end of the third semester at the College or thereafter will be dropped from the College unless, as a result of mitigating circumstances, the faculty votes that such students be permitted to continue. A student may also be dismissed if he achieves a semester average below 70.00 for more than two successive semesters, regardless of a cumulative average that may be above 70.00. The action of the faculty in all such cases is final. Students who have been dismissed are not eligible to take courses in the Ursinus College Evening School or in summer school at Ursinus.

Any student may be dismissed from the College for academic violations such as cheating or plagiarism, regardless of the student's academic average. Non-academic reasons for dismissal are discussed on page 7.

Readmission

Students who have been discontinued for academic reasons may apply for readmission. Unless there are unusual circumstances, applications for readmission will not be considered unless one academic year has passed before the readmission date. Readmission is not automatic. To be considered for readmission, students must demonstrate that they are able and prepared to return to the College for serious academic work. They should take courses at an accredited institution and obtain at least a B (3.0/85) average. They may work or engage in community service or other volunteer activities that will demonstrate a seriousness of purpose.

Application for readmission is made to the Office of Admissions. Students' previous academic performance and social activities at Ursinus will be important factors in the readmission decision. The faculty or the Academic Standing Committee must approve readmissions.

Summer School

The curriculum of the Summer School is announced in the spring of each year. For further information contact the director of Summer School.

In the evening sessions, three-semester-hour courses meet two evenings a week for seven-and-one-half weeks. Two courses may be carried simultaneously. However, students may not be enrolled in the evening session if they are also enrolled in either of the first two day sessions. For further information contact the Evening School.

Students wishing to take summer school at other colleges must obtain approval in advance from their adviser and from the Dean's Office. In order for credits for such approved courses to be transferred to Ursinus the student must obtain a grade of C (2.0 or 75.00) or better and

arrange for the college where the courses were taken to send an official transcript to Ursinus.

Study Abroad

Ursinus College students may spend a semester, a year, or a summer at a foreign university, provided they are students in good standing, are recommended by their major adviser, and, in the opinion of the dean and the faculty, will be worthy representatives of the College and will profit from this experience. Normally, only juniors are encouraged to apply for study abroad, but qualified sophomores also may be recommended. The immediate knowledge of the cultural heritage of another country, with its contemporary economic and social problems, affords students an awareness of differing values and an understanding of our own country's relation to issues which confront the world today. Students, whether language majors or not, are encouraged to study abroad, but they normally should have completed courses at least through the intermediate level in the language of the country involved. The course of study abroad must be approved at the time that permission is given. Upon evidence of successful completion of the program, a maximum of fifteen (15) credits per term will be given for studies pursued abroad. An examination covering the year's work may be required by the department chairman upon the student's return. Information may be obtained from the study abroad adviser. Interested students should also see the Ursinus Summer Study in Japan program, page 80, the Summer Study in France, page 118, and the Summer Study in Mexico, listed under Modern Languages. (Page 124).

Degrees

Ursinus College confers four degrees in course: Associate of Business Administration (Evening School Only), Bachelor of Arts, Bachelor of Science, and Bachelor of Business Administration (Evening School only). For specific requirements of the curricula leading to each of these degrees, see *Departmental Requirements* and the catalog of the Evening School. Degrees are conferred only at convocations and *candidates must present themselves in person.*

A student in good standing who has earned a minimum of 90 semester hours of credit and who withdraws from the College to enter an accredited graduate or professional school may, with the approval of the faculty, receive a baccalaureate degree from Ursinus after earning any doctoral degree from an accredited institution.

The College may confer the honorary degree of Doctor of Divinity, Doctor of Humane Letters, Doctor of Pedagogy, Doctor of Science, Doctor of Letters, and Doctor of Laws on persons whose distinguished ability and service have been deemed worthy of such recognition by the faculty and the Board of Directors.

Honors

Commencement: Two Commencement honors are assigned: one, the Valedictory, to the person attaining the highest standing in the graduating class, the other, the Salutatory, to the person attaining the next highest standing.

Graduation with Distinction: Members of the graduating class who have shown great proficiency in their study at Ursinus College may be graduated with distinction if, in the opinion of the Faculty, their attainments warrant such honors. These distinctions, *Summa Cum Laude*, a cumulative average of 94.50 or above, *Magna Cum Laude*, 92.50 to 94.49; and *Cum Laude*, 89.50 to 92.49, are given only for unusual excellence in all subjects pursued by the candidate. Graduation honors will be calculated at the end of the fall term. If as a result of work done in the spring semester a student should merit distinction or a higher distinction, such honors will be awarded *ex post facto*.

Dean's Honor List: All regular or full-time students achieving an average of 87.50 for a semester are announced at the end of that semester as members of the Dean's Honor List. It is an Ursinus tradition to publish at the Founders' Day Convocation the names of those students who have been carried on the Dean's Honor List for the preceding two semesters.

Honor Societies

The Chapter: The Chapter, a society of faculty members with Phi Beta Kappa membership, is especially concerned with cultivating the arts and sciences at Ursinus College. Each year The Chapter designates certain seniors as Chapter Scholars on the basis of the quality and range of their intellectual interests and attainments.

Sigma Xi: The national honorary fraternity for the recognition and encouragement of scientific research, was founded at Cornell University in 1886. The Society was incorporated in 1942. The Ursinus College Sigma Xi Club was installed on October 27, 1966. Election to the club is based on achievement in original research, and limited to juniors, seniors, and faculty.

Pi Gamma Mu: The national social science honorary society for the recognition of scholarship in the social sciences, was founded in 1924. It is affiliated with the American Association for the Advancement of Science. The Ursinus Chapter, Pennsylvania Sigma, was installed January 1, 1950. Election to the society is based on academic achievement in the social sciences and limited to juniors and seniors.

Alpha Sigma Lambda: The national honorary society for continuing higher education students, was founded in 1945 at Northwestern University. The Ursinus College chapter, Gamma Omicron, was installed April 8, 1983. Election to the society is based on academic

achievement and is limited to sophomore, junior and senior continuing education students.

Other honorary societies are discipline-based. They include: *Alpha Psi Omega*, a national honorary dramatics fraternity; *Beta Beta Beta*, an honorary society for the biological sciences; *Omicron Delta Epsilon*, the international honor society in economics; *Pi Nu Epsilon*, the national honorary music fraternity; *Phi Alpha Theta*, the international history honor society; *Phi Sigma Iota*, the national foreign language honorary society; *Psi Chi*, the national honor society in psychology; *Sigma Pi Sigma*, the national physics honor society; *Sigma Tau Delta*, the national English honor society, and *Kappa Mu Epsilon*, the national mathematics honor society.

Foreign Students

Foreign Students, under the guidance of the foreign student adviser, are usually classified by the College as special students, at least for their first year. They may then be admitted to degree candidacy in subsequent years. Although facility in understanding spoken English is a requisite for admission, foreign students with only British experience would do well to arrive in the United States before the opening of the college year in order to become familiar with American English. Students whose first language is not English may use ESL 101-102 to satisfy the college language requirement.

Foreign students should make sure that their visas are valid for more than a single entry into the United States, since on vacation trips they may wish to cross the borders into Canada or Mexico.

All foreign students who wish to apply to Ursinus College are required to take the Test of English as a Foreign Language (T.O.E.F.L.). For information, write to T.O.E.F.L., Box 899, Princeton, N.J., U.S.A., 08540. Students in Europe should write for T.O.E.F.L. application forms to C.I.T.O., P.O. Box 10203, 6801 BE, Arnheim, Netherlands. A minimum T.O.E.F.L. score of 550 is required.

No foreign student should arrive on the Ursinus campus until all credentials are complete and a formal letter of acceptance has been received.

Dormitories and dining halls are not in operation during college holidays.

Students arriving in New York from abroad can arrange to be met there by a representative of the Y.M.C.A. International Student Service. This representative will take the student through customs procedures, arrange ongoing limousine transportation or overnight accommodations in New York, and assist the student with any problems occurring at the port of entry. To arrange for this free service, contact

the Y.M.C.A. International Student Service Arrival Program, 356 W. 34th St., Third Floor, New York, N.Y. 10001 Telephone: (212) 563-0966. Telex: ISS 620675; Cable: FORSTUDENT. Request for assistance must be received by the Y.M.C.A. International Student Service at least three days before the student's arrival in New York.

Direct airport limousine transportation is available from Philadelphia (Liberty Cab Co.) or New York (Trinity Limousine Service) to King of Prussia/Valley Forge, near Collegeville. To arrange to be met at John F. Kennedy Airport in New York by Trinity Limousine Service, one must make a reservation at least several days in advance. When making the reservation, one must give the following information about one's arrival: the name of the airline, the flight number, and the date and time of arrival at JFK airport. To contact Trinity Limousine call 215-626-4665 or 215-259-6802 between 8 A.M. and 8 P.M. Eastern Standard Time, or write to Trinity Limousine, Inc., P.O. Box 324, Yeadon, Pennsylvania, 19050, U.S.A. If students have notified the foreign student adviser of their travel plans, including the date, place, and time of arrival, the airline name and flight number, they can be met by College representatives at King of Prussia/Valley Forge, and transported by car to the campus. The foreign student adviser, Dr. Shirley Eaton, may be contacted for assistance at the college (215-489-4111) or, in case of emergency, at home (215-489-4373).

The Ursinus Plan 1988

TIERS	CURRICULAR GOALS	
TIER I Basic Intellectual Skills	<i>First</i>	Development of effective writing skills
	<i>Second</i>	Development of effective speaking skills
	<i>Third</i>	Development of ability to think and communicate in mathematics and other forms of quantitative analysis
	<i>Fourth</i>	Knowledge of a foreign language
	<i>Fifth</i>	Introduction to methods and insights of the humanities, natural sciences and social sciences
	<i>Sixth</i>	Physical education for lifetime health and recreation
TIER II The Major Specialization	<i>Seventh</i>	Intensive study in a single discipline
	<i>Eighth</i>	Research and problem-solving skills including the ability to pose significant questions, to collect appropriate data, to subject it to critical analysis, and to reach logical conclusions
TIER III The Minor Concentration	(Optional development of student's special or vocational interests)	
TIER IV Electives-Individual Choice	<i>Ninth</i>	Knowledge of the diverse cultures and value systems of our society and the contemporary world, and the development of a capacity for making independent and responsible value judgements
	<i>Tenth</i>	Knowledge of the fine arts

A Curriculum of Liberal Education Relevant to the World Today

The curriculum of Ursinus is central in meeting the mission of the College—to develop independent and responsible individuals who are prepared for a creative and productive role in a changing world. To support this mission, the College created The Ursinus Plan, effective as of the 1979-80 academic year.

The structure and content of The Ursinus Plan are shown on the accompanying table. The plan builds a student's education in four related tiers. Within these tiers are the 10 goals toward which the faculty feels that liberally educated persons should strive.

After explaining the four tiers and the curricular goals, the following section shows the course requirements and options for meeting each goal.

The Four Tiers of Learning

Tier I

Basic Intellectual Skills

This portion of the curriculum promotes the intellectual skills fundamental to a liberal education and supplies the foundation for advanced academic work. All students must meet the TIER I requirements.

Tier II

The Major Specialization

Drawing upon skills and insights gained in TIER I the student undertakes an intensive study in a single discipline, supported by courses in related disciplines. Recognizing that student needs and goals are not uniform, the individual departments offer two or more specializations designed to meet various student needs. In general, these specializations are of two types:

- *The Core Specialization* consists of a group of courses central to the field. Students will ordinarily elect this specialization when they wish to elect a minor concentration in another academic department or a special interest minor concentration related to specific career goals.
- *The Advanced Specialization* consists of the core specialization in the major and additional advanced study in the major itself. It is offered in departments in which intensive preparation is deemed advisable for students wishing to pursue graduate study or to apply to professional schools. Students should see departmental advisers for details.

Tier III

The Minor Concentration

Students have the opportunity in TIER III to develop a secondary academic specialty, amplify basic skills or acquire knowledge related to their vocational goals or career plans. Although the minor concentration is not required, students who elect the core specialization in their major discipline are strongly urged to elect the minor concentration appropriate to their interests. Three types are available:

- *Minor Concentration In An Academic Discipline.* Students may elect to follow a prescribed course of study outside their major discipline, thus achieving depth in a second discipline.
- *Special Interest Minor Concentration.* The student may elect a special interest minor concentration approved by the faculty, whether departmental or interdisciplinary, such minor concentrations are designed to help prepare students to extend their liberal arts training specifically to incorporate their vocational or educational goals.
- *Interdisciplinary Minor Concentration.* Students who have interests spanning several departments may design individual minor concentrations in consultation with the heads of the involved departments. The following minor concentrations have been approved by the faculty:

Accounting	Human Behavioral Development
Anthropology	Latin
Art	Latin America Studies
Astrophysics	Mathematics
Athletic Training	Music History and Theory
Biology	Neurosciences
Business Administration	Pennsylvania German Studies
Chemistry	Philosophy
Classical Studies	Physics
Coaching	Politics
Communication Arts	Psychology
Computer Science	Quantitative Methods
East Asian Studies	Recreation
Economics	Religion
English	Romance Languages
Finance	Secondary Education
French	Secondary School Teaching
German	Sociology
Greek	Spanish
Health	Statistics
History	

Please refer to appropriate departments under course requirements for prescribed courses in each approved minor concentration.

Tier IV

Electives: Individual Choice

In TIER IV students have the opportunity to explore unfamiliar subjects, to deepen understanding of material previously introduced, and in general to broaden their intellectual horizons. This is accomplished by giving students freedom to choose courses of greatest interest to them. A number of special courses are provided within TIER IV, including College Scholars, Senior Symposium, interdivisional studies, and departmental honors. These offerings are described elsewhere in the catalog. Most departments offer a number of courses which do not have prerequisites. All students are urged to read the catalog carefully and take advantage of the variety of possible electives. Students are also urged to consult with their advisers regarding their selection of electives in order to insure their thoughtful progress toward their educational goals.

The Curricular Goals

In most instances, the curricular goals may be achieved in a number of ways, and provision is made in some cases for the student who is competent in an area to exempt that curricular goal. Together these goals provide for the development and growth of basic intellectual skills vital for effectiveness and competence in any adult endeavor.

Many students may wish to develop more specific vocationally-related skills, or to take courses related to specific career interests. The College's course offerings provide many such opportunities. For the guidance of the student, some of these opportunities are brought together systematically in the form of the special interest minor concentrations. Although not required to do so, students who do not plan to continue their formal education beyond the Ursinus degree are strongly urged to elect a special interest minor concentration in TIER III.

Course Requirements and Options

The requirements and options for working toward each goal are shown below. The available choices should make an Ursinus education flexible enough to meet the needs of all students.

First Goal: Development of effective writing skills—

- (a) Two semesters of First Year Composition 101, 102, including a term paper each semester; or
- (b) One semester of First Year Composition 101, 102, and with the permission of the chairman of the English department one advanced composition course, or

- (c) Placement out of First Year Composition 101, 102, at the discretion of the chairman of the English department, plus one advanced composition course, or
- (d) Six semester hours of credit in lieu of First Year Composition 101, 102 upon the achievement of a score of 4 or 5 on the Advanced Placement Test of the College Board of Examination. Additional composition or literature courses are recommended.

Second Goal: Development of effective speaking skills—

- (a) Communication Arts 201; or
- (b) Placement out at the discretion of the communication arts department upon satisfactory demonstration of speaking ability.

Third Goal: Development of the ability to think and communicate in mathematics and other forms of quantitative analysis—

- (a) Any mathematics course except Math 101, 110, 170 and 215; or
- (b) Philosophy 106.

Fourth Goal: Knowledge of a foreign language—

- (a) Two semesters of language at the 200 level or above; or
- (b) Students eligible for courses in English as a second language (ESL) may use ESL 101 and 102 to satisfy this requirement.

Fifth Goal: An introduction to the methods and insights of the humanities (including an introduction to the history of Western civilization), natural sciences and social sciences—

- (a) Humanities, including an introduction to the history of Western civilization: (1) History 101, 102; or (2) Philosophy 101, 102; or (3) World Literature 201, 202.
- (b) Natural sciences: (1) major in biology, chemistry, mathematics or physics, or (2) an introductory sequence of two semesters in astronomy, biology, chemistry, physics or geology, or (3) six semester hours of advanced work in a natural science.
- (c) Social sciences: (1) major in economics and business administration, politics or psychology; or (2) six semester hours of work selected from the following: Economics 101 and/or 102; or any offerings in anthropology, politics, psychology, or sociology.

Sixth Goal: Physical Education for lifetime health and recreation—

- (a) Four half-semester units are required of all students. One unit concerns concepts of health and physical education and is a prerequisite to the remaining units. The other units consist of a number of fitness and lifetime recreation activities from which the student must choose three; or
- (b) Major in health, physical education and recreation.

Seventh Goal: Intensive Study in a single discipline—

See departmental requirements for each major discipline.

Eighth Goal: Research and problem solving skills, including the ability to pose significant questions, to collect the appropriate data, to subject it to critical analysis, and to reach logical conclusions—

Each department provides training in these skills for all departmental majors.

Ninth Goal: Knowledge of the diverse cultures and value systems of our society and the contemporary world, and the development of a capacity for making independent and responsible value judgements—

- (a) It is strongly recommended that when choosing electives, each student include at least one course which deals with non-Western perspectives on human experience. Ursinus offers regular courses in non-Western (i.e. societies other than English-speaking North America, Great Britain, and Continental Europe) history, cultural anthropology, government, literature, philosophy and religion.
- (b) It is also strongly recommended that when choosing electives, each student select at least one course which includes an analysis of values and their role in making decisions. Appropriate electives currently offered are Interdivisional Studies, Senior Symposium, and courses in philosophy and religion.

Tenth Goal: A knowledge of the fine arts—

It is strongly recommended that students select at least one elective course in music, literature, or the fine arts. All Ursinus students have the opportunity to attend concerts, lectures, exhibits, plays, and films both at the College and in the Philadelphia area.

College Scholars' Program

Qualified freshmen in their second term, sophomores, juniors, and seniors may earn up to nine credits (not more than three per semester) by pursuing guided independent research as research scholars or by working subjects not in the regular college curriculum as independent students.

1. Each semester of passing work in the programs will carry three semester credits.
2. Students may work for no more than one semester in the department of their academic major.
3. The divisions of the program are natural sciences, languages, social sciences, and humanities.
4. In the Research Scholars' Program, the candidate must prepare a brief prospectus outlining the proposed research project. Projects must

be clearly inter-disciplinary in nature, and must meet the approval of the student's academic adviser and the College Scholars' Committee. Research scholars prepare a research paper under the supervision of a tutor; participate in two seminar meetings with the other scholars working in the same division of the program; and take an oral examination before the College Scholars' Committee, the tutor, and, when feasible, the student's academic adviser, and an outside authority in the student's field. The College Scholars' Committee will assess and grade the research paper and the oral examination.

5. In the Independent Study Program, the candidate must prepare a prospectus stating the subject to be studied and materials to be used. This prospectus must be approved by the student's academic adviser and by the College Scholars' Committee of the faculty, which may consult the head of any department logically concerned. The student must submit to the College Scholars' Committee a course outline approved by a tutor before the end of the second full week of the semester. The student, the tutor, and the committee will then meet to determine an appropriate format for a final report and examination. Independent students will also be required to participate in the seminar meetings of the program. The independent student will be graded by the committee on the basis of the course plan agreed upon at the outset, with the tutor devising and administering the final examination, oral or written, as in any regular course.

Departmental Honors

Students with high overall academic standing who have demonstrated an exceptional competence, the capacity for independent, original research and disciplined scholarship may be awarded departmental honors in the department of their major or minor fields of concentration, subject to the following regulations:

1. To be eligible for departmental honors, students must have (a) a cumulative average of 85 and an average of 88 in all courses taken in the department in which they seek honors, based on the work of six semesters, or (b) a cumulative average of 88 and an average of 88 in the department in which they seek honors, based on the work of the last four semesters. Students who have attended Ursinus less than four semesters must have the same grade averages as in (b), and must obtain approval of the dean of the College.
2. To be admitted to candidacy for departmental honors, students must obtain written consent of a faculty member who will serve as the project adviser, have their candidacy certified by the chairman of the department in which they wish to pursue honors, and have the research/individual project approved by the department.

3. Students register during the spring pre-registration period of their junior year for the two-semester sequence of Research/Independent Work (491- 492).
4. The Honors Project, completed in the research/independent work courses, must demonstrate disciplined, independent and original scholarship or creativity. If the candidates receive a passing grade, they will earn credit hours toward graduation, even though their work may not be recommended for departmental honors.
5. Departmental honors will be awarded on the recommendation of the department and the approval of the Faculty.
6. Departments specify the date for the candidate to submit a completed thesis. In order that the faculty may consider the awarding of honors, the candidate must deposit the completed thesis in bound form following the format established by the Myrin Library, the written recommendation of the project adviser and approval of the department in the office of the dean of the College by the Monday of the last full week of classes.

Student-Initiated Majors

Students who complete the freshman year and whose major interests span two or more recognized academic fields, if they have a cumulative B average (85.00 or above), may arrange a specialized major which combines these fields, such as biophysics, biopsychology, chemical biology, American history and literature, comparative literature.

In order to set up such a specialized major, the student and the appropriate department heads, in consultation with other department members, must draw up a written statement of all courses and additional major requirements, which may include a comprehensive or an oral examination by members of both departments at the end of the program of studies. This proposed course of studies must then be submitted to the dean of the College, with whose approval it may be signed and filed in his office.

Upon successful completion of the major requirements so specified, the student will graduate in the subject field specified on the program proposal.

Internships

In some departments, students may pursue off-campus internships. These are an academic/work experience under the supervision of an academic adviser and an on-site supervisor.

Juniors and seniors, who have demonstrated responsibility, independence and maturity, and who have a minimum of nine credits

in the area of the internship, are eligible. An internship involves at least eight to 12 hours per week for one semester at a job site, and carries three credit hours. Students may receive credit for only one internship. Internships are graded in the same manner as any other course; the grades are based primarily on reading, job performance, and a paper.

Any student engaged in an internship must have a faculty internship adviser who will make on-site visits and grade the project.

The primary responsibility for initiating an internship lies with the students. Students must define the educational objectives of the internship, provide a description of the project, a reading list, and get written approval from the on-site supervisor and from the faculty internship adviser. If the students meet the College and departmental requirements and have the approval of a faculty internship adviser, they file a written internship agreement with the department internship coordinator and with the dean's office, and register under the appropriate course number.

Interested students should contact the internship coordinator in the appropriate departments. Those departments with internships and the internship adviser are listed below.

Biology, Professor Small; chemistry, Professor Schultz; communication arts, Professor Henry; economics and business administration, Professor Lentz; education, Professor O'Brien; English, Professor Perreten; health, physical education and recreation, Professor Davidson; history, Professor Doughty; mathematics and computer science, Professor Shuck; modern languages, Professor Espadas; politics, Professor Fitzpatrick; psychology, Professor Chambliss.

Washington Semester

Ur sinus is one of more than 200 institutions participating in the Washington Semester Program, a cooperative arrangement conducted by American University in Washington, D.C. The program offers several specializations, including the National Government and Politics Semester, the Washington Urban Semester, the Economic Policy Semester, the Justice Semester, the Foreign Policy Semester, and the Journalism Semester. These programs give selected juniors and seniors an opportunity to work with people and resources in the nation's capital so as to understand better the dynamics of American politics and policymaking.

Under the direction of full-time faculty from American University, students participate in seminars with governmental officials, lobbyists, and media representatives; they arrange an internship with one of the three branches of the national government, political parties, interest

groups, research organizations, or the media; and they complete a major research project on a current issue or policy problem. To be competitive candidates for selection, students should have a firm grounding in the area they wish to study.

Interested students should contact Dr. Fitzpatrick (Politics).

Capital Semester

The Capital Semester Internship is sponsored by the Pennsylvania Department of Education and the Office of Administration. It offers juniors and seniors who are Pennsylvania residents an opportunity to apply classroom knowledge in internships in state government-related agencies in Harrisburg. Placements are available in a wide variety of fields, including accounting, business, communications, education, health, law, public welfare, and taxation.

In consultation with a faculty adviser, participating students prepare a substantial reading list and detailed outline of a major research project to which the reading would be directed. The project, researched at the internship site, is presented to the faculty adviser by means of a major paper. In addition, students are required to maintain a journal and to participate in a series of seminars at their placement sites.

Interested students should contact Dr. Fitzpatrick (Politics).

Philadelphia Urban Semester

The Philadelphia Urban Semester is an interdisciplinary liberal arts program offering qualified sophomores, juniors, and seniors experiential as well as academic learning within an urban setting. Operated by the Great Lakes College Association, a consortium of 12 liberal arts colleges, the program helps students identify areas of personal, professional, and educational interest while developing independent living skills and an understanding of urban life.

In consultation with the program's full-time faculty, students participate in an array of courses and seminars and select a supervised field placement from a list of more than 500 involving the arts, business, communications, education, health care, law, politics, and social work. The internship provides the foundation for a substantial research project. Colloquia, workshops, and field trips are also available, as are lectures, conferences, and other special events in the city.

Interested students should contact Dr. Fitzpatrick (Politics).

Critical Languages Program

Highly motivated students interested in doing work in languages not currently offered in the regular curriculum are advised to investigate the opportunity for such study through College Scholars or the Critical Languages Program. In the Critical Languages Program initial emphasis is on the spoken language. As the student progresses, skill in reading and writing is also developed. The program requires 12 to 14 hours per week of self-instruction, using tape recorded materials coordinated with the text, and a minimum of two hours per week of small group tutorial sessions with a native speaker of the language. At the end of each term, an outside specialist examines the student and evaluates the work covered during the semester. Ursinus College is a member of the National Association of Self-Instructional Language Programs. Students who are interested in the program and who successfully have studied another foreign language should consult the head of the modern language department.

Summer Study Abroad

Ursinus offers summer programs annually in Japan, France, and Mexico. The programs in Japan and France run from mid-May to mid-June, the Mexico program is in August. The summer study in Japan is offered in collaboration with Tohoku Gakuin University in Sendai, Japan. The summer study in France includes Paris, Avignon, Aix-en-Provence, and Nice. The summer study in Mexico, includes study-travel in Cuernavaca, Mexico City, Puebla and Guadalajara.

Complementary Programs

Cultural Activities: Every full-time student is required to participate in cultural activities at Ursinus College. The activities are planned in a four-year cycle of emphasis. They include the Forum Series, academic convocations, and related Forum Series activities such as field trips to museums, and other complementary activities.

Student Activities: Every student is encouraged to participate in those student activities which provide opportunities for integrating perspectives and content of several disciplines and courses within the major division of learning. While students are not restricted to participation in activities related to their divisional or departmental fields, the following listing will assist students in seeing those relationships:

Humanities Division:

Es Deitsch Freindschaft
Forensic Society (Debating Club)
French Club
German Club
Grizzly Staff
International Experience Club
Japanese Club
Lantern Staff
Meistersingers
Photography Club
proTheatre
Radio Station WVOU
Ruby Staff
Spanish Club
Ursinus College Band
Ursinus College Choir

Social Science Division:

Campus Activities Board
College Republicans
Economics and Business Club
G. Leslie Omwake Education Club
Haines-Bernard Pre-Legal Society
International Relations Club
Political Science Association
Psychology Club
Ursinus Student Government Association
Young Democrats

Science and Mathematics Division:

Beardwood Chemical Society
Biology Club
Brownback Anders Pre-Medical Society
Computer Society
Mathematics Club
Society of Physics Students

Courses of Instruction

The system used in numbering courses reflects in general the year of college in which many students schedule a course. Thus a course taken normally in the first year will begin with the number 1, in the second year with a 2, and so on. Numbers do not indicate the year in which a course *must* or *should* be taken. Any specific prerequisites or other considerations for enrolling are stated in the course description.

In designating courses of study, *odd* numerals are employed to indicate the courses normally offered during the fall term and even numerals the work of the spring term. Exceptions to this regulation are noted. Summer School offerings are not announced in this catalog, but as far as possible, courses will be offered to meet the needs of students who register for the Summer School.

The credit value of each course, expressed in semester hours, is printed in italics. The hours per week are given in the definition of the course.

ANTHROPOLOGY AND SOCIOLOGY

Assistant Professor Gallagher (*Chair*); *Adjunct Professor* Van Ness
Anthropology and sociology are closely related disciplines. Both are interested in the ways in which people live together in various social and cultural settings.

The objectives of the department of anthropology and sociology are:

1. To help students to appreciate social and cultural differences that exist within our own society and throughout the world.
2. To encourage students to analyze and understand their own behavior within the social and cultural context of our society.

Requirements for Majors

All students majoring in anthropology and sociology must take Anthropology 101 and Sociology 101, and choose either an emphasis in anthropology or an emphasis in sociology.

I. Anthropology Emphasis

Students choosing the anthropology emphasis must take a minimum of 30 semester hours in anthropology and sociology, including Anthropology 101, 202, 302, 401; at least one area course (211, 222, 232, 252); Sociology 101, and at least one additional sociology course. English 214, linguistics and modern grammar, may be taken by

students with an anthropology emphasis as credit towards the major. In addition, Biology 101, 102, or 111, 112, and Math 170 or 171 or 271 are required. (Math 170 does not fulfill the college's curricular goal three). It is highly recommended that students choosing the anthropology emphasis choose one of the Area Studies minors offered at Ursinus. (East Asian Studies or Latin American Studies).

II. Sociology Emphasis

Students choosing the sociology emphasis must take a minimum of 30 semester hours in anthropology and sociology including Sociology 101, 301, 402, Anthropology 101, and at least one additional anthropology course. Psychology 440, Social Psychology, may be taken by students with a sociology emphasis as credit towards the major. In addition, six credit hours in psychology; and Math 170 or 171 or 272, and 241, are required. (Math 170 does not fulfill the college's curricular goal three). It is highly recommended that students choosing the sociology emphasis should take courses which will give them a broad insight into Western thought. Thus History 101 and 102 and Philosophy 101 and 102 are recommended.

For those interested in teaching, students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs* (Nov. 1987).

Requirements for Minors

The Department of Anthropology and Sociology offers minors in both anthropology and sociology. All students minoring in the department must choose either anthropology or sociology.

I. Anthropology minor

A minor in anthropology requires that students take a minimum of 15 semester hours in anthropology. These courses must include 101 and 401.

II. Sociology minor

A minor in sociology requires that students take a minimum of 15 semester hours in sociology. These courses must include 101 and 402.

003- Anthropology

Anthropology is by definition and scope an interdisciplinary subject which addresses itself holistically to the study of people from many places and many periods of time. Anthropology encompasses four distinct but interconnected subfields of study: physical or biological anthropology; social and cultural anthropology; prehistoric archaeology; and linguistic anthropology. The goal of the department is to help the student to understand what it means to be human and to appreciate our own value system more fully through an exposure to the systems of others.

003-101. Introduction to Sociocultural and Linguistic Anthropology**Dr. Gallagher**

Sociocultural and linguistic anthropology offers a survey of alternative ways of life found in human societies throughout the world. Emphasis will be placed on family patterns, kinship relationships, political organization, economic systems, religion, and language as a cultural system. This course is offered in the fall semester of each year. Three hours per week. *Three semester hours.*

003-202. Introduction to Physical Anthropology and Prehistoric Archaeology**Dr. Gallagher**

Physical anthropology and prehistoric archaeology surveys the anthropological approach to human biology and human prehistory. Attention will be given to human evolution, issues of race, primate studies, and the reconstruction of life styles of extinct, non-literate populations. This course is offered in the spring semester of each year. Three hours per week. *Three semester hours.*

003-211. Peoples of Latin America**Dr. Gallagher**

Peoples of Latin America presents an overview of the cultures and institutions of the prehistoric, historic, and contemporary populations of Latin America. Special consideration will be given to the relationship between indigenous and immigrant populations. This course is offered in the fall semester of even numbered years. Prerequisite: Anthropology 101 or consent of the instructor. Three hours per week. *Three semester hours.*

003-222. North American Indians*Dr. Gallagher**

An examination of various American Indian cultures north of Mexico. Emphasis will be placed upon social and political organization, religion and value systems, and acculturation. This course is offered in the spring semester of even numbered years. Prerequisites, Anthropology 101. Three hours per week. *Three semester hours.*

003-232. Peoples of the Pacific**Dr. Gallagher**

A study of the indigenous societies of Australia, Melanesia, Micronesia, and Polynesia, which focuses on social and political organization, religion, art, and changes resulting from European contact and colonization. This course is offered in the spring semester of odd numbered years. Prerequisites, Anthropology 101. Three hours per week. *Three semester hours.*

003-252. American Ethnic Groups**Dr. Van Ness**

This course focuses on ethnic patterns of community social life in urban, suburban, and rural settings. It explores the range and diversity of American ethnic subcultures. It also studies the processes of assimilation and diversification of ethnic groups in the national political, economic and cultural framework. This course is offered in the spring semester each year. Prerequisites, Anthropology 101 or Sociology 101. Three hours per week. *Three semester hours.*

***003-302. Methods in Anthropology Staff**

An introduction to the problems and techniques of anthropological fieldwork. The focus of this course will be on data collection, analysis and interpretation.

003-350. Topics in Anthropology Staff

An occasional course which will focus on special topics in anthropology. Prerequisites, Anthropology 101. Three hours per week. *Three semester hours.*

***003-401. History and Theories of Anthropology Staff**

A study of anthropology within the framework of Western thought. An analysis of the development of anthropological theory from the 19th century until today. Prerequisites, Anthropology 101 and 302, or permission of the instructor. Three hours per week. *Three semester hours.*

003-451. Research**Staff**

Research involves directed readings and research on an anthropological topic. A

**This course is not offered in 1988-1989.*

students wishing to register for this course must present to the instructor a proposal outlining the research to be completed. The proposal must be approved by the instructor prior to registration. The student must meet with the instructor at regular intervals during the semester, and must submit frequent written progress reports. A final paper will be required. Prerequisites, Anthropology 101, two 200 level anthropology courses, and written permission of the instructor. Three semester hours.

090— Sociology

Sociology is concerned with the analysis of social life. It is the goal of the department to assist the student in developing insights into why the analysis of social life is considered to be important, what this approach can offer in terms of understanding people, and how it will help us to understand our own society.

090-101. Introduction to Sociology Staff

A course designed to introduce students to sociology. The sociological view of human society will be emphasized, with special consideration being given to such issues as social behavior, social interaction, and the influence of groups. Topics to be discussed are society culture, groups, social stratification, gender roles, race relations, deviance, the family, education, religion, science, economics, and politics. This course is offered every semester. Three hours per week. *Three semester hours.*

090-216. Deviance Dr. Gallagher

An analysis of major types of deviance, such as crimes of violence, property crimes, white collar crime, organized crime, alcohol and drug abuse, and suicide. Deviance will be viewed as a product of the society in which it occurs. Questions to be considered are what constitutes deviant behavior in our own and in other societies, what forms of deviance are most likely in our society, and how deviance should be treated in our society. This course is offered in the spring semester of odd numbered years. Prerequisites, Sociology 101. Three hours per week. *Three semester hours.* (Students may not receive credit for both 090-212 and 090-216.)

003-461. Seminar in Anthropology Staff

Seminars will deal with special topics in anthropology. The topics may be either a concentrated look at a major subdiscipline within anthropology (e.g., economic anthropology, linguistic anthropology, or archaeology), or an analysis of various theoretical perspectives. Prerequisites, Anthropology 101, one 200 level anthropology course, and written permission of the instructor. Three semester hours per week. *Three semester hours.*

090-226. Marriage and the Family

Dr. Gallagher

A comparative study of the family in various societies provides a background for the analysis of the family in modern America. Topics to be discussed will include mate selection, parenting, gender and sex roles, divorce and remarriage. This course is offered in the spring semester of even numbered years. Prerequisites, Sociology 101. Three hours per week. *Three semester hours.* (Students may not receive credit for both 090-222 and 090-226.)

090-235. The Sociology of Religion

Dr. Gallagher

In this course, religion will be analyzed as a social institution. The role of religion in reinforcing beliefs, in contributing to social stability, and in advocating change will be examined. Examples will be selected from the major religions of the world and the societies with which they have been associated. The course will emphasize the role of religion in American society. This course is offered in the fall semester of odd-numbered years. Prerequisites, Sociology 101. Three hours per week. *Three semester hours.* (Students may not receive credit for both 090-231 and 090-235.)

***090-301. Methods in Sociology Staff**

An introduction to the logic and interpretation of sociological research. The focus is on understanding sociological analysis, including the logic of research design, interpretation of tables and diagrams, descriptive and inferential statistics, and the use of the computer. Prerequisite, Sociology 101 or permission of the instructor. Three hours per week. *Three semester hours.*

090-360. Topics in Sociology Staff

An occasional course which will focus on special topics in sociology. Prerequisites, Sociology 101. Three hours per week. *Three semester hours.*

***090-402. History and Theories of Sociology Staff**

A study of the development of sociology as a discipline within the context of Western social, political, and intellectual history, and an analysis and comparison of the major schools of sociological theory. Prerequisites, Sociology 101 and 301, or permission of the instructor. Three hours per week. *Three semester hours.*

090-451. Research Staff

Research involves directed readings and research on a sociological topic. A student wishing to register for this course must present to the instructor a proposal outlining the research to be completed. The proposal must be approved by the instructor prior to registration. The student must meet with the instructor at regular intervals during the semester, and must submit frequent written progress reports. A final paper will be required. Prerequisites, Sociology 101, two sociology courses above the 100 level, and written permission of the instructor. Three semester hours.

090-461. Seminar in Sociology Staff

Seminars will deal with special topics in sociology. The topics may be either a concentrated look at a major subdiscipline within sociology (e.g., the sociology of education, social problems, of the changing role of women in American society), or an analysis of various theoretical perspectives. Prerequisites, Sociology 101, one 200 level sociology course, and written permission of the instructor. Three hours per week. Three semester hours.

APPLIED MATHEMATICS/ECONOMICS

See Combined Majors

ART

See Fine Arts

005-BIOLOGY

Professors Allen, Kruse, Small (Chair); Associate Professors Fields, Shinehouse, Sidie; Assistant Professor Hughes; Lecturer Whittaker

The department aims, through study of the fundamental aspects of biology as a science, to foster in its students a scientific attitude, and to provide for its majors a firm foundation of knowledge for various biologically-related occupations, for graduate work in biology or for admission to professional schools in the several fields of medicine and related health services. The department also participates in a program leading to teacher certification in secondary schools as described below.

*This course is not offered in 1988-1989.

Requirements for Majors

All students majoring in biology must accumulate a minimum of 36 semester hours of biology, which includes the core curriculum. At least 16 semester hours are to be earned at the 300 level or higher, excluding internship (Biology 381). Except as specified in the teacher certification program (see below), the core curriculum consists of Biology 111, 112; 215 and at least three credits from each of the following divisions: cellular biology (Biology 216, 322, 418, 422, 431); animal biology (Biology 312, 317, 318, 436); plant biology (Biology 333, 334, 428); population biology (Biology 230, 232, 315, 316.) Chemistry 111, 112, and 207, 208, Physics 111, 112 and Math 111, 112 are also required of all majors.

Requirements for Minors

A minor concentration in biology consists of Biology 111, 112 and at least 12 additional credits or Biology 101, 102 and at least 14 additional credits (excluding one credit courses) in biology.

See Psychology (075) for the minor in Neuroscience.

Special Career Interests

- I. Students seeking admission to graduate programs in biologically-related fields should note the following:
 1. At least one additional course in chemistry is recommended, to be selected in accordance with graduate objectives.
 2. Math 241, 242 is recommended.
 3. Math 271 is recommended.
 4. Biology electives should be chosen in accordance with the major area of interest.
- II. Prospective secondary school teachers whose interest is biology and who wish to be certified in biological science should note the following:
 1. One of the following courses is required from the division of animal biology: Biology 312, Biology 317 or Biology 318.
 2. Simultaneous certification in general science is highly recommended.
 3. It is highly recommended that prospective teachers serve at least one semester as departmental teaching assistants.
 4. The curriculum beyond the first year must be arranged in consultation with the chairman of the department of education.
 5. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs* (Nov. 1987).
- III. Students seeking admission to schools of medicine, dentistry, veterinary medicine, optometry and podiatry should note the following:

1. At least one additional course in chemistry (e.g. Chemistry 203, 309, 315) is strongly recommended.
2. Biology electives should be chosen in accordance with professional objectives.

IV. Students who plan to terminate their formal education at the baccalaureate level should note the following:

1. Math 241, 242, and 271 are strongly recommended.
2. EcBA 100, and 103, 104 are recommended.
3. TIER III and TIER IV courses should be selected in accordance with occupational interests.

005-101. Introduction to Biological Science Mrs. Whittaker

An introduction to the principles of biology with emphasis on current biological concerns of interest to the non-science major. Topics of discussion include the chemical and cellular bases of life, respiration and photosynthesis and animal structure and function. Two hours of lecture; two hours of laboratory per week. *Three semester hours.*

005-102. Introduction to Biological Science Mrs. Whittaker

An introduction to the principles of biology with emphasis on current biological concerns of interest to the non-science major. Topics of discussion include genetics, development, evolution, ecology, behavior and the diversity of life. Two hours of lecture; two hours of laboratory per week. *Three semester hours.*

005-111. General Biology Dr. Hughes

An introduction to the molecular basis of life as well as the origin and consequences of diversity in the biological world. Topics include cellular organization and function, bioenergetics, genetics, evolution and ecology. Laboratory experiments cover aspects of molecular, cellular, and genetic biology. Pre or corequisite, Chemistry 111. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

005-112. General Biology Dr. Hughes

A continuation of Biology 111. Topics include bacterial and viral characteristics, plant structure and function, animal physiology and anatomy. Laboratory exercises include experiments and studies of the classification and structure of representative organisms. Prerequisite, Biology 111. Pre or

corequisite, Chemistry 112. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

NOTE: Courses 005-111, 112 are the basic introductory courses required of all biology majors and for any others who are planning to meet the various pre-professional requirements in the health sciences.

005-215. Genetics Dr. Fields

A survey of the basic principles of classical, molecular, biochemical and population genetics using a variety of organisms to illustrate the experimental rationale of the genetic problem. Prerequisite, Biology 112, or permission of the instructor. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

005-216. Cell Biology Dr. Fields

A study of the fine structure and function of prokaryotic and eukaryotic cells, with emphasis on the function of cellular organelles including the processes of respiration, photosynthesis, gene expression, and movement. Prerequisite, Biology 102, 112 or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

005-216a. Cell Biology Laboratory

Dr. Fields

Laboratory work relates to cell biology with emphasis on physiological techniques, including isolating procedures, spectrography and chromatography. Pre or corequisite, Biology 216. Three hours per week. *One semester hour.*

005-223. Evolution Dr. Kruse

Lectures, assigned reading and papers explaining the history of living things in space and time. Prerequisite, Biology 102 or 112. Two hours per week. *Two semester hours.*

005-230. Marine Biology Dr. Sidie

A field-oriented study of the important marine habitats: pelagic and benthic zones, intertidal communities. Topics include physical and chemical oceanography, marine plants, zooplankton, nekton, marine animals, and the marine ecosystem. Prerequisite, Biology 101, 102, or Biology 111, 112, or permission of the instructor. Lecture and field investigations. *Three semester hours.* (Course conducted at a marine field station.)

005-232. Ethology Dr. Sidie

A study of the biological basis of behavior. Topics include the neural and hormonal basis of behavior, orientation mechanisms, biological clocks, animal communication, learning, sociobiology, genetics of behavior, and the evolution of behavior. Prerequisite, Biology 102 or 112; or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

005-232a. Ethology Laboratory Dr. Sidie

Experimental investigations of animal behavior. Topics studied include orientation reactions, fish schooling, circadian rhythms, electric fish, habituation, conditioning, pheromones, social behavior, sensory signals and territoriality. Co or prerequisite, Biology 232. Two hours of laboratory per week. *One semester hour.*

005-311. Vertebrate Anatomy Dr. Allen

A comparative study of body structure and its evolution in the major groups of vertebrate animals. Laboratory dissection of the bony fish, shark, and mammal. Prerequisite, Biology 112. Three hours of lecture; four hours of laboratory per week. *Four semester hours.*

005-315. General Ecology Dr. Small

Studies of the interrelationships between organisms and their environment that determine their distribution and abundance in natural systems. Aspects of energy flow, biotic and abiotic limits, population growth

and community organization are considered in the context of the ecosystem. Laboratories include local field work and emphasize techniques for collecting and analyzing data. Prerequisite, Biology 112 or permission of the instructor. Two hours of lecture, three hours of laboratory per week. *Three semester hours.*

005-316. Vertebrate Ecology and Adaptations Dr. Allen

A study of the diversity, life styles and adaptations of modern vertebrate animals and their interactions with one another and with the environment. Prerequisite, Biology 112 or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

005-317. Human Anatomy and Physiology Mrs. Shinehouse

A study of the characteristics of cells and tissues, and the muscular, skeletal and nervous systems. Emphasis is placed on the integration of structure and function. Prerequisite, Biology 101 or 111; or permission of the instructor. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

005-318. Human Anatomy and Physiology Mrs. Shinehouse

A study of the structure and function of the sense organs, and of the circulatory, respiratory, urinary, digestive, endocrine and reproductive systems. Prerequisite, Biology 317, or permission of the instructor. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

005-322. Molecular Biology Dr. Hughes

A survey of the molecular aspects of gene structure, transcription, translation, control and replication as well as the theory behind laboratory techniques used in their study. Prerequisite, Biology 215; Chemistry 315 recommended. Three hours of lecture per week. *Three semester hours.*

005-322a. Molecular Biology Laboratory Dr. Hughes

Experiments involving techniques used by molecular biologists including DNA cloning, electrophoresis, DNA and protein purification and nucleic acid hybridization. Pre or corequisite, Biology 322 or permission of instructor. Three hours of laboratory per week. *One semester hour.*

005-333. Biology of the Non-Vascular Plants **Dr. Fields**

A phylogenetic survey of the non-vascular plants, with emphasis on identification, morphological and evolutionary trends, and isolation and culture techniques. Prerequisite, Biology 112. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

005-334. Biology of the Vascular Plants **Dr. Small**

A survey of the morphology and evolution of the vascular plants, including the principles, theory and methodology underlying modern taxonomic systems. Available field time centers upon the morphology and taxonomy of the local vascular flora. Prerequisite, Biology 112. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

005-335. Analysis of Development **Dr. Allen**

Investigation of the mechanisms that bring about the differentiation of cells and their subsequent organization into tissues, organs and organ systems. Laboratory work stresses the development of vertebrate morphology. Prerequisite, Biology 215. Three hours of lecture; four hours of laboratory per week. *Four semester hours.*

005-341. Research **Staff**

Scientific literature research with the preparation of a final report concerning some biological phenomenon of interest to the student. Prerequisites, Biology 112 and written consent of a staff member who will serve as research adviser, presented at the time of registration. *One semester hour.*

005-342. Research **Staff**

Content and prerequisites as in Biology 341, but offered in the spring term. *One semester hour.*

005-346. Animal Physiology **Dr. Sidie**

An investigation of the biological, chemical and physical basis of animal function. Topics studied include enzymes and energetics, permeability and transport, cellular signaling, sensory systems, motility, osmoregulation and excretion, circulation, gas exchange, feeding and absorption. Prerequisite, Biology 111,

112. Three hours of lecture; Three hours of laboratory per week. *Four semester hours.*

005-350. Selected Topics in Biology **Staff**

A course offered periodically in an area of special interest to students by a staff member or a visiting lecturer. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.*

005-381. Internship **Staff**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chairman of the department for further details. Prerequisite, junior standing, nine credits in biology, and approval of a faculty internship adviser. Eight to 10 hours per week. *Three semester hours.*

005-418. Microbiology **Dr. Kruse**

The structural, cultural, and physiological characteristics of microorganisms and their role in the economy of nature. The principles of immunology, serology and virology are also considered. Prerequisite, Biology 112; or permission of the instructor. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

005-422. Histology **Mrs. Shinehouse**

A study of the structure of vertebrate tissues and their integration into organs and organ systems. An introduction to histological technique. Prerequisite, Biology 112; or permission of the instructor. Two hours of lecture; five hours of laboratory per week. *Four semester hours.*

005-428. Plant Physiology **Dr. Fields**

A study of life processes of green plants and the environmental factors that regulate them. Experiments will illustrate physiological concepts. Prerequisites, Biology 112; Chemistry 208. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

005-431. Neurobiology **Dr. Sidie**

Biophysics of excitable membranes, physiology of synapses, sensory receptors, integrative neurophysiology, neuromuscular systems, excitation-secretion coupling and the coding of neural information. Prerequisites, Physics 112, Biology 112; or

CHEMISTRY

permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

005-433. Quantitative Biology and Experimental Design Dr. Sidie

A course in the application of quantitative techniques to experimentation in biology. Topics studied include experimental design, biostatistics, simulation and modeling of biological systems, computer applications in biology and information theory. Prerequisite, Biology 111, 112 and Math 111, 112. Two hours of lecture; two hours of laboratory per week. *Three semester hours.*

005-436. Analysis of Development

Dr. Allen

Investigation of the mechanisms that bring about the differentiation of cells and their subsequent organization into tissues, organs and organ systems. Laboratory work stresses the embryonic development of vertebrates. Prerequisite, Biology 215. Three hours of lecture; four hours of laboratory per week. *Four semester hours.*

005-473. Seminar

Staff

Papers, reports, discussions and/or independent research concerned with selected phases of biological knowledge. Topics to be chosen by the instructor in charge. Prerequisites, Senior standing; Biology 215, Chemistry 208; or permission of the instructor. One hour per week. *One semester hour.*

005-474. Seminar

Staff

Comparable to Biology 473, but using different material. Prerequisites as in Biology 473. One hour per week. *One semester hour.*

005-481. Research

Staff

Library and laboratory research with the preparation of a final thesis. An original laboratory or field analysis of some biological phenomenon and presentation of results in a student-staff seminar. Prerequisites, Biology 112 and written consent of a staff member who will serve as research adviser, presented at the time of registration. *Three semester hours.*

005-482. Research

Staff

Content and prerequisites as in Biology 481, but offered in the spring term. *Three semester hours.*

005-491. Research/Independent Work

Staff

Content and prerequisites as in Biology 481, but open only to candidates for departmental honors. *Three semester hours.*

005-492. Research/Independent Work

Staff

Content and prerequisites as in Biology 481, but offered in the spring term and open only to candidates for departmental honors. *Three semester hours.*

BUSINESS ADMINISTRATION

See Economics and Business Administration

010-CHEMISTRY Professors Hess, Schultz, Staiger (*Chair*); Associate Professors Barth, Tortorelli; Assistant Professor Shaw; Research Scholar Middleton.

The chemistry department at Ursinus College has been accredited by the American Chemical Society since 1959.

The objectives of the department are (1) to offer specialized training in chemistry, beyond the basic course, that will enable a graduate to enter a career as a professional chemist; (2) to prepare the student for graduate study; (3) to provide a strong foundation for the student planning to enter medicine, dentistry or an allied health field; (4) to prepare the student for teaching chemistry at the secondary level; (5) to

provide courses which satisfy the departmental requirements for a comprehensive minor; (6) to provide a course in general chemistry which satisfies the natural science requirements of the College.

Recognizing that students have different educational objectives, the chemistry department offers several programs leading to a major. Students wishing to combine a chemistry major with a major/minor concentration in another academic department (economics, business administration, biology, physics, and others) may enroll in any one of the following programs (tracks) in accordance with their career interests.

Requirements for Majors

Track 1. Major Specialization in Chemistry

Students planning to enter the chemical industry or planning further study in chemically related areas (e.g. engineering, biochemistry, material science, and the like) may enroll in this program. This specialization consists of the following courses central to the field of chemistry: Chemistry 111, 112, 203, 207, 208, 309, 309a, 310 and seven additional credits in chemistry, at least one of which must be laboratory credit.

Other courses necessary to complete the departmental requirements of this program are Math 111, 112, 211; Physics 111, 112. A course in computer science (Math 271) is recommended.

Track 2. American Chemical Society Accredited Major.

The American Chemical Society has adopted a set of standards for undergraduate training in chemistry. Students seeking accreditation must complete the following courses: Chemistry 111, 112, 203, 207, 208, 306, 309, 309a, 310, 310a, 401, and three additional credits in chemistry lecture electives and three additional credits in chemistry laboratory, only two of which can come from research or internship. Other courses necessary to complete the departmental requirements of this program are Math 111, 112, 211; Physics 111, 112. A course in computer science (Math 271) is recommended.

Track 3. Specialization in Chemistry for Medical School and Allied Fields.

This course of study is designed for students planning admission to professional schools in the healing arts (such as medicine and dentistry) or further study in the health-related fields. This program consists of the following courses: Chemistry 111, 112, 203, 207, 208, 309, 309a, 310, 310a; Biology 111, 112. Other courses necessary to complete the departmental requirements of this program are Mathematics 111, 112, 211 and Physics 111, 112.

Track 4. Specialization in Chemistry for Science Teaching

This program satisfies the Pennsylvania State requirements for secondary school certification in chemistry. Students seeking

certification should enroll in the following: Chemistry 111, 112, 203, 207, 208, 309, 309a, and an additional three credits in chemistry. Other courses necessary are Biology 101, 102 or 111, 112; Math 111, 112, 211; Physics 111, 112 and the prescribed education courses. A course in geology is recommended. Prospective teachers should serve as laboratory assistants or participate in training. Prospective student teachers must have a 75.00 average in chemistry and receive a departmental recommendation which considers, in addition to academic performance, the student's interpersonal and communication skills. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs (Nov. 1987)*.

Minor Concentration

A minor concentration in chemistry consists of Chemistry 111, 112, 203, 207, 208, and one of the following: 306, 307, 309; Math 111, 112; Physics 111, 112.

A student presenting six credits in general chemistry may satisfy the prerequisite for an advanced course by passing a written examination set by the faculty of the department.

Chemistry 101 and 102 are not open to chemistry majors but may be taken by other students to satisfy college graduation requirements.

010-101. General Chemistry Mrs. Shaw

Basic chemical principles such as atomic structures, bonding, and oxidation-reduction are developed with emphasis on how these principles relate to daily life. Related laboratory work complements the classroom topics. Chemistry 101 is designed for the non-science major and does not satisfy the prerequisite for advanced chemistry courses. Two hours of lecture and three hours of laboratory per week. *Three semester hours.*

010-102. General Chemistry Mrs. Shaw

A continuation of Chemistry 101. The principles developed in Chemistry 101 are used in discussion of pertinent current topics such as energy and food production, air and water pollution, drugs and medicines. Related laboratory work complements the classroom topics. Chemistry 102 is designed for the non-science major, and does not satisfy the prerequisite for advanced chemistry courses. Prerequisite, Chemistry 101. Two hours of lecture and three hours of laboratory per week. *Three semester hours.*

Chemistry 111, 112 are coordinated with Math 111, 112 and Physics 111, 112 in such a way as to demonstrate their relationships and interdependence.

010-111. General College Chemistry

Dr. Schultz, Mrs. Shaw

A study of the basic theories and laws of chemistry, concerning the common elements of the periodic system, their structures, interactions and energy relationships. This course is accompanied by work in the mathematical solution of chemical problems and is the prerequisite to advanced chemistry courses. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

010-112. General College Chemistry

Dr. Schultz, Mrs. Shaw

A continuation of Chemistry 111. A study of the oxidation states of the common elements, chemical equilibrium, solubility product and pH. The laboratory experimentation deals with the qualitative separation and characterization of the common cations and anions. Prerequisite, Chemistry 111. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

010-203. Quantitative Analysis

Miss Barth

A study of commonly-used methods of gravimetric and volumetric analysis and an

introduction to instrumentation. Emphasis is placed on equilibrium theory. Prerequisites, Chemistry 112, Math 111, and Physics 111 (or concurrently). Three hours lecture and three hours of laboratory per week. *Four semester hours.*

010-204. Chemical Information Science

Dr. Tortorelli

The use of literature sources in the field of chemistry. Instruction in effective technical communication with emphasis on principles of scientific writing. Prerequisite, Chemistry 207. Three hours of lecture per week. *Three semester hours.*

010-207. Organic Chemistry **Dr. Hess**

A study of the physical and chemical properties of the important classes of organic compounds within the context of modern structural theory. Areas emphasized are chemical bonding, acidity and basicity in organic systems, stereochemistry, spectrometric methods of analysis, and reaction mechanisms. Prerequisite, Chemistry 112. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

010-208. Organic Chemistry **Dr. Hess**

A continuation of Chemistry 207. Particular emphasis is placed on structure-reactivity relationships and synthesis. Other topics include aromaticity, nuclear magnetic resonance spectroscopy, the chemistry of the carbonyl function, and polymerization. Prerequisite, Chemistry 207. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

010-306. Instrumental Analysis

Miss Barth

A study of the theory and applications of modern instrumental analysis: electrochemistry, spectroscopy, and chromatography. Prerequisites, Chemistry 203, 208. Three hours of lecture per week. *Three semester hours.*

010-306a. Laboratory in Instrumental Analysis

Miss Barth

Laboratory work related to Chemistry 306. This course must be taken concurrently with Chemistry 306. Three hours per week. *One semester hour.*

010-307. Modern Applications of Analytical Chemistry

Miss Barth

A study of experimental design and applications to various methods in analytical chemistry. Topics will vary from year to year and may include separation methods, modern electronics, laboratory automation and the use of the computer in chemistry. Prerequisites, Chemistry 203, 208. Three hours of lecture per week. *Three semester hours.*

010-309. Physical Chemistry

Staff

A study of the fundamental laws of thermodynamics as applied to chemical systems. Areas emphasized include chemical equilibrium, chemical kinetics, and surface chemistry. Prerequisites, Chemistry 112, Math 211. Three hours of lecture per week. *Three semester hours.*

010-309a. Laboratory in Physical Chemistry

Staff

Laboratory work related to Chemistry 309. Prerequisites (or concurrently), Chemistry 203, 309. Three hours per week. *One semester hour.*

010-310. Physical Chemistry

Staff

A continuation of Chemistry 309. A study of quantum mechanics and its application to chemical properties. Other areas included are phase diagrams and molecular structure determination. Prerequisite, Chemistry 309. Three hours of lecture per week. *Three semester hours.*

010-310a. Laboratory in Physical Chemistry

Staff

Laboratory work related to Chemistry 310. Prerequisite, Chemistry 310 (or concurrently). Three hours per week. *One semester hour.*

010-311. The Identification of Organic Compounds

Dr. Tortorelli

Identification based on physical, chemical and spectrometric properties of organic compounds. The theory of modern spectrometric methods of organic analysis will be discussed. Prerequisite, Chemistry 208. Three hours of lecture per week. *Three semester hours.*

010-311a. Laboratory in the Identification of Organic Compounds Dr. Tortorelli

The physical, chemical and spectroscopic analysis of organic molecules and the preparation of chemical derivatives. Prerequisite, Chemistry 311 (or concurrently). Three hours per week. *One semester hour.*

010-315. Biochemistry Dr. Tortorelli

The study of the properties, structure, synthesis, and metabolism of carbohydrates, proteins, lipids, and nucleic acids; biological oxidations; enzyme catalysis; the chemistry of selected physiological processes. Prerequisite, Chemistry 208. Three hours of lecture per week. *Three semester hours.*

010-350 Selected Topics in Chemistry Staff

A course offered periodically dealing with topics of current interest to faculty and students. Prerequisite, Chemistry 208. Three hours per week. *Three semester hours.*

010-381. Internship Staff

A laboratory project in cooperation with industry at an industrial site involving a minimum of 10 hours per week for one semester or four weeks of full-time work. Before beginning the internship the student must submit a proposal that has been approved by both the chemistry faculty and the on-site supervisor. Upon completion of the work a written report detailing the complete scope and results of the project must be submitted to the department. Prerequisites, Chemistry 203, 204, 208. *Three semester hours.*

010-401. Structure and Bonding of Chemical Compounds Miss Barth, Dr. Tortorelli

A study of bonding theories, applications of group theory, molecular spectroscopy, and the stereochemistry of chemical compounds. Prerequisite, Chemistry 309 (or concurrently). Three hours of lecture per week. *Three semester hours.*

010-402. Reactivity of Chemical Compounds Miss Barth, Dr. Tortorelli

A survey of various methods used to elucidate reaction mechanisms, including

thermodynamic studies of chemical transformations, and an investigation of the theories governing the reactivity of chemical compounds. Prerequisite, Chemistry 310 (or concurrently). Three hours of lecture per week. *Three semester hours.*

010-412. Polymer Chemistry Dr. Schultz

A study of the synthesis, structure and properties of polymers. Topics include polymerization methods and kinetics, determination of molecular weight and its distribution, mechanical properties, and polymer processing. Prerequisite, Chemistry 208, 309. Three hours of lecture per week. *Three semester hours.*

010-482. Advanced Laboratory Methods Dr. Schultz, Dr. Tortorelli

Biochemical, inorganic, organic, physical and polymer chemistry concepts integrated in a broad laboratory study of structure and reactivity. Prerequisites, Chemistry 208, 309a. Six hours per week. *Two semester hours.*

010-491. Research/Independent Work Staff

Independent library and laboratory investigation of an area of chemistry with oral progress reports to the department faculty and a thesis. Written consent of the research advisor and the department staff presented at the time of registration is required. Prerequisites, Chemistry 204, 208, and either 306a or 309a (or concurrently). Nine hours per week. *Three semester hours.*

010-492. Research/Independent Work Staff

Content as in 491. Prerequisites, Chemistry 204, 208, and either 306a (or concurrently) or 309a. Nine hours per week. *Three semester hours.*

Departmental Honors in Chemistry
Students successfully completing Chemistry 491, 492 may be awarded honors in chemistry, but no additional credit will be granted. Description of the honors program, including qualifications, is detailed in this catalog under the Ursinus Plan.

CLASSICAL STUDIES*Professor Wickersham, (Chair)*

Courses in the department classical studies are intended to develop reading ability in ancient Greek and Latin, and to introduce the student to the major forms of ancient literary expression; they enhance general linguistic facility and give the student direct access to the original documents of Western civilization.

Requirements for Majors

Majors must take at least 12 semester hours of Greek, and 12 semester hours of Latin above Latin 102. Latin 301 is required and majors must also include among their electives History 101, 102 and elect at least 9 semester hours from the following major-related courses: English 320-326 (classics in translation), 214 (linguistics); Anthropology 101, 102 (introduction to social and physical anthropology); History 319 (ancient Near East and Greece); 320 (Rome), 321, (Byzantium); Fine Arts 311, 312 (history of art); Philosophy 101, 102 (history of philosophy), 103 (general problems of philosophy), 105, 106 (logic), 108 (aesthetics); World Literature 201, 202 (western literature). Other courses not mentioned may be counted as major-related with the approval of the department.

Those intending to teach Greek or Latin in the public schools are urged to acquire state certification through the department of education. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs* (Nov. 1987).

Requirements for Minors

A minor concentration in classical studies consists of a minimum of 12 credits in Greek and Latin courses to, at least, the 204 level; six credits either in classics in translation (Literature 320, 322, 324, or 326), or in ancient history (History 319 and 320).

A minor concentration in Greek consists of 15 credits in Greek, and three credits in classics in translation (Literature 320, 322, 324, or 326).

A minor concentration in Latin consists of 15 credits in Latin; and three credits in classics in translation (Literature 320, 322, 324, or 326).

016-GREEK

016-101. Elementary Greek

Dr. Wickersham

Thorough study of ancient Greek grammar and syntax. Practice in reading and composition. Emphasis on development of reading ability. Forms a unit with Greek 102. Three hours per week. *Three semester hours.*

016-102. Elementary Greek

Dr. Wickersham

Continuation of Greek 101. Study of grammar completed and replaced by reading of a whole work, such as a play of Euripides, Xenophon's *Anabasis I*, or a book of the New Testament. Three hours per week. *Three semester hours.*

016-203. Attic Prose Dr. Wickersham

Plato's *Apology* and other texts concerning Socrates. Prerequisites, Greek 102 or equivalent. Three hours per week. *Three semester hours.*

016-204. The Epic Dr. Wickersham

Large excerpts from the *Iliad* or *Odyssey*. Study of Homer's poetry and thought. Introduction to history of the Greek language, with special attention to phonology. Foundations of Western literature. Prerequisites, Greek 203 or equivalent. Three hours per week. *Three semester hours.*

The following advanced courses will be given according to students' needs and interests; consult with the instructor concerning available offerings.

016-208. New Testament

Dr. Wickersham

At least one book of this important record. Three hours per week. *Three semester hours.*

016-301. Drama Dr. Wickersham

Reading and study of Sophocles' *Oedipus the King*, plus one other tragedy by Sophocles, Aeschylus, or Euripides, or a comedy by Aristophanes or Menander. Three hours per week. *Three semester hours.*

016-302. Historical Writers

Dr. Wickersham

Large excerpts from Herodotus' *Persian Wars*, Thucydides' *Peloponnesian War*, or

Xenophon's *Greek History*. Three hours per week. *Three semester hours.*

016-303. Selected Topics

Dr. Wickersham

Content variable, concentration on author, period, genre and the like. Three hours per week. *Three semester hours.*

016-304. Selected Topics

Dr. Wickersham

Three hours per week. *Three semester hours.*

016-401. Seminar Dr. Wickersham

Seminars of varying content, concentrating on a topic, author, or genre. Three hours per week. *Three semester hours.*

016-402. Seminar Dr. Wickersham

Seminars of varying content, concentration on a topic, author, or genre. Three hours per week. *Three semester hours.*

016-491. Research/Independent Work Dr. Wickersham

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

016-492. Research/Independent Work Dr. Wickersham

A continuation of Greek 491. Prerequisite, Greek 491. *Three semester hours.*

017-LATIN

017-101. Elementary Latin

Dr. Wickersham

Instant production of reading ability, with ever-growing development of vocabulary and style. Forms unit with Latin 102. Three hours per week. *Three semester hours.*

017-102. Elementary Latin

Dr. Wickersham

Continuation of Latin 101. All aspects of classical Latin are covered; readings depict wide variety of Roman life. Three hours per week. *Three semester hours.*

017-203. Intermediate Latin

Dr. Wickersham

Review of elementary Latin. Carefully programmed readings cover topography of

Rome, and early Roman legends and history down through the first Punic War. Three hours per week. *Three semester hours.*

017-204. Intermediate Latin

Dr. Wickersham

Continues Latin 203. Practice and review, and transition to reading from original sources taking Roman history through the growth of the empire. Three hours per week. *Three semester hours.*

The sequence Latin 101-204 is recommended for fulfilling the foreign language requirement.

The following advanced courses will be offered as suits the needs and interests of students. Consult with the instructor concerning available offerings.

017-301. The Latin Language

Dr. Wickersham

Detailed study of Latin vocabulary, morphology and syntax. Introduction to comparative linguistics. Survey of documents and literature from the origins to the present. Required for Classical Studies majors. Prerequisite, Latin 204, equivalent, or permission. Three hours per week. *Three semester hours.*

017-302. Introduction to Latin Poetry **Dr. Wickersham**

Poems of Catullus, Ovid, Tibullus, Propertius. Stress on developing sensitivity and canons of appreciation. Three hours per week. *Three semester hours.*

017-303. Historical Writers

Dr. Wickersham

Caesar, Suetonius, or Tacitus. Three hours per week. *Three semester hours.*

017-304. The Roman Revolution

Dr. Wickersham

Speeches and letters of Cicero, and other contemporary documents. Three hours per week. *Three semester hours.*

017-305. Vergil's Aeneid

Dr. Wickersham

Paganism transcended. Three hours per week. *Three semester hours.*

017-307. Selected Topics

Dr. Wickersham

Content variable, concentration on author, period, genre and the like. Three hours per week. *Three semester hours.*

017-308. Selected Topics

Dr. Wickersham

Three hours per week. *Three semester hours.*

017-401. Seminar

Dr. Wickersham

Seminars of changing content, for study of special topics, authors, genres. Three hours per week. *Three semester hours.*

017-402. Seminar

Dr. Wickersham

Seminars of changing content, for study of special topics, authors, genres. Three hours per week. *Three semester hours.*

017-491. Research-Independent Work

Dr. Wickersham

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

017-492. Research-Independent Work

Dr. Wickersham

A continuation of Latin 491. Prerequisite, Latin 491.

077-COMMUNICATION ARTS

Professor Henry (Chair), Associate Professor Miller, Assistant Professor Czubaroff.

The communication arts department aims to increase students' understanding and practice of communication, through the study of the concepts and processes which govern artistic, interpersonal, rhetorical, and mass communications. Communication study helps to prepare students for careers in the arts (broadcasting, theater, administration); business (advertising, management, public relations); the professions (education, law, journalism); and social services.

Requirements for Majors

A major in communication arts consists of 30 semester hours of credit, including Communication Arts 200, 201, 252, and 444, and nine additional hours at the 300 level or above. Students may include Fine Arts 101, English 207, and English 214 as part of the major. In addition, majors are required to complete three courses above the introductory level in another department, or to complete a minor. A major research project or paper (normally undertaken during Communication Arts 444) must be completed and approved by the communication arts faculty before graduation.

Requirements for Minors

A minor in communication arts supports students in their major areas of study. A minor concentration consists of a minimum of 18 hours of credit, including Communication Arts 200, 201 (unless exempted), 252, and at least six hours at the 300 level or above.

Majors and minors are expected to participate actively and to assume leadership roles with campus organizations associated with the field of communication arts, such as *The Grizzly*, the campus newspaper; WVOU, the radio station; proTheatre, the drama group; and the Forensic Society. Those who are interested in teaching should consult the education department booklet, *Ursinus College Teacher Education Programs (Nov. 1987)*.

077-200. Mass Media and Society

Dr. Miller

An analytical and critical approach to the study of mass media, including radio, television, film and print. Three hours per week. *Three semester hours.*

077-201. Public Speaking

Staff

The composition and presentation of speeches that inform, teach, and persuade, with group analysis and criticism. Three hours per week. *Three semester hours.* Enrollment limited to twenty students per section.

077-210. Introduction to Television

Dr. Henry, Dr. Miller

A comprehensive overview of the principles of television production. The course focuses upon the planning and structuring of studio productions, including preproduction techniques and directing. Enrollment limited to 15 students per section. Prerequisite: Communication Arts 200 or permission of the instructor. Three hours per week. *Three semester hours.*

077-222. Oral Interpretation Dr. Henry

A study of the techniques necessary to communicate effectively the intellectual and emotional content of fictional and non-fictional material. Prerequisite: Communication Arts 201. Three hours per week. *Three semester hours.*

077-232. Argumentation Dr. Czubaroff

A study of the nature, structure, and criticism of argumentative discourse. Students analyze extended public arguments, present speeches of argumentation and participate in direct clash debates. Prerequisite, Comm. Arts 201. Three hours per week. *Three semester hours.*

077-252. Interpersonal Communication

Dr. Czubaroff

A study of the ways in which people generate meaning in interpersonal transactions through the use of language, space, gesture, sexuality, and time. Emphasis is placed on business, professional, and family interpersonal contexts. Prerequisite: Communications Arts 201. Three hours per week. *Three semester hours.*

077-301. Theater Workshop Dr. Henry

An introduction to the theater, with an emphasis upon acting techniques. Students will participate in acting exercises, scene study, and stagecraft and will gain practical experience in campus productions. Prerequisite: Communication Arts 201. Three hours per week. *Three semester hours.*

077-302 Theater Workshop Dr. Henry

A continuation of Theater Workshop 301 with an emphasis upon directing and management. Prerequisite, Communication Arts 301. Three Hours per week. *Three semester hours.*

077-309. Intermediate Television Production Dr. Miller

The techniques of electronic field production. The course focuses upon script development, broadcast news writing, and post-production techniques including off-line electronic editing. Prerequisite: Communication Arts 210. Enrollment limited to 15. Three hours per week. *Three semester hours.*

077-310. Advanced Television Production Dr. Miller

A continuation of Communication Arts 309. Studio and field production techniques are combined for the production of programming on the local Cable television public access channel. Prerequisite: Communication Arts 309. Enrollment limited to 15. Three hours per week. *Three semester hours.*

077-325. Small Group Communication Dr. Czubaroff

Introduction to the theory and process of communication in goal-oriented groups. Special attention is given to critical thinking, information processing, problem solving, leadership, conflict management, analysis and evaluation. Prerequisite, Communication Arts 201. Three hours per week. *Three semester Hours.*

077-328. Persuasion: Theory and Criticism Dr. Czubaroff

A study of the psychological, sociological and symbolic foundation of persuasive communication. The theoretical study is complemented by an examination of

persuasion processes found in such forms as advertising, education, propaganda, journalism and film. Prerequisite, Communication Arts 200. Three hours per week. *Three semester hours.*

077-381. Communication Arts Internship Staff

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Prerequisites, junior standing, nine credits in communication arts, and approval of a faculty internship adviser. *Three semester hours.*

077-411. Projects in Communication Arts Staff

Advanced individual work on a special project related to theater, television, rhetoric or journalism. Prerequisites, six credits of 300-400 level courses, a written project proposal, and permission of the instructor. *Three semester hours.*

077-412. Projects in Communication Arts Staff

Advanced individual work on a special project related to theater, television, rhetoric or journalism. Prerequisites, six credits of 300-400 level courses, a written project proposal, and permission of the instructor. *Three semester hours.*

077-444. Seminar in Communication Arts Dr. Miller

A series of readings and discussions which will focus upon contemporary issues within the communication field, accompanied by a major research project integrating the theoretical and experiential knowledge that the student has acquired. Open only to third- and fourth-year students majoring in communication arts. Prerequisite, Communication Arts 200, 201, 252. Three hours per week. *Three semester hours.*

018—COMPUTER SCIENCE

See Mathematics and Computer Science

019—EAST ASIAN STUDIES

Professor Decatur; Assistant Professors Clark (Coordinator), Hood; Lecturer Kanagy; Visiting Professor Shikoda

Acquaintance with cultures other than our own is an integral part of both a liberal arts curriculum and preparation for a career in a variety of fields including business, law, teaching or governments. The East Asian studies minor, an interdisciplinary program drawing on offerings from many departments but emphasizing history, language, literature and politics, is designed to provide such an introduction to the cultures of China and Japan.

In addition to the courses offered on the Ursinus campus, students are encouraged to take advantage of the Summer Study in Japan Program, offered in conjunction with Tohoku Gakuin University, our sister institution in Sendai, Japan. (See below.)

Requirements for Minors

A minor concentration in East Asian studies consists of 18 credits from courses dealing with East Asia. Nine credits must be from History 223, 224; Politics 346, 347, or World Literature 203, 204. Nine additional credits must be from the following: Anthropology 223, East Asian Studies 299, 314, 401; Japanese 101, 102, 201, 202, 203, 204, 300; History 223, 224, 333, 334; Philosophy and Religion 202; Politics 346, 347; and World Literature 203, 204. Students minoring in East Asian studies are strongly encouraged to take Japanese language to satisfy the college language requirement.

019-299. Topics in East Asian Studies**Staff**

An interdisciplinary topics course focusing on aspects of East Asian culture, the specific topic to be chosen by the instructor. To be taught in English by guest faculty. *Three semester hours.*

019-314. Japanese Culture and Society**Staff**

Understanding contemporary Japanese society through the traditional arts, music, theater, education and social structures. Taught in English. Three hours per week. *Three semester hours.*

019-401. Summer Study in Japan**Staff**

A five-week course offered in collaboration with Tohoku Gakuin University in Sendai, Japan. This interdisciplinary course comprises three weeks of classroom instruction in Sendai on selected topics of Japanese culture and society, plus an introduction to conversational Japanese language; followed by a two-week tour of Japan. The instructors include English-speaking faculty of the host university as well as members of the Ursinus faculty. Offered annually mid-May through June. *Not open to incoming freshmen. Three semester hours.*

020—ECONOMICS AND BUSINESS ADMINISTRATION

Professor Pilgrim: Associate Professors Borgmann, Bowers, Lentz (Chair), Meyer; Assistant Professors Gassler, Harris, O'Neill; Instructor Keyser.

The work in the economics and business administration department is designed to give (1) knowledge of the structure and functioning of our economy; (2) knowledge of the philosophy and methods, including the use of the computer, in economics as a policy science; (3) a suitable background in economics and business administration for those who wish to enter accounting, business, law, government, or graduate school.

Requirements for Majors

All students majoring in the department must complete a minimum of 30 semester hours of work in the department including EcBA 100, 242, 251, 252, and either 351 or 352, and three additional courses at the 300 level (excluding EcBA 381) or above. In addition, they must take Math 102 or 111, 241, and six semester hours in one of the other social sciences (political science, psychology, sociology, or anthropology). Selection of electives will depend on the student's educational and vocational objective. Recommended electives for different objectives are as follows:

I. Economics Emphasis

This program is recommended for students planning to pursue graduate study in economics or who are interested in economics as a social science. Electives should be chosen from EcBA 221, 308, 309, 313, 314, 315, 316, 319, 328, 463, 464. Students planning graduate study in economics should also complete both EcBA 351 and 352 as well as Math 111, 112. In addition, Math 211 and 212 are strongly recommended.

II. Business Administration Emphasis

This emphasis is recommended for students preparing for a career in business. It is also recommended for students planning to attend graduate school in management. Electives should be chosen from EcBA 103, 104, 218, 306, 307, 407 and 437. Students planning on graduate school in management should complete EcBA 315.

III. Accounting Emphasis

This program is designed for students interested in entering the field of accounting. In addition to the major requirements, students should elect EcBA 103, 104, 203, 204, 301, 302, 303, 304.

IV. Secondary School Teaching Certification

This program satisfies the Pennsylvania state requirements for secondary certification in social studies-economics emphasis. In addition to the basic requirements of the major, students seeking a

teaching certificate must have a registered minor in secondary school teaching. Substantial further course work outside of economics and education is required in order to prepare the student for actual subject matters taught in the secondary curriculum. Students who wish teaching certification should consult their departmental adviser and the chair of the department of education as early as possible, preferably at the end of the freshman year. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs (Nov. 1987)*.

Students majoring in the department are also encouraged to elect a minor concentration in some other field. Students may elect a business-related minor concentration such as computer science, statistics, or quantitative methods. Alternatively, students may elect one or more of the special interest minors currently offered by other departments or may prepare their own minor. Note: students majoring in economics and business administration may not also elect minors in the department.

Interdisciplinary Majors

The economics and business administration department participates in interdisciplinary majors in applied mathematics - economics, American public policy, and international relations. For additional information and course requirements, see the listing in the section on combined majors.

Minor Concentrations

A minor concentration in accounting consists of EcBA 100, 103, 104, 203, 204 and any introductory course in computer science.

A minor concentration in business administration consists of EcBA 100, 103, 104, 218, 251, 306, 307.

A minor concentration in economics consists of EcBA 100, 242, 251, 252 and either 351 or 352.

A minor concentration in finance consists of EcBA 100, 103, 104, 251, 252, 306, and 316.

NOTE: Courses in economics, business administration and accounting in the Ursinus College Evening School may have different prerequisites and coverage from those in the department of economics and business administration. Thus, courses in the Ursinus College Evening School may be used for credit towards the major in economics and business administration *only* with the prior written permission of the chair of the department of economics and business administration.

020-100. Introduction to Economics Staff

An introductory study of the basic methodology and techniques of economics and their applications in a variety of markets and social economic policy contexts. Knowledge of two years of high school algebra is assumed. Three hours per week. *Three semester hours.*

020-103. Financial Accounting Fundamentals

Mrs. Harris, Mr. Bowers

An introductory study of the theory and practice of financial accounting procedures of sole proprietorships and partnerships for the purpose of determining income and financial position; emphasis is directed toward the proper analysis and reporting of financial data leading toward the presentation of fairly-stated financial statements. Topics include asset valuation and current liabilities. Prerequisite: EcBA 100. Three semester hours per week. *Three semester hours.*

020-104. Managerial Accounting Fundamentals

Mrs. Harris, Mr. Bowers

An overview of accounting for corporations, long term liabilities, analysis of various manufacturing cost systems, departmental and branch accounting, and accounting for decision-making. Analysis of cash flows and financial statements and the impact of accounting methods and policies on financial reports from a managerial point of view. Prerequisites: EcBA 100, 103. Three hours per week. *Three semester hours.*

020-203. Intermediate Financial Accounting-I

Mrs. Harris, Mr. Bowers

An advanced study of accounting principles and concepts and their applications to the construction and analysis of corporate financial statements, including the balance sheet and income statement. Emphasis on asset measurement and income determination. Special attention is given to the F.A.S.B.'s current developments. Prerequisites: EcBA 100, 103, 104. Three hours per week. *Three semester hours.*

020-204. Intermediate Financial Accounting-II

Mrs. Harris, Mr. Bowers

A continuation of EcBA 203. Topics covered include valuation of liabilities and investments, reporting of corporate equity, statement of changes in financial position and other selected topics. Prerequisites: EcBA 100, 103, 104, 203. Three hours per week. *Three semester hours.*

020-218. Management

Mr. Borgmann, Mr. Meyer

The study of the management process and concepts of modern management in the context of today's global business environment. Includes an examination of the major managerial functions and decision-making techniques. The course blends theory and practical applications through the use of case studies and the examination of current management problems and practices. Prerequisite: EcBA 100. Three hours per week. *Three semester hours.*

020-221. History of Economic Thought

Mr. Meyer

An examination of the development of systematic economic thought from ancient to modern times. Ideas considered in the light of their initial and continuing relevance. Prerequisite: EcBA 100. Three hours per week. *Three semester hours.*

020-242. Statistical Applications in Economics and Business Staff

An introduction to statistical methods commonly used in the testing of economic hypotheses, the identification of trends, and forecasting. Topics include the specification, estimation, and verification of multiple regression and time series models. Specific models will be estimated using standard computer software packages. A research paper will be required. Prerequisites: EcBA 100; Math 241. EcBA 251 and 252 must be either previously completed or studied concurrently. Math 102 or 111 must be previously completed or studied concurrently. Three hours per week. *Three semester hours.*

020-251. Microeconomic Theory-I**Dr. Lentz**

The study of the economic analysis of individual markets for products and resources and how the choices of consumers, workers, resource owners and product producers affect these markets and their structures.

Prerequisite: EcBA 100. Sophomore standing. Knowledge of two years of high school algebra is assumed. Three hours per week.

Three semester hours.

020-252. Macroeconomic Theory-I**Dr. O'Neill**

The study of national income determination in an open economy with emphasis on the determinants of equilibrium in the goods, assets and labor markets. Analysis of the unemployment-inflation tradeoff and alternative stabilization policy approaches.

Prerequisite: EcBA 100. Sophomore standing. Knowledge of two years of high school algebra is assumed. Three hours per week.

Three semester hours.

020-301. Partnerships and Consolidations**Mr. Bowers**

This course deals with: partnership problems, including distribution of profits, admission and withdrawal of partners and realization and liquidation; investments in other corporations and problems of preparation of consolidated financial statements of parent and subsidiaries; business combinations; and other topics as selected. Prerequisites: EcBA 100, 103, 104, 203, 204.

**020-302. Federal Income Tax Accounting/
Tax Planning****Mr. Bowers**

Fundamentals of the Federal income tax as it affects accounting and business planning.

Although attention is given to the income tax imposed on individuals, major emphasis is placed upon the income tax problems of business firms, corporations, partnerships, individual proprietorships, fiduciaries. Problem areas include depreciation, inventories, capital gains and losses, operating losses, dividends and other corporate distributions, reorganizations, and similar topics. Prerequisites: EcBA 100, 103, 104, 203, 204.

020-303. Advanced Managerial**Accounting****Mrs. Harris**

The study of the cost elements-material, labor and overhead in job order and process cost systems. The role of cost data, including standard costs and budgets in managerial planning, cost control and decision making. Prerequisites: EcBA 100, 103, 104, 203, 204, 251.

020-304. Theory and Practice of Auditing**Mrs. Harris**

This course deals with auditing by the independent public accountant; course study includes professional ethics, auditor's legal liabilities arising as a result of negligence or fraud; client engagement letters; audit programs and work papers; auditing procedures and techniques for assets, liabilities, owners' equities, revenues, and expenses appearing in the financial statements of the client. Statistical sampling and auditing with and by computer system are considered. The nature, form, scope of audit reports and qualifications thereof are studied.

Prerequisites: EcBA 100, 103, 104, 203, 204; Math 241.

020-306. Corporation Finance**Staff**

A study of the basic principles underlying the financing of the corporate structure. Short and long-term financing instruments. Expansion, failure, and reorganization of the corporation. Prerequisite: EcBA 100, 103, 251. EcBA 104 must be previously completed or studied concurrently. Three hours per week. *Three semester hours.*

020-307. Marketing**Mr. Borgmann**

The study of marketing as a major business function. An examination of principles and concepts of modern marketing in the context of today's business environment. The course blends theory and practical application through the use of case studies and the examination of current marketing problems and practices. Prerequisites: EcBA 100, 251. Three hours per week. *Three semester hours.*

**020-308. International Trade Theory
and Policy****Dr. O'Neill**

An analysis of world trade using the classical, neoclassical Heckscher-Ohlin and post-modern theories of trade. Extensive commercial

policy analysis concerning the use of tariffs, quotas, voluntary restraints and non-tariff barriers. Ongoing discussions analyzing current trade problems, prescriptions and legislation. Prerequisite: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

020-309. International Finance Theory and Policy Dr. O'Neill

An examination of balance of payments theory using fixed and flexible exchange rate regimes. Analysis of the effects of fiscal and monetary policies given alternative presumptions concerning capital mobility, expectations formation and international policy coordination. Systematic analysis of current international financial policies. Prerequisite: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

020-313. Economics of the Public Sector Dr. Gassler, Dr. Lentz

The economic analysis of the use of resources for public purposes by local, state and Federal governments, emphasizing the rationale for public expenditures, taxation structures and public choice mechanisms. Prerequisites: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

020-314. Economic Development Mr. Meyer

An examination of the theories of economic growth and development and of the process and problems of economic development in the contemporary world. Prerequisites: 100, 251, 252. Three hours per week. *Three semester hours.*

020-315. Quantitative Methods for Business Staff

An introductory course in operations research. Topics include linear programming, decision theory, and simulation methods. Emphasis on problem-solving and case studies. Prerequisite: EcBA 100, 251; Mathematics 102 or 111 and 241. Three hours per week. *Three semester hours.*

020-316. Economics of Money and Capital Markets Staff

A theoretical and empirical study of major financial intermediaries, their sources and uses of funds, their operative and regulatory

constraints, and their impact on aggregate economic activity. Prerequisites: EcBA 100, 252. Three hours per week. *Three semester hours.*

020-319. Labor Economics Dr. Lentz, Mr. Meyer

A theoretical and empirical study of the functioning of labor markets, with emphasis on employment and compensation determination as affected by worker and firm characteristics, public policy and worker organizations. Prerequisites: EcBA 100, 251, and 252. Three hours per week. *Three semester hours.*

020-328. Comparative Economic Systems Mr. Meyer, Dr. Gassler

Analysis of alternative national economic systems in developed and underdeveloped countries in theory and practice. The formulation of economic policy and problems is discussed and compared. Prerequisite: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

020-351. Microeconomic Theory-II Staff

An advanced study, including a mathematical exposition and readings from current economics journals, of optimization and equilibrium analyses with applications in asset, resource and product markets. A research paper will be required. Prerequisites: EcBA 100, 251, 242; Math 102 or 111, and 241. Three hours per week. *Three semester hours.*

020-352. Macroeconomic Theory-II Staff

An advanced theoretical and empirical study, including a mathematical exposition and readings from current economics journals, of national income determination, with particular emphasis on underlying goods, assets and labor markets. A research paper will be required. Prerequisites: EcBA 100, 242, 251, 252; Math 102 or 111, and 241. Three hours per week. *Three semester hours.*

020-381. Internship Staff

An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor. Contact the chair of the department for further details. Prerequisite; junior standing, 12 credits in

economics and business administration, and prior written approval of a faculty internship advisor. Eight to 10 hours per week. *Three semester hours.*

020-407. International Marketing

Mr. Borgmann

The study of the marketing function in the context of world business. An examination of the complexities, problems and opportunities of world-wide marketing of both consumer and industrial products and services. The course will blend theory and practical applications through the use of case studies providing the students the opportunity for analysis of marketing problems and the formulation of marketing strategy in a global setting. Prerequisites: EcBA 100, 251, 252, 307 and 308. Three hours per week. *Three semester hours.*

020-437. Strategic Management and Business Policy

Mr. Borgmann

The study of business strategy, the process of its formulation and implementation and an examination of business policy problems and their solutions. The case study method is used, requiring written and oral presentations in combination with a computer-based strategic management simulation. Prerequisites: EcBA 100, 103, 104, 218, 251, 252, 306, and 307. Three hours per week. *Three semester hours.*

020-463. Econometrics **Dr. O'Neill**

The design and testing of economic hypotheses using multiple regression analysis. Particular care will be given to the statistical and economic theory which lies behind the most common applications. A research paper will be required. Prerequisites: EcBA 100, 242, 251, 252 and either 351 or 352. Three hours per week. *Three semester hours.*

020-464. Mathematical Economics **Dr. Gassler**

Topics in mathematics of particular importance in economics, with applications. Offered jointly by the department of mathematics and computer science and the department of economics and business administration. A research paper will be required. Prerequisites: EcBA 100, 251, 252, and either 351 or 352; Math 111, 112, 211; or permission of instructor. Three hours per week. *Three semester hours.*

020-491. Research/Independent Work **Staff**

Preparation of independent research paper. Open only to candidates for departmental honors. *Three semester hours.*

020-492. Research/Independent Work **Staff**

A continuation of Economics and Business Administration 491. Prerequisite, EcBA 491. *Three semester hours.*

025-EDUCATION

Associate Professor O'Brien (Chair); Visiting Professor Dungan.

Aims of the Department of Education

1. To contribute, in the classical tradition, to the liberal education of students by preparing them for free citizenship and continuing personal cultivation beyond any strictly vocational expectations. Great ideas expressed by great writers are our subject matter; our methods are discussion, analysis, synthesis, critical thinking, and problem-solving through clear and logical written and spoken English.
2. To provide a framework for acquiring the art of teaching: how people learn; under what conditions and at what stages they are most likely to learn; how to define educational objectives; how to design a curriculum/course/unit and to select instructional techniques to meet those objectives and to accommodate the broadest possible range of

abilities and exceptionalities; and how to assess the extent to which the objectives are met.

3. To provide background on the history of education, on the philosophical theories on which educational practice has been based, and on the political realities which can make all the rest irrelevant.

4. To provide entry-level skills for beginning teachers in public and private educational settings.

5. To provide programs leading to Instructional I certification by the Pennsylvania Department of Education in the following areas.

Biology	German	Mathematics
Chemistry	Health & Physical	Physics
English	Education	Social Studies
French	Latin	Spanish
General Science		Teaching Intern

In addition to those Education Department requirements listed in this catalog, the academic departments participating in teacher education at Ursinus College have determined their own specific requirements for admission to student teaching. *The recommendation of the student's major department is required for admission to student teaching.* For details, see the Education Department booklet, *Ursinus College Teacher Education Programs (Nov. 1987)*.

Pennsylvania will certify candidates for the Instructional I (provisional) certificate upon recommendation of the College's certification officer (the education department chair). Such recommendation will depend upon completion of a state-approved certification program and upon academic achievement, specified demonstrated competencies in professional course work, field experiences, and fitness for teaching. Candidates for the Instructional I certificate must also pass the Pennsylvania Teachers' Test.

Teacher certification through Ursinus College has been accepted in many other states, while Pennsylvania is party to interstate compacts and reciprocity agreements with most state educational agencies. This means that certification by the Commonwealth of Pennsylvania normally allows a person to teach nearly anywhere in the country as well as at American schools abroad. Certification in foreign languages or in health and physical education enables one to teach in every grade from kindergarten to 12th grade; the others listed above apply to grades 7 to 12.

Students are invited to elect courses in education to fulfill their degree requirements in basic intellectual skills, in the minor concentration, or in individual choice electives.

For students interested in a complete program in education, three options are available: 1) a teacher certification program; 2) a minor in secondary teaching (with or without certification); and 3) a minor in secondary education.

Teacher Certification.

The student is hereby cautioned that the College's teacher certification programs are undergoing a review and modification mandated by the Pennsylvania Department of Education. As a result of that review, the program required for certification in the future may differ from that described below. Program changes will be communicated with the student as soon as they are official.

Required courses: Education 202; Psychology 101 or 102; Communication Arts 201; Education 223, 224, 405, 441, 443, and 444. Education 443 will be satisfied for students who major in health and physical education by completing H.P.E.R. 355.

All candidates for teacher certification must complete Communication Arts 201 (Public Speaking); this course may not be exempted for such students and should be taken prior to the fall semester of the senior year, during which student teaching occurs.

As a prerequisite to student teaching, students must devote some time to observing public school classrooms in the grades in which they will, when certified, be eligible to teach. Specifically, second-year students must spend at least 10 hours observing grades seven through 12. In the third year, the amount of observation should be at least 20 hours.

Third-year students in foreign languages or in health and physical education (where the scope of the certificate is grades K-12) should spend at least eight of these hours in grades K through six. Third-year students in other programs should likewise spend at least 20 hours in observation, but the setting, in keeping with the scope of the certificates, should be restricted to grades seven through 12.

As an institution having been granted program approval by the Pennsylvania Department of Education, the College is prepared to address the needs of nontraditional candidates for certification, including those with degrees who wish initial or additional areas of certification. Where a candidate for certification can provide evidence of appropriate prior academic learning, teaching experience, or certification, provision is made for accrediting such work as part of the process of recommending a candidate for certification. Candidates for Ursinus degrees must meet the College and major department requirements noted elsewhere in this catalog.

A minor in secondary school teaching consists of Education 202, 223, 224, 405, 441, 443, and 444.

A minor in secondary education. Required courses: Education 202, 223, 224, 444, and either 434 or 446.

025-202. Introduction to Secondary School Teaching

Dr. Dungan, Dr. O'Brien

An introductory course for those who plan to teach or who wish to know more, as citizens, about their public schools. It deals with the organization and characteristics of the American school system, noting the characteristics of teaching as a profession and the teacher's responsibility in the classroom and the school. Three per week. *Three semester hours.*

025-223. Educational Psychology—Learning **Staff**

Contemporary learning theory for teachers. The course takes an information-processing approach to cognition, and includes such topics as concept formation, problem solving, memory, and attention. Educational applications will be stressed. (The same course as Psychology 223.) Prerequisite, Psychology 101 or 102. Three hours per week. *Three semester hours.*

025-224. Educational Psychology—Growth and Development **Staff**

The nature and development of the psychological processes from the prenatal period through adolescence. (The same course as Psychology 224.) Prerequisite, Psychology 101 or 102. Three hours per week. *Three semester hours.*

025-381. Internship **Staff**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. This course is limited to those students with teaching intern certification, and requires a full-time teaching position in an approved public or private school setting. In order to be recommended for Instructional I certification, the student must earn a grade of at least A- in this course. *Three semester hours.*

025-405. Student Teaching and Practicum

Dr. Dungan, Dr. O'Brien

A laboratory course consisting of observation and 12 weeks of student teaching. Supervision is provided by faculty in the department of education and, where possible, by other members of the College community in cooperation with teachers from local

schools. Conferences and critiques occur between College faculty and student teachers. A practicum, which meets four times during this period, allows students to discuss their teaching experiences, to examine the relationship between theory and practice, and to meet with experts from the field. The course is open only to fourth-year students who meet published academic criteria. These criteria include a cumulative average of at least C+ (78.33) by the end of the junior year, as well as those criteria specified the student's major department. In order to receive the College's recommendation for teacher certification, the student teacher must earn a grade of at least B- in this course. Fall semester. Prerequisites: Education 202,223,224,441,443,444. *Ten semester hours.*

025-434. Seminar in Secondary Education **Dr. Dungan**

A study of selected topics relevant to secondary education in today's schools, with special attention to curriculum development. Two hours per week. *Two semester hours.*

025-441. Orientation to Educational Practice and Methodology
Dr. Dungan, Dr. O'Brien

Principles of secondary school teaching; general methods of instruction; problems of the beginning teacher; teaching reading in the content areas; function and use of instructional materials. Two hours per week. *Two semester hours.*

025-443. Special Methods of Teaching in the Secondary Schools **Staff**

This course, which supplements the general methods course (441) and which is offered concurrently, provides specialized instruction in teaching one of the subject areas offered in the College's teacher education programs. Sections are offered in each discipline and are noted on student records according to the following scheme. (C)—Classical (E)—English (G)—Germanic Languages (M)—Mathematics (R)—Romance Languages (S)—Science (X)—Social Sciences

Sections are taught by experts in the subject fields from the public schools. Prerequisite, Education 441 (must be scheduled concurrently). One hour per week. *One semester hour.*

ENGLISH

025-444. Foundations of Education

Dr. Dungan, Dr. O'Brien

A study of the philosophical and historical foundations of education, with reference to current conditions and practices in the public schools. A requirement for those preparing to teach, the course attempts to synthesize the student's study and experience in teacher education. Three hours per week. *Three semester hours.*

025-446. Issues and Trends in Contemporary Education

Dr. O'Brien

A study of current issues with reference to educational history on the one hand, and to trends and educational futures on the other. At present the course addresses such topics as values education, the so-called quality vs. equity dilemma, accountability, and the reform of teacher education. Three hours per week. *Three semester hours.*

025-451. Research

This course comprises directed reading and research on a specific topic in education. Students wishing to register in this course present to the adviser for this research a proposal outlining the research to be conducted. The proposal must be approved by the adviser. At regular intervals during the semester, students submit progress outlines and meet with the adviser to discuss them. A final paper is required. *One semester hour.*

025-452. Research

Same as Education 451, but offered in the spring semester.

025-491. Research/Independent Work

Independent investigation of an aspect of teaching, using both the library to examine relevant literature and the school setting as a laboratory for applying theory. Oral progress reports and a major paper are required.

Written consent of the research adviser and department staff must be presented at the time of registration. *Three semester hours.*

025-492. Research/Independent Work

Same as Education 491, but offered in the Spring Semester. *Three semester hours.*

025-493. Supervised Field Experience

For current teachers and others with relevant experience who wish initial or additional certification. Faculty will supervise teaching assignments of less than a full semester during which the candidate teaches a variety of units or a range of grade levels under the guidance of a classroom teacher. *One semester hour.*

025-494. Supervised Field Experience

Same as 493, but offered in the Spring Semester.

ENGLISH

Professors DeCatur, Henry, Jones, Perreten (*Chair*), Wickersham;
Assistant Professors Cobbs, Lionarons, Richter, Schroeder, Volkmer;
Lecturers Bonds, Guarino, McNamee.

Requirements for Majors

Majors must take at least 30 semester hours in English beyond Composition 101, 102. *To complete their departmental requirements, in their junior or senior year majors must pass a comprehensive examination in English and American Literature.* Students majoring in English will be urged strongly to take the following courses: Literature 201; Literature 203, 204, and Literature 219, 220. English majors also are advised to take History 101, 102 and History 309, 310 or 311, 312 as electives. Students preparing for graduate study in English should elect French, German or classical languages.

Students who want to be certified to teach English must complete at least 30 semester hours in English beyond Composition 101, 102. These courses should include literary genres, themes, chronologies, and major writers. Students working toward certification must select the following courses: English Composition 234; English Literature 203 and 204, 214, 219, and 220; Communication Arts 201; World Literature 201.

Candidates for certification must pass a departmental comprehensive examination in the history of the English language and in English and American literature from the medieval through the modern period. Candidates must also participate in student journalism or theater activities. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs* (Nov. 1987).

Students will be guided in selecting courses that will help prepare them for the comprehensive examination as well as for their careers.

Requirements for Minors

A minor concentration in English consists of 18 credits in English, excluding Composition 101, 102. Either Literature 203 and 204, or 219 and 220 is strongly recommended.

031-COMPOSITION

031-101. First-Year Composition Staff
Practice in the writing of exposition; readings in narrative and expository prose. Three hours per week. *Three semester hours.*

031-102. First-Year Composition Staff
Continuation of Composition 101; expository writing based on readings in poetry, short fiction, drama or writing in the disciplines. Emphasis on the process of developing and writing a research paper. Three hours per week. *Three semester hours.*

031-205. Fiction Writing Dr. Volkmer
A beginning course in the writing of fiction, with special attention to the short story. The student will study technical aspects of the craft and masterpieces of the genre. The student will write short stories, receive critical responses, and make extensive revisions. Enrollment limited to 12 students. Prerequisite, Comp 101, 102, or equivalent. Three hours per week. *Three semester hours.*

Composition 205 is offered only in the fall semester.

031-206. Poetry Writing Dr. Volkmer
A beginning course in the writing of poetry. The student will study selected works, learn traditional forms of the lyric, and write original verse in those forms. The student will make extensive revisions, based on responses from peers and the professor. Enrollment limited to 12 students. Prerequisite, Comp 101, 102, or equivalent. Three hours per week. *Three semester hours.*

Composition 206 is offered only in the spring semester.

031-207. Introduction to Journalism Dr. Cobbs
An introduction to journalistic writing and interpretive reporting. Work on college publications is recommended to provide practical experience. Prerequisite, Composition 101, 102 or its equivalent. Three hours per week. *Three semester hours.* Enrollment is limited to 15 students.

031-234. Advanced Expository Writing Mr. Jones
Practice, on an advanced level, in the writing and critical evaluation of non-fictional prose

with special emphasis on types of exposition. Prerequisite, Composition 101, 102, or equivalent. Three hours per week. *Three semester hours.* Enrollment is limited to 15 students per section.

031-302. Advanced Creative Writing
Dr. Volkmer

A workshop course in creative writing offering the student the opportunity to receive significant critical responses on extended works of poetry or prose fiction. Enrollment limited to 10 students. Prerequisite, Comp 205 or 206, or by permission of instructor. *Three semester hours.*

Students who have taken Composition 308 may not take Composition 302.

Composition 302 is offered only in the spring semester.

032-LITERATURE

032-201. Literary Criticism and its Application
Dr. Lionarons

An introduction to literary criticism through the study of traditional and specialized approaches to fiction, drama, and poetry. Three hours per week. *Three semester hours.*

032-203. Survey of English Literature
Dr. Lionarons, Dr. Perreten

The history of English literature from its beginning to the end of the neoclassical era. Special attention is given to the social background. Prerequisite, Composition 101, 102 or equivalent. Three hours per week. *Three semester hours.*

032-204. Survey of English Literature
Dr. Lionarons, Dr. Perreten

A continuation of course 203 to the present. Three hours per week. *Three semester hours.*

032-209. Shakespeare
Dr. DeCatur, Dr. Henry

The reading of Shakespeare's principal plays and the study of their background. Three hours per week. *Three semester hours.*

032-210. Shakespeare
Dr. DeCatur, Dr. Henry

Continuation of Literature 209. Literature 209 is not a prerequisite for Literature 210. Three hours per week. *Three semester hours.*

Literature 209 and 210 are elective for second-year, third-year and fourth-year students and for freshmen with advanced placement and credit in English Composition.

032-213. History of the English Language
Dr. Lionarons

A survey of the development of the English language from Old English to modern American and British English. Close analysis of samples of English in at least three stages of its history. Three hours per week. *Three semester hours.*

032-214. Linguistics and Modern Grammar
Dr. Lionarons

An introduction to linguistics, stressing the ways language structure promotes effective communication. Recommended for future writers and lawyers as well as English teachers. Three hours per week. *Three semester hours.*

032-219. American Literature
Dr. Cobbs, Dr. Schroeder

A survey of American literature from its beginning to the Civil War. Prerequisite, First-Year Comp. 101, 102 or its equivalent. Three hours per week. *Three semester hours.*

032-220. American Literature
Dr. Cobbs, Dr. Schroeder

American literature from the Civil War to the present. Prerequisite, First-Year composition 101, 102 or its equivalent. Three hours per week. *Three semester hours.*

032-305. English Literature from 1660 to 1740
Dr. Perreten

The literature of the Restoration and the early decades of the eighteenth century. Three hours per week. *Three semester hours.*

Literature 305 is elective for third-year and fourth-year students.

032-306. English Literature from 1740 to 1795**Dr. Perreten**

The literature of the neo-classical age and of pre-romanticism. Three hours per week.

Three semester hours.

Literature 306 is elective for third-year and fourth-year students.

032-307. English Poetry, 1790-1824*Dr. Perreten**

A study of the English romantic poets from 1790 to the death of Byron. Three hours per week. *Three semester hours.*

Literature 307 is elective for third-year and fourth-year students.

032-308. English Poetry, 1824-1901*Mr. Jones**

A study of the poetry of Tennyson and his contemporaries. Three hours per week. *Three semester hours.*

Literature 308 is elective for third-year and fourth-year students.

032-315. 20th Century Poetry **Dr. Cobbs**

A study of modern poetry written in Britain and America. Three hours per week. *Three semester hours.*

032-320 through 326. Classics in Translation**Dr. Wickersham**

Each course in this series gives a thorough study of one area of ancient Greek or Roman experience, thought and literature.

***032-320. COMEDY.**

Three hours per week. *Three semester hours.*

***032-322. EPIC.**

Three hours per week. *Three semester hours.*

***032-324. TRAGEDY.**

Three hours per week. *Three semester hours.*

032-326. MYTHOLOGY.

Illustrated lectures survey the tales of gods and heroes in Greek legend, from the creation of the world to the end of the age of myth—the foundations of Western

literature. Interpretive approaches are also studied. Three hours per week. *Three semester hours.*

032-328. Non-Chaucerian Medieval Literature**Dr. Lionarons**

A study of Old and Middle English poetry, prose, and drama, with the exception of the works of Geoffrey Chaucer. Old English and the more difficult works in Middle English will be read in translation, simpler Middle English in the original. Prerequisite, English 203. Three semester hours. *Three hours per week.*

Literature 328 alternates with Literature 329.

***032-329. Chaucer** **Dr. Lionarons**

A study of Chaucer's poetry in its historical context, including *Troilus and Criseyde*, *The Canterbury Tales*, and some of the short poems. Three hours per week. *Three semester hours.*

Literature 329 alternates with Literature 328.

032-330. English Non-Dramatic Literature, 1485-1660*Dr. Decatur**

A study of the non-dramatic poetry and prose of the English Renaissance, with concentration upon the works of Metaphysicals and Cavaliers, and a variety of prose forms. Three hours per week. *Three semester hours.*

Literature 330 alternates with Literature 331.

032-331. English Drama, Beginnings to 1642**Dr. DeCatur**

A study of the development of English drama (excluding Shakespeare) through the Medieval and Renaissance periods up to the closing of the theaters. Prerequisites, Literature 203 and Literature 209 or 210. Three hours per week. *Three semester hours.*

Literature 331 alternates with Literature 340.

032-332. Spenser and Milton: The English Epic**Dr. DeCatur**

A study of the major works of Spenser and Milton with focus on the epic as an English genre. Prerequisite, Literature 203 or History 303, 304. Three hours per week. *Three semester hours.*

**This course is not offered in 1988-1989.*

032-334. The Novel in England Since the Beginning of the 20th Century**Dr. Cobbs**

A study of British fiction of the 20th century. Three hours per week. *Three semester hours.*
Literature 334 alternates with Literature 340.

032-335. Modern Drama*Dr. Henry**

A reading and discussion course in significant European and American dramatists, from Ibsen to O'Neill, with emphasis on influences of earlier playwrights on modern writers. Prerequisite, English Composition 101. Three hours per week. *Three semester hours.*

032-336. Contemporary Drama*Dr. Henry**

A reading and discussion course in significant contemporary European and American dramatists, since World War II. Prerequisite, English Composition 101. Three hours per week. *Three semester hours.*

Literature 335 and 336 alternate with Communication Arts 301, 302.

032-337. The Novel in England and America—the Beginnings to 1820*Mr. Jones**

A study of the origins and development of the novel in England and America before Dickens and Cooper. Prerequisite, English Composition 101. Three hours per week. *Three semester hours.*

Literature 337 alternates with Literature 339.

032-339. The Novel in England and America During the Victorian Era**Mr. Jones**

A study of the development of the novel in England and America from 1820 to 1900. Prerequisite, English Composition 101. Three hours per week. *Three semester hours.*

Literature 339 alternates with Literature 337.

032-340. The Novel in America Since the Beginning of the 20th Century*Dr. Schroeder**

A study of American fiction of the 20th century. Three hours per week. *Three semester hours.* Students who have taken Literature 434 may not take Literature 340.

Literature 340 alternates with Literature 334.

032-342. Contemporary Fiction**Dr. Schroeder**

A study of significant fictional works, trends, and innovations since World War II. Prerequisite, one course in traditional fictional form (E334, 337, 339, 340 or equivalent). Three hours per week. *Three semester hours.*

Literature 342 alternates with Literature 336.

032-381. Internship**Staff**

An off-campus academic academic/work experience under the supervision of an internship adviser and an on-site supervisor. Discuss details with the chairman of the department. Prerequisite, junior standing and the approval of a faculty internship adviser. *Three semester hours.*

032-441. Seminar in Advanced Studies in Literature**Staff**

A study of genre. Prerequisite, junior or senior standing. Three hours per week. *Three semester hours.*

032-442. Seminar in Advanced Studies in Literature**Staff**

A study of a major author. Prerequisite, junior or senior standing. Three hours per week. *Three semester hours.*

032-491. Research/Independent Work**Staff**

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

032-492. Research/Independent Work**Staff**

A continuation of course 491. Prerequisite, course 491. *Three semester hours.*

**This course is not offered in 1988-1989.*

080—FINE ARTS

Professors Henry, Visser; Assistant Professors French, Xaras; Instructor Branker.

Art, music and theater hold a prominent place in the cultural heritage of Western civilization. Students in a college of liberal education should gain an acquaintance with and an understanding of the creative arts in the broad cultural and intellectual context of Western civilization. Courses in the fine arts are intended to give students an increased knowledge of the arts by introducing them to principles, history and practice of the visual and performing arts.

In addition to courses for academic credit, there are various performance organizations which provide students the opportunity to participate in complementary activities.

The music department offers private instruction in piano, organ, voice, guitar, woodwinds, brass, and percussion. Students register for lessons with the department chair before each semester begins. A semester fee of \$180.00 is billed to the student for fourteen half-hour lessons per semester.

Requirements for Minors

A minor concentration in art consists of Fine Arts 101; Art 221, 222, 311, 312, and three additional credits in art.

A minor concentration in music history and theory consists of Music 211, 212, 221, 222 and six additional credits in music.

080-101. Introduction to the Fine Arts

Mr. French, Dr. Henry, Mr. Xaras

An introduction to the principal elements of the arts, including composition, texture, form, and style, and a foundation for future study in art, music and theater. The course is designed to enhance the students' understanding and knowledge of the arts. Three hours per week. *Three semester hours.*

079—Art**079-221. Introduction to Studio Art I**

Mr. Xaras

An introduction to the two-dimensional media, including principles of line, shape, color and composition, and experience in wet and dry color and value. Three hours per week. *Three semester hours.* Enrollment limited to 18 per section.

079-222. Introduction to Studio Art II

Mr. Xaras

An introduction to the two-dimensional media. The course offers an opportunity to develop creative ability using two-dimensional media. Prerequisite, Art 221. Three hours per week. *Three semester hours.* Enrollment limited to 18 per section.

079-311. History of Art I **Dr. Visser**

An introduction to the history of architecture, sculpture, and painting through the Renaissance, presented by means of illustrated lectures and museum trips. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.*

079-312. History of Art II **Dr. Visser**

An introduction to the history of architecture, sculpture and painting from the Renaissance

to the present, presented by means of illustrated lectures and museum trips. Prerequisite, Fine Arts 311 or permission of the instructor. Three hours per week. *Three semester hours.*

079-321. Painting Mr. Xaras

Sustained studio work developing procedural and conceptual expression in various painting media. Prerequisites, Art 221, 222. Three hours per week. *Three semester hours.* Enrollment limited to 18.

079-322. Drawing Mr. Xaras

Sustained studio work developing procedural and conceptual expression using pen and ink and charcoal. Prerequisites, Art 221, 222. Three hours per week. *Three semester hours.* Enrollment limited to 18.

079-401. Special Projects in Art Staff

Advanced independent work on a creative project supervised and approved by a faculty adviser. *Three semester hours.*

055-Music

055-211. Music History I: Middle Ages to Baroque Mr. French

A survey of early Western musical history with emphasis on the relation of musical developments to the broader cultural and artistic context. Prerequisite, Fine Arts 101 or permission of the instructor. Three hours per week. *Three semester hours.*

055-212. Music History II: Pre-Classics to 20th Century Mr. French

A continuation of Music 211. In this more familiar part of music history, investigation of selected topics will play a larger part in the course structure than in Music 211.

Prerequisite, Music 211 or equivalent, or by permission. Three hours per week. *Three semester hours.*

055-214. Evolution of Jazz Styles

Mr. Branker

An introductory survey examining the historical development of jazz from its African origins through the present with emphasis on the study of classic recordings. Three hours per week. *Three semester hours.*

055-221. Fundamentals of Music

An introductory course in music theory, which presents essential basic concepts, from standard notation and scales to harmonization and motivic structure. Three hours per week. *Three semester hours.*

055-222. Harmony

A study of the materials and practices of tonal harmony through the examination of the techniques of four-part writing. Prerequisite: Music 221 or by permission. Three hours per week. *Three semester hours.*

055-311. Choral Literature Mr. French

An historical survey of choral music from the Middle Ages to the 20th Century. The course will examine the development of major forms (mass, motet, oratorio) as well as short forms (part-song, madrigal). Prerequisite, Music 212 or equivalent, or by permission. Three hours per week. *Three semester hours.*

055-317 and 318. Topics in the History and Theory of Music

Mr. French

A study of a specific period or genre of music such as 19th century Romanticism, American opera, and others. Consideration will be given to related developments in other branches of cultural life such as the literary and visual arts, politics, and religion. The course will include presentations by experts in these disciplines. Prerequisite, Music 211 and 212 or permission of the instructor. Three hours per week. *Three semester hours.*

055-323. Counterpoint Mr. Branker

A study of contrapuntal techniques of the Renaissance and Baroque periods. The course includes compositional exercises and analysis of works of representative composers such as Palestrina and Bach. Prerequisite, Music 221 or by permission. Three hours per week.

Three semester hours.

055-324 20th-Century Theory

Mr. Branker

A study of 20th century compositional techniques. The course includes compositional exercises and analysis of works of representative composers such as Schoenberg, Stravinsky, and Bartok. Prerequisite, Music 222 or by permission. Three hours per week. *Three semester hours.*

055-325. Jazz Theory

An exploration of the melodic, harmonic, and rhythmic principles of jazz. The course includes analysis of representative works by various jazz masters and will emphasize student projects in composition and performance. Prerequisite: Music 221 or by permission.

055-401. Special Projects in Music Staff

Advanced independent work on a creative, historical or theoretical project supervised and approved by a faculty adviser. *Three semester hours.*

ENSEMBLES**Ursinus College Choir** Mr. French

A large choral ensemble open to everyone in the College community. The College Choir performs three or four major works each year including a performance of Handel's *Messiah* in the fall semester. Two hours per week.

Meistersingers Mr. French

A small choral ensemble (approximately 35 voices) open by audition to students in the College Choir. Most of the ensemble's performances, including a tour, take place in the spring semester. Two to three hours per week.

Chamber Singers Mr. French

A small, select group of eight to 12 Meistersingers which performs music of the 15th and 16th centuries. This group performs with the Meistersingers during the spring tour. Two hours per week.

Ursinus College Concert Band

Mr. Branker

A large instrumental ensemble open to everyone in the College community. Members perform a variety of literature representing different stylistic periods. The Concert Band presents two major concerts each year and may appear at other campus functions. Two hours per week.

Ursinus College Jazz Ensemble

Mr. Branker

A big band that performs arrangements of classic works of the jazz idiom. The ensemble is open to all members of the College community and presents several concerts during the year. Two hours per week.

Jazztet

Mr. Branker

A select chamber jazz group open to students in the Jazz Ensemble. Members perform in a variety of jazz styles and develop improvisational skills. One to two hours per week.

Pep Band

Mr. Branker

The Pep Band appears at many home football and basketball games and is open to all student instrumentalists. One hour per week.

077-TheaterSee *Communication Arts*.**proTheatre**

Dr. Henry

Membership in proTheatre, the drama organization, is available to students from all disciplines. Two or more productions, ranging from the classics to the avant-garde, are offered during the year.

FRENCH

See Modern Languages

034-GEOGRAPHY*Visiting Professor Boekenkamp***034-102. Geography** Dr. Boekenkamp

Study of the major regions of the world. The purpose is to analyze each from the standpoint of climate, natural resources, and economic problems, and to give the student a fairly detailed knowledge of the physical geography of the regions. Three hours per week. *Three semester hours.*

033-GEOLOGY

Visiting Professor Boekenkamp

The science of geology presents to the student the physical nature and history of the earth and their relationship to the cultural, economic and political concerns of man.

033-101. Physical Geology

Dr. Boekenkamp

A study of earth materials, structures, and processes that form the earth. Two hours of lecture and two hours of laboratory work per week. *Three semester hours.*

033-102. Earth History

Dr. Boekenkamp

A study of the earth's historic events as recorded by geologic processes and organic evolution. Two hours of lecture and two hours of laboratory work per week. *Three semester hours.*

GERMAN

See Modern Languages.

GREEK

See Classical Studies.

040-HEALTH, PHYSICAL EDUCATION AND RECREATION

Associate Professors Boyd, Davidson, (*Chair*) Whatley; *Assistant Professors* Borsdorf, Chlad, Shelton; *Visiting Professor* Brown; *Instructors* Poley, Wailgum.

The health, physical education and recreation (HPER) department serves dual functions: (1) to provide for all students a diversified service program of activities, and (2) to offer to those students interested in majoring in the field, a comprehensive program in health, physical education and recreation leading to teaching and other professional certifications.

Included in the service program are the required two-hour freshman classes in basic activities, the optional organized intramural programs for men and women, and the provision of recreational facilities for use of all students in their leisure time.

The professional program is a four-year course, offering, within the framework of a broad liberal arts education, the opportunity to receive specific training in the field of health, physical education and recreation. Implicit in its objectives are the development of the total individual in knowledge, skills, habits and attitudes, the development of social and professional competencies, the growth of insight, independent thought, initiative and leadership, and the evolution of a dynamic ethical philosophy.

Core Requirements for Majors

Students majoring in health, physical education and recreation must take the following courses: HPER 131, 351, 352, 362, 368, 401, 462;

Biology 101 or 111, 317 and 318. These students are also required to complete at least one of the following areas of concentration:

Areas of Concentration

I. Teaching of health and physical education

This program is recommended for those preparing to become teachers. The required courses are HPER 132, 232, 333, 334, 355, 464, seven semester hours of majors' activities representing all five activities areas; IDS 350. NOTE: Students seeking K-12 teaching certification in Health and Physical Education shall include the following in their course of study: Psychology 101 or 102; and Education 202, 223, 224, 405, 441, and 444. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs (April 1987)*.

A science-based program recommended for those interested in athletic training, pre-physical therapy, and other areas related to human performance. The required courses are HPER 334, 468, two semester hours of majors' activities representing two of the five activities areas; eight semester hours of laboratory courses in the natural sciences Biology 317, 318; three semester hours of anthropology or sociology; and Psychology 101 or 102, and six elective hours in psychology.

NOTE: Students seeking admission to graduate programs in physical therapy or related fields should take Biology 111, 112; Chemistry 111, 112; Math 111, 112, 241; and Physics 111, 112.

III. Wellness and Fitness

This program is recommended for those preparing for careers in the field of wellness and fitness. The required courses are HPER 132, 243, 342, 346, 347, 381, 412, 448 and two hours of majors' activities representing three of the five activities areas. Strongly recommended: HPER 333, 334.

Minor Concentrations

A minor concentration in athletic training consists of HPER 351, 352, 334, 368, 468. Two semester hours of majors' activities including HPER 401; and Biology 317, 318. Recommended courses are Psychology 101, 102; Chemistry 101, 102, or 111, 112.

A minor concentration in coaching consists of HPER 351, 365, 368, 468, two credits of majors' activities courses including 401; Psychology 224; and Biology 317, 318. Recommended courses are HPER 344, 346, 363, 364.

A minor concentration in wellness/fitness consists of HPER 131, 243, 346, two credits of majors' activities courses, and four of the following: HPER 132, 241, 242, 342, 347, 381, 448.

A minor concentration in health consists of five of the following: HPER 132, 232, 333, 334, 368, IS 350 and two selected from: HPER 355, 362, 460, 464.

Required Activities Courses

040-110. Introduction to Physical Education **Staff**

This course is designed to acquaint the students with the concepts of total fitness, provide the opportunity for self testing, self evaluation, and the development of corrective programs. This course is required of all students except those majoring in physical education and should be completed in the first year. This course will be offered in the fall semester. Lecture- Laboratory. *One-half semester hour.*

In addition to 040-110, all students except those majoring in physical education will be required to elect a total of 1½ semester hours

of activities from the following: HPER 010, 014, 017, 019, 022, 027, 031, 032, 033, 034, 037, 039.

Academic credit for activities courses, in excess of the college requirement, will be withheld until the student has earned a total of 122 semester hours credit. An exception will be made in the case of students who wish to minor in HPER. In such cases, academic credit will be given within the 122-hour limit.

The intent of these courses will be to develop basic skills, improve fitness, provide enjoyment and develop recreational and social competence through participation in life-time sports.

Professional Courses

Students in other majors may elect HPER 131, 132, 232, 241, 242, 243, 333, 334, 351, 352, 362, 368, and 464. Academic credit will be withheld, for all other HPER courses, until the student has completed the general college requirements, departmental requirements, and has earned a total of 122 semester hours credit. An exception will be made in the case of a student who wishes to minor in HPER or have health and physical education upon his teaching certification in addition to another subject matter certification. In such a case, academic credit will be given within the 122-hour limit. Students should consult the Education Department to learn the exact certification requirements of a particular state.

040-131. Survey of Health, Physical Education and Recreation **Miss Shelton**

A survey course designed to give the student an understanding of the history, basic philosophies, principles, problems, and scope of the disciplines of health, physical education, and recreation. Three hours per week. *Three semester hours.*

prevention of personal health problems and on the functioning of the human body. Three hours per week. *Three semester hours.*

040-232. Current Trends in Health **Miss Boyd**

An examination of past, present, and future health-care situations faced by today's consumer. This course will include information on products, services, and treatments in the health-care environment. Three hours per week. *Three semester hours.*

040-132. Health Awareness and Wellness **Miss Boyd**

A study of factors affecting the physical, mental, and social well-being of the individual and of the community. Major emphasis is placed on the identification and

040-241. Outdoor Education **Mr. Whatley**

This course is designed to provide the student with an insight into the history, philosophy

and trends in outdoor education. Emphasis is placed on administrative processes and program development as they relate to the public and private sectors of the community. Three hours per week. *Three semester hours.*

***040-242. Leadership in Camp and Club Activities** Mr. Whatley

Discussion of the principles, characteristics, and processes of leadership in light of their significance to directors of camp and club activities. Three hours per week. *Three semester hours.*

040-243. Recreation and Leisure in a Modern Society Dr. Borsdorf

A study of the scope and significance of recreation field services, their history, and development. Theories and values of recreation, play, and leisure in relation to the wellness movement will be explored. Three hours per week. *Three semester hours.*

***040-333. Alcohol and Drugs—Use and Abuse** Staff

The significance of drug and alcohol use and abuse in society is analyzed. The etiology of health problems related to these substances is emphasized, including the prevention, intervention, treatment, and rehabilitation of drugs and alcohol abuse. Three hours per week. *Three semester hours.*

040-334. Nutrition and Weight Control Miss Chlad

The relationship between nutrition, exercise, and weight control will be examined from various perspectives: scientific principles, consumer protection, and holistic health concepts. The course will explore the principles of nutrition and the process of metabolism. Three hours per week. *Three semester hours.*

***040-342. Facilities in Health, Physical Education and Recreation** Dr. Davidson

Considers trends, problems, and future directions of facility development, construction, and maintenance of HPER facilities. Prerequisite, HPER 239. Three hours per week. *Three semester hours.*

040-346. Fitness/Exercise Program Management Dr. Borsdorf

A general survey of the exercise and fitness movement. Methods and techniques of teaching, terminology, and history will be examined. Particular attention is given to various individual and team program development. Three hours per week. *Three semester hours.* (Alternates with 342.)

040-347. Wellness/Fitness for an Adult Population Dr. Borsdorf

An analysis of the techniques used to confront the problems and needs of an adult population through wellness/fitness services. The course includes assessment techniques, program design, and exercise prescription. Three hours lecture, three hours laboratory. *Four semester hours.*

040-351. Structural Kinesiology and Bio-Mechanics Miss Waigum

A study of the anatomy of the musculo-skeletal system essential for understanding human movement, with emphasis on the relationship of anatomic structure to function. Prerequisite, Biology 317, 318. Two hours lecture, two hours laboratory. *Three semester hours.*

040-352. Exercise Physiology/Human Performance Miss Waigum

The study of the physiological alterations and adjustments which occur in response to physical performance. Two hours lecture, two hours laboratory per week. *Three semester hours.*

040-355. Methods of Teaching Health and Physical Education Miss Shelton

Principles, methods, and problems of teaching health and physical education at the elementary and secondary levels. The course includes extensive training in the spectrum of teaching styles, macro- and micro-teaching, unit and lesson planning, basic curriculum design and process-product analysis of learning episodes. Open only to physical

**This course is not offered in 1988-1989.*

education majors or students who have completed six hours in Education. Three hours per week. *Three semester hours.*

040-362. Tests and Measurements in Health, Physical Education and Recreation Miss Wailgum

Concentration on test preparation in the cognitive, psychomotor and affective domains, application of measurement and evaluation options, utilization of statistical procedures specifically designed for the behavioral sciences, analysis of data through the use of computers, and participation in field experiences with standardized testing. Three hours per week. *Three semester hours.*

040-363. Officiating Staff

The course in officiating is designed with particular reference to the needs of prospective coaches and officials. Emphasis will be placed on football (men), field hockey (women), basketball and volleyball (men and women). *Three semester hours.*

040-364. Officiating Staff

Continuation of 363. Emphasis will be placed on track & field (men), cross country (men), baseball (men), lacrosse (women), softball (women), swimming (men and women). *Three semester hours.*

040-365. Philosophy and Principles of Coaching Mr. Whatley

This course is designed with reference to the needs of prospective coaches and will center on the principles and philosophies of coaches as well as the developing role of psychology in athletics. Three hours per week. *Three semester hours.*

040-368. First Aid Care and Personal Safety Miss Chlad

This course deals with the causes, preventive procedures and emergency treatment for all types of common injuries, along with basic athletic training techniques. Course work meets the requirements for the Red Cross Advanced First Aid and C.P.R. Certification. Three hours per week. *Three semester hours.*

040-381. Internship in Wellness/Fitness Services Staff

An internship experience in a hospital, business, and/or geriatric care center with an emphasis on the concept of wellness. An 80.0 grade point average in HPER and the permission of the department are required. *Three semester hours.*

040-412. Applied Leadership Practicum Dr. Borsdorf

An off-campus academic/work experience in a community or corporate recreational program. An 80.0 grade point average in HPER and the permission of the department are required. *Three semester hours.*

040-448. Therapeutic Recreation Dr. Borsdorf

The leisure needs of special populations are addressed. Targeted populations incorporated into this study include physical and/or mental disability, age, socially deviant behavior and institutionalized individuals. The course will focus on the implementation and the delivery of recreational services needed by these special populations. Three hours per week. *Three semester hours. (Alternates with 348).*

040-460. Curriculum Design in Health & Physical Education Miss Shelton

A study of curriculum theory, process of subject matter selection, alternative curricular patterns, scope and sequence with regard to grades K through 12, building curriculum on sound educational objectives. Three hours per week. *Three semester hours.*

040-462. Administration of Health, Physical Education, and Recreation Dr. Davidson

A study of the administrative theory, principles, and problems in health, physical education and recreation. Three hours per week. *Three semester hours.*

040-464. Corrective and Adaptive Physical Education Dr. Borsdorf

An analysis of conditions affecting the development of atypical children; methods for selecting and classifying such individuals, with particular attention to the adaptation of activities to meet their needs. Prerequisite,

Biology 317, 318 or permission of instructor. Three hours per week. *Three semester hours.*

040-466. Health and Physical Education Seminar Miss Boyd

Consideration of current trends and emphases in the fields of health, physical education and recreation. Lecture, discussion, papers, reports, and guest speakers. Limited to second semester seniors in physical education curriculum. Two hours per week. *Two semester hours.*

040-468. Care and Prevention of Athletic Injuries Miss Chlad

Conditioning exercises, diet, and various therapeutic aids are studied. Laboratory practice includes bandaging, taping, massage, and the clinical use of physical therapy equipment. Lecture, Lab. Four hours per week. *Three semester hours.*

040-482. Human Performance Internship Miss Wailgum

An off-campus academic/work related experience within the field of human performance which could take place in a hospital, corporation, clinic, or university setting. An 80 cumulative average within the human performance concentration, Biology 317, 318, and the permission of the department are required. *Three semester hours.*

040-491. Research/Independent Work Staff

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

040-492. Research/Independent Work Staff

A continuation of course 491. Prerequisite, course 491. *Three semester hours.*

Activities Courses-Non-majors

040-010. Social, Folk and Square Dancing Mrs. Poley

One-half semester hour.

040-014. Volleyball Staff

One-half semester hour.

040-017. Badminton, Squash, Racquetball Mrs. Poley

One-half semester hour.

040-019. Judo-Self Defense Dr. Davidson

One-half semester hour.

040-022. Modern Dance Mrs. Poley

One-half semester hour.

040-027. Basic Swimming Dr. Davidson

One-half semester hour.

040-029. Intermediate Swimming Mr. Whatley

One-half semester hour.

040-031. Golf Miss Shelton

One-half semester hour.

040-033. Archery and Bowling Miss Shelton

One-half semester hour.

040-034. Water Safety Instructor Dr. Davidson

Prerequisite, HPER 032. One semester hour.

040-035. ARC Lifeguarding Certification Dr. Davidson

One semester hour.

040-037. Weight Training and Conditioning Mrs. Poley

One-half semester hour.

040-039. Tennis Mrs. Poley

One-half semester hour.

040-041. Wellness I Staff

Walking and stretching activities for the promotion of physical fitness. *One-half semester hour.*

040-042. Wellness II Staff

Weight control techniques through diet and exercise; stress management skills. *One-half semester hour.*

Activities Courses-Majors

040-100. Social, Folk and Square Dancing Mrs. Poley

One semester hour.

HISTORY

040-102. Introduction to Human Kinetics <i>One-half semester hour.</i>	Miss Shelton	040-207. Basic Swimming <i>One-half semester hour.</i>	Miss Chlad
*040-103. Soccer <i>One-half semester hour.</i>	Staff	040-208. Softball <i>One-half semester hour.</i>	Mr. Whatley
040-104. Volleyball <i>One-half semester hour.</i>	Miss Wailgum	040-209. Basketball <i>One-half semester hour.</i>	Staff
040-105. Wrestling <i>One-half semester hour.</i>	Staff	040-210. Track and Field <i>One-half semester hour.</i>	Mr. Whatley
040-106. Lacrosse <i>One-half semester hour.</i>	Miss Boyd	040-300. Gymnastics <i>One semester hour.</i>	Staff
040-109. Judo-Self Defense and Tumbling <i>One-half semester hour.</i>	Staff	040-304. Water Safety Instructor (WSI) <i>One semester hour.</i>	Dr. Davidson
040-200. Field Hockey <i>One-half semester hour.</i>	Miss Boyd	040-305. ARC Lifeguarding Certification <i>One semester hour.</i>	Dr. Davidson
040-202. Modern Dance <i>One-half semester hour.</i>	Mrs. Poley	040-306. Archery, Bowling, and Golf <i>One semester hour.</i>	Miss Shelton
040-203. Racquet Sports <i>One semester hour.</i>	Staff	040-308. Elementary Activities <i>One-half semester hour.</i>	Mrs. Poley
040-204. Miscellaneous Activities <i>One-semester hour.</i>	Dr. Borsdorf	040-401. Aerobics, Conditioning and Weight Training <i>One semester hour.</i>	Staff
040-205. Football <i>One-half semester hour.</i>	Mr. Brown	040-403. Special Activities <i>One-half semester hour.</i>	Staff
040-206. Baseball <i>One-half semester hour.</i>	Mr. Whatley	040-404. Special Activities <i>One semester hour.</i>	Staff

045-HISTORY

Professors Akin, Visser; Associate Professor Doughty (Chair); Assistant Professor Clark; Lecturers Malone, Kane.

The general objectives of the department of history are to provide an introduction to the history and value systems of Western society and those of other cultures; to provide the historical perspective necessary to the understanding of the human condition and contemporary world

**This course is not offered in 1988-1989*

affairs; and to provide instruction in methods of historical inquiry and analysis which can be applied in many different fields of endeavor.

For history majors, in addition to providing a sound liberal education, the department seeks to prepare students for post-graduate professional study in the law or public administration; continued study of history at the graduate level; and effective teaching in the secondary schools. For all students, it seeks to inculcate an interest in history and the humanities and an appreciation of the value of their study; to develop practical skills in an effective written and oral expression, logical reasoning and research methods; and to raise the general level of social and political awareness.

Major in History

Students selecting a major in history must fulfill the basic curricular requirements of Ursinus College as established in the Ursinus Plan, with the stipulation that History 101, 102 be taken as the required humanities course. In addition, the following requirements must be fulfilled:

History 200:	(Historiography and Methodology).
History 213- 214:	(United States History);
Non-Western history:	(any <i>two</i> of the following: History 223, 224, 321, 322, 333, 334)
Advanced European History:	(any <i>one</i> of the following: History 301, 302, 303, 304, 305, 306, 307, 308)
Advanced U.S. History:	(any <i>one</i> of the following: History 335, 336, 337, 338, 339, 340)
History seminar:	(any <i>one</i> of the following: History 429, 430, 431, 432, 433, 434)
History electives:	(any <i>two</i> additional history courses)
Humanities	(any <i>three</i> courses above and beyond the college core requirements in English, American or World literature; philosophy; art; music; or foreign languages)
Social Science:	(any <i>three</i> courses above and beyond the college core requirements in anthropology; economics; politics, psychology; or sociology).

To complete graduation requirements, students must pass a comprehensive examination in history.

Students interested in becoming secondary teachers should consult the education department booklet, *Ursinus College Teacher Education Programs (April 1987)*.

Minor In History

Students seeking a minor in History must take a minimum of 18 credits in the department, including History 200 and *one* of the following courses: History 429, 430, 431, 432, 433, 434 or 449.

History minors are *not* required to take the comprehensive examination. Students interested in minoring in history must register with the department and plan their course of study in consultation with the department chairman.

045-101. Western Civilization In A Global Context Staff

An introductory survey of world history with particular emphasis on the ideas and institutions of Western civilization. Three hours per week. *Three semester hours.*

045-102. Western Civilization In A Global Context Staff

An introductory survey of world history with particular emphasis on the ideas and institutions of Western civilization.

Continuation of History 101; History 101 is not a prerequisite. Three hours per week. *Three semester hours.*

045-200. Historiography and Methodology Staff

An introduction to the history of historical study and to modern historical methodology. The goal of the course will be to provide an understanding of what history is, together with practical experience in doing history."

Required for all students majoring or minoring in history. Three hours per week. *Three semester hours.*

045-213. The United States of America Dr. Parsons, Staff

Political and cultural history from colonial status to world power with special emphasis on Pennsylvania. This course is prescribed for all students majoring in history and for any others who are preparing to teach social studies. Three hours per week. *Three semester hours.*

045-214. The United States of America Dr. Parsons, Staff

A continuation of History 213. Prescribed for all students majoring in history and for any others preparing to teach social studies. Three hours per week. *Three semester hours.*

045-223. Traditional East Asian Society and Culture Dr. Clark

An introduction to the society and culture of China and Japan in the late traditional era (17th to 19th centuries) prior to the collapse of the old orders. Focuses on governmental

structure, social and economic order, and late traditional cultural developments. Three hours per week. *Three semester hours.*

045-224. The Modernization of East Asian Society and Culture

Dr. Clark

A continuation of History 223, focusing on the changes in Chinese and Japanese society and culture since the mid-19th century, which built toward World War II and the 1949 Communist Revolution in China. Three hours per week. *Three semester hours.*

045-301. Studies in Medieval History

Dr. Visser

An examination of the development of the institutions controlling medieval society, i.e. the Church and the nobility. Selected writings from ecclesiastical authors and secular poets and from German and French epics will be read in translation. Three hours per week. *Three semester hours.* (Alternates with 303 and 319.)

045-302. Studies in Medieval History

Dr. Visser

An examination of the forces which changed medieval society; e.g. the rise of cities, the emergence of universities, and the monetization of the economy. Selected contemporary writings will be read in translation. Three hours per week. *Three semester hours.* (Alternates with 304 and 320.)

***045-303. Studies in the Renaissance Era**

Dr. Visser

An examination of the cultural, economic, and social aspects of the Renaissance and their interdependence. Contemporary writings will be used in translation. Three hours per week. *Three semester hours.* (Alternates with 319 and 301.)

***045-304. 16th Century Studies**

Dr. Visser

An examination of the revolution in Christianity and its impact on the social, economic, and political institutions of the age. Contemporary writings will be used in

**This course is not offered in 1988-1989.*

translation. Three hours per week. *Three semester hours.* (Alternates with 320 and 302.)

045-305. State and Society in Early Modern Europe Dr. Doughty

A study of the development of absolute monarchy and the modern state in their social, economic, and intellectual context. Three hours per week. *Three semester hours.* (Alternates with 307.)

045-306. The Age of Revolution Dr. Doughty

A study of the Dual Revolution—industrial and political—of the period 1780-1880 and its impact upon European society. Three hours per week. *Three semester hours.* (Alternates with 308.)

***045-307. The 20th Century** Dr. Doughty

A study of the impact of industrialization, neo-imperialism, and nationalism upon the European peoples and their overseas empires in the years leading up to and directly following the First World War. Not open to first-year students. Three hours per week. *Three semester hours.* (Alternates with 305.)

***045-308. The 20th Century** Dr. Doughty

A continuation of History 307 covering the events leading up to and following the Second World War and the problems of contemporary world history. Not open to first-year students. Three hours per week. *Three semester hours.* (Alternates with 306.)

***045-309. The Making of Britain** Dr. Doughty

A survey of British history from the Anglo-Saxon period to 1688, with emphasis on political and constitutional developments. Three hours per week. *Three semester hours.* (Alternates with 311.)

***045-310. Britain and the British Empire** Dr. Doughty

The history of Britain and the British Empire and Commonwealth from 1689 to the present, with emphasis on political and constitutional developments. Three hours per week. *Three semester hours.* (Alternates with 312.)

045-311. Pre-Industrial Britain Dr. Doughty

A study of selected topics in the social and economic history of the British Isles from the earliest Celtic settlements to the seventeenth century. Three hours per week. *Three semester hours.* (Alternates with 309.)

045-312. Britain: The First Industrial Nation Dr. Doughty

British social and economic history from the beginning of the Industrial Revolution to the present, with emphasis on the social effects of Britain's rise and eventual decline as an industrial power. Three hours per week. *Three semester hours.* (Alternates with 310.)

045-315. History of United States Foreign Relations Staff

A study of United States foreign relations from revolutionary era to the present. Three hours per week. *Three semester hours.*

***045-316. War and Diplomacy in Europe** Dr. Doughty

A study of the evolution of modern statecraft and warfare from the Renaissance to the 20th century. Diplomacy, foreign policy, military organization and strategy will be examined against the background of intellectual, social, and technological change. Three hours per week. *Three semester hours.* (Given in the spring semester, alternate years.)

***045-319. Studies in Ancient History** Dr. Visser

An examination of the emergence of religious and intellectual concepts in the Ancient Near East, with an emphasis on their definition by the Hebrews. Contemporary writings will be used in translation. Three hours per week. *Three semester hours.* (Alternates with 301 and 303.)

***045-320. Studies in Ancient History** Dr. Visser

An examination of the emergence of intellectual, legal, and social concepts, with emphasis on their formulation as the roots of Western civilization. Contemporary writings will be read in translation. Three hours per week. *Three semester hours.* (Alternates with 302 and 304.)

**This course is not offered in 1988-1989.*

HISTORY

***045-321. The Middle East** Staff

A study of the Byzantine, Persian and Moslem empires in the middle ages. Three hours per week. *Three semester hours.*

***045-322. The Middle East** Staff

The Moslem World and the Middle East under the Ottoman Empire and in modern times. Three hours per week. *Three semester hours.*

045-325. Political and Social History of Russia Staff

An examination of the political, social, economic, and cultural conditions of the medieval and modern periods of Russian development through the imperial era to the end of the 19th century. Three hours per week. *Three semester hours.*

045-326. Political and Social History of Russia Staff

An examination of the history of the Soviet Union, the sources of its institutions, and its role in the contemporary world. Three hours per week. *Three semester hours.*

045-333. Origins of East Asian Civilization Dr. Clark

A selective introduction to the origins of East Asian societies and cultures. Topics to be considered may include religious and intellectual traditions, evolution of political and social orders, and the like. Three hours per week. *Three semester hours.* (Given in alternate years.)

045-334. Society and Revolution in Southeast Asia Dr. Clark

An examination of the origins of conflict in Southeast Asia from the 19th century to the present. Will approach the issue from the perspective of the societies themselves in an attempt to understand the domestic stresses, resulting from both internal and external change, which produced the post-World War II upheavals, as well as the motivations of the Western powers that intervened. Three hours per week. *Three semester hours.* (Given in alternate years.)

045-335. Colonial America Staff

Economic and social beginnings of colonial settlements in North America through the achievement of independence in 1783. Special attention to demographic change. Three hours per week. *Three semester hours.*

045-336. Civil War and Reconstruction Staff

Social and economic background; sectionalism and war, with emphasis upon logistical and demographic problems and results. Three hours per week. *Three semester hours.* (Alternates with 340.)

045-337. The Emergence of Modern America Dr. Akin

An examination of social and economic change in the United States from the 1880's to the 1920's. Three hours per week. *Three semester hours.*

045-338. Recent United States History Dr. Akin

An examination of social and economic change in the United States from the 1920's to the contemporary era. Three hours per week. *Three semester hours.*

045-339. Minorities in America Staff

A study of minority groups in American history and society with particular attention to migration patterns, problems of identity and adjustment, and minority contributions to American life. Three hours per week. *Three semester hours.*

045-340. Westward Movement Staff

Lure of the West and the ensuing settlement and development, to the closing of the frontier. Social and economic implications and problems. Three hours per week. *Three semester hours.*

045-341. Origins of the Industrial Revolution Staff

An examination of the origins and preconditions of the Industrial Revolution in the Western world and the changes in

**This course is not offered in 1988-1989.*

technology and business practices which resulted from it. Examples will be taken from Western Europe. Three hours per week.
Three semester hours.

045-342. Comparative Economic History **Staff**

An examination of the political, social and demographic consequences of economic change and a comparative analysis of their effects in 19th and 20th century Germany and the United States. Three hours per week.
Three semester hours.

045-381. History Internship **Staff**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chairman of the department for further details. Prerequisites: junior standing, nine credits in history and approval of a faculty internship adviser. Minimum of eight hours per week.
Three semester hours.

045-429. Seminar in European History **Staff**

Readings and individual research on topics of European history, leading to preparation and discussion of research papers. Open to third- and fourth-year students with permission of the instructor. Prerequisite: History 200 or equivalent. With departmental permission, may be used to fulfil the advanced European history requirement. Three hours per week.
Three semester hours.

045-430. Seminar in European History **Staff**

Readings and individual research on topics of European history, leading to preparation and discussion of research papers. Open to third- and fourth-year students with permission of the instructor. Prerequisite: History 200 or equivalent. With departmental permission, may be used to fulfil the advanced European history requirement. Three hours per week.
Three semester hours.

045-431. Seminar in American History **Staff**

Readings and individual research on topics of American history, leading to preparation and discussion of research papers. Open to third- and fourth-year students with permission of the instructor. Prerequisite: History 200 or

equivalent. With departmental permission, may be used to fulfil the advanced American history requirement. Three hours per week.
Three semester hours.

045-432. Seminar in American History **Staff**

Readings and individual research on topics of American history, leading to preparation and discussion of research papers. Open to third- and fourth-year students with permission of the instructor. Prerequisite: History 200 or equivalent. With departmental permission, may be used to fulfil the advanced American history requirement. Three hours per week.
Three semester hours.

045-433. Seminar in East Asian, Middle Eastern, or African History **Staff**

Readings and individual research on topics of non-Western history, leading to preparation and discussion of research papers. Open to third- and fourth-year students with permission of the instructor. Prerequisite: History 200 or equivalent. With departmental permission, may be used to fulfil the advanced non-Western history requirement. Three hours per week.
Three semester hours.

045-434. Seminar in East Asian, Middle Eastern, or African History **Staff**

Readings and individual research on topics of non-Western history, leading to preparation and discussion of research papers. Open to third- and fourth-year students with permission of the instructor. Prerequisite: History 200 or equivalent. With departmental permission, may be used to fulfil the advanced non-Western history requirement. Three hours per week.
Three semester hours.

045-449. Research **Staff**

Independent research, under the guidance of an adviser, directed toward the production of a historical project or paper. Open only to fourth-year students with the permission of the chairman of the department of history. Prerequisite, History 200 or equivalent. *Three semester hours.*

045-491. Research/Independent Work Staff

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. Prerequisite, one of the following: History Seminar 409, 411, 416, 420, 429, 430, 431, or 432. *Three semester hours.*

045-492. Research/Independent Work Staff

A continuation of course 491. Prerequisite, course 491. *Three semester hours.*

074-INTERNATIONAL RELATIONS

Professor Berry, (Coordinator); Associate Professors Doughty, Meyer; Assistant Professors Clark, O'Neill, Hood, Gassler.

International relations majors become capable living and working in a world-wide setting by developing an understanding of how that setting came to be and how its various political, economic, and social systems function. Competency in a foreign language is required.

Requirements for Majors

Students majoring in international relations must take History 101, 102 and the following core requirements: History 307, 308; Economics and Business Administration 100, 251, 252; Anthropology 101; and two courses at the 300 or 400 level in a foreign language.

Students must select courses from two of the three following areas: history (six semester hours); political science (six semester hours); economics (six semester hours). Selections in history must be from the following: 224, 316, 322, 326, 334, 342. Selections in politics must be from the following: 344, 346, 347, 353, 355, 357, 442, 452. Selections in economics must be from the following: 308, 309, 314, 328.

All majors are urged to take a summer, semester or a year for study abroad.

074-491. Research/Independent Work Staff

This course is open to candidates for honors in the major and to other students with the permission of the coordinator. *Three semester hours.*

074-492. Research/Independent Work Staff

A continuation of course 491. *Three semester hours.*

LATIN

See Classical Studies

050-MATHEMATICS AND COMPUTER SCIENCE

Professors BreMiller, Jessup; Associate Professors Coleman, Hagelgans, Shuck (Chair); Assistant Professors Neslen, Rosenthal; Lecturer Johnson.

The general aims of the department of mathematics and computer science are (1) to give the students a grasp of the ideas and methods of mathematics and computer science; (2) to develop an understanding

and appreciation of mathematics as an abstract deductive system; (3) to give the students an appreciation of the historical importance of mathematics in the progress of civilization, both past and present; and (4) to provide the students with sufficient skills to enable them to apply their knowledge to related fields of study.

For students majoring in mathematics or computer science/mathematics, the department aims to provide stimulation and preparation for (1) continued study at the graduate level; or (2) effective teaching in the secondary schools; or (3) employment in industrial research, statistics, computing, or actuarial positions. For other majors, it seeks to provide the mathematical competence required by the increasing quantitative emphasis in many of these disciplines.

050—Requirements for Mathematics Majors

A student majoring in mathematics is required to take Physics 111, 112, and Math 111, 112, 211, 235, 236, 271, 311 and 335.

Each major also is required to complete at least one of the following four area concentrations.

I. Mathematics

This program is recommended for those planning to do post-graduate work in mathematics. The required courses are Math 312, 321, 336, 411.

II. Applied Mathematics

This program is recommended for those planning to seek jobs in industry. The required courses are Math 212, and at least three of 341, 342, 411, 461, 462.

III. Mathematics Education

This program is recommended for those preparing to be teachers. The required courses are Math 322, 341 and at least two of 321, 342, 382, 434, 461. This concentration satisfies the teacher certification requirements for mathematics. The College also offers a joint certification program in mathematics-physics. Details may be obtained from the departments of education, mathematics and computer science or physics.

Those students choosing the mathematics education concentration may substitute Math 336 for 311, or 312 for 335, and should consult the education department booklet, *Ursinus College Teacher Education Programs (April 1987)*.

IV. Computer Science

This program is recommended for those preparing for work in the computing field. The required courses are Math 272, 371, 372 and at least one of 373, 374, 471, 472.

051—Requirements for Computer Science/Mathematics Majors

A student majoring in computer science/mathematics is required to take Physics 111, 112; Math 111, 112, 211, 235, 236, 271, 272, 371, 372, 373, 374; at least one of Math 335, 341, 462 (Note: Math 212 is a prerequisite for 462;) and either Math 471 or 472.

Note: Students who major in mathematics or computer science/mathematics are encouraged to elect either a minor in another discipline or additional courses in mathematics and computer science. The latter is especially recommended for students planning to do graduate work in mathematics or a related discipline.

Interdisciplinary Major

The mathematics and computer science department participates in an interdisciplinary major in applied mathematics/economics. For additional information and course requirements, see the listings under combined majors, page 144.

Minor Concentrations

A minor concentration in computer science consists of Math 111; 236; 271; 272; and six credits chosen from 371, 372, 373, 374.

A minor concentration in mathematics consists of Math 111, 112, 211, 235; and six additional credits in mathematics, chosen from 212, 236, 311, 312, 321, 322, 335, 336, 341, 342, 411, 434, 461, 462, at least three of these credits being at the 300 or 400 level.

A minor concentration in quantitative methods consists of Math 111, 112, 235, 241, 242, and one course chosen from 170, 171, 271.

A minor concentration in statistics consists of Math 111, 112, 211, 241, 242, 341, 342.

050-101. College Algebra Mr. Johnson

A review of algebra, functions and graphs, exponential and logarithmic functions, systems of linear equations and inequalities. Assumes a knowledge of two years of high school algebra. This course prepares the student for Math 102. Three hours per week. *Three semester hours.*

Notes: A student may not receive credit for both Math 101 and 110. This course does not satisfy the college mathematics requirement.

050-102. Applied Calculus Staff

Differential and integral calculus of algebraic, exponential and logarithmic functions. Emphasis on applications in business and the social sciences. Offered both semesters.

Prerequisite, Math 101 or placement based on the mathematics diagnostic test or permission of the department. Three hours per week. *Three semester hours.*

Note: A student may not receive credit for both Math 102 and 111. A student who has received credit for Math 111 may not enroll in Math 102.

050-108. Calculus for the Liberal Arts Dr. Rosenthal

An overview of the calculus from a conceptual and historical perspective. Limits, integrals, and derivatives treated within a framework emphasizing origin and meaning rather than calculation and manipulation. Topics include Eudoxus' theory of exhaustion, Cavalieri's theorem, the medieval

discussion of motion, modeling by differential equations, and the Fundamental Theorem of Calculus. (Assumes a knowledge of three years of high school mathematics.) Three hours per week. *Three semester hours.*

Note: A student who has received credit for Math 111 may not enroll in Math 108.

050-110. Precalculus **Staff**

A review of algebra, functions and graphs, exponential and logarithmic functions, circular and trigonometric functions. This course prepares the student for Math 111. Three hours per week. *Three semester hours.*

Notes: A student may not receive credit for both Math 101 and 110. This course does not satisfy the college mathematics requirement.

050-111. Calculus and Analytic Geometry I **Staff**

Limits, differentiation, applications of differentiation, integration. Offered both semesters. Three hours per week. *Three semester hours.*

Notes: A student may not receive credit for both Math 102 and 111. A student who has received credit for Math 111 may not enroll in Math 102.

050-112. Calculus and Analytic Geometry II **Staff**

Applications of the definitive integral, logarithm, exponential and inverse trigonometric functions, techniques of integration, improper integrals, L'Hôpital's rule, conic sections, polar coordinates, parametric equations. Prerequisite, Math 111. Offered both semesters. Three hours per week. *Three semester hours.*

050-170. Introduction to Information Systems **Dr. Jessup**

The computer as a problem-solving tool, with emphasis on its uses in society and academic disciplines other than computer science. Computer systems and software will be discussed. Problems from the social sciences and humanities which lend themselves to computer solutions will be introduced. Specific software tools will be assigned and a high level language such as BASIC will be studied. Prerequisite, Math 101, or 102, or

110, or 111 or placement based on the mathematics diagnostic test, or permission of the instructor. Offered both semesters. Three hours per week. *Three semester hours.*

050-171. Introduction to Computer Programming **Mr. BreMiller**

The design of structured algorithms and their implementation in a high-level language such as structured BASIC. Recommended for those who want to learn programming skills to apply to a discipline other than computer science. Some familiarity with operating a computer will be assumed. Offered Spring Semester. Three hours per week. *Three semester hours.*

050-211. Intermediate Calculus **Mr. BreMiller, Dr. Hagelgans**

A continuation of Math 112, with emphasis on functions of more than one variable, including three-dimensional geometry, partial differentiation, multiple integration, and an introduction to vector calculus; study of infinite series; applications. Prerequisite, Math 112. Offered both semesters. Three hours per week. *Three semester hours.*

050-212. Differential Equations **Dr. Hagelgans**

Solutions of ordinary differential equations of first and second order, with applications to problems in the physical sciences. Additional topics chosen from power series solutions, systems of linear equations, numerical methods, Laplace transforms. Prerequisite, Math 211. Three hours per week. *Three semester hours.*

050-235. Linear Algebra **Dr. Neslen**

Systems of linear equations, matrix theory, linear transformations, eigenvectors and eigenvalues, inner product, orthogonal transformations, quadratic forms, applications. Prerequisite, Math 112 or permission of the instructor. Three hours per week. *Three semester hours.*

050-236. Discrete Mathematics **Dr. Hagelgans**

This course is designed to bridge the gap between problem-solving, computation-oriented introductory courses, and abstract, proof-oriented advanced courses. Emphasis will be placed on the language of

contemporary mathematics (including the proper way to write mathematics), and on the nature of mathematical reasoning. Topics studied may include axiomatic systems, logic, set theory, graph theory and trees.

Prerequisite, Math 111, or Math 112 and permission of the instructor. Three hours per week. *Three semester hours.*

050-241. Statistics I

Staff

Statistical methods of studying data, measures of central tendency and dispersion, probability, and distributions including: binomial, normal, and Student's t ; hypothesis testing. Offered both semesters. Three hours per week. *Three semester hours.*

050-242. Statistics II Dr. Coleman

A continued study of basic statistical techniques including basic concepts of experimental design, techniques of analysis of variance, methods of regression analysis, linear models, chi-square tests and non-parametric statistics. Prerequisite, Math 241. Three hours per week. *Three semester hours.*

050-271. Computer Programming I

Dr. Jessup, Dr. Rosenthal

Computer programming with a high-level language. Problem-solving methods and algorithm development. Design, coding, debugging and documentation of programs. Emphasis on programming style. Prerequisite, Math 102 or 111. Offered both semesters. Three hours per week. *Three semester hours.*

050-272. Computer Programming II

Dr. Jessup

A continuation of Math 271. Larger programs. Introduction to algorithm analysis and data structures. Prerequisite, Math 271. Three hours per week. *Three semester hours.*

050-311. Introduction to Analysis I

Mr. BreMiller

An introduction to the real number system and theoretical treatment of limits, continuity, differentiability, sequences and series. Additional topics may include abstract metric spaces and countability. Prerequisite, Math

211 and either 236 or permission of the instructor. Three hours per week. *Three semester hours.*

050-312. Introduction to Analysis II

Dr. Shuck

A continuation of Math 311. The Riemann integral. Functions of several variables, vector calculus, the inverse and implicit function theorems. Prerequisite, Math 235, 311, and either 236 or permission of the instructor. Three hours per week. *Three semester hours.*

*050-321. Introduction to Topology

Dr. Hagelgans

Elementary point set topology; metric spaces; topological spaces, separation axioms, compactness, connectedness. Prerequisite, Math 236 or permission of the instructor. Three hours per week. *Three semester hours.*

050-322. Fundamentals of Geometry

Mr. BreMiller

Axiomatic development, introduction to non-Euclidean geometry, projective geometry and modern geometry. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.* (Not scheduled for 1989-1990.)

050-335. Abstract Algebra I

Dr. Rosenthal

An introduction to algebraic structures, with emphasis in the first semester on groups. Subgroups, quotient groups, homomorphisms, isomorphism theorems, Cayley's theorem, permutation groups. Prerequisite, Math 235 and 236. Three hours per week. *Three semester hours.*

050-336. Abstract Algebra II

Dr. Rosenthal

A continuation of Math 335. Ring theory, integral domains and principal ideal domains, polynomial rings, fields leading to Galois theory and solvability by radicals. Classical origins of modern abstract algebra. Prerequisite, Math 335. Three hours per week. *Three semester hours.*

*This course is not offered in 1988-1989.

050-341. Probability **Dr. Coleman**

An introduction to probability theory; discrete and continuous probability distributions; moments and moment-generating functions of random variables. Prerequisite, Math 211. Three hours per week. *Three semester hours.*

050-342. Mathematical Statistics **Dr. Coleman**

The mathematical background of modern statistics, including the development of sampling distributions, the theory and application of estimation, tests of hypotheses, regression and correlation, and analysis of variance. Prerequisite, Math 341. Three hours per week. *Three semester hours.*

***050-371. Data Structures and Algorithms** **Dr. Shuck**

Complexity of algorithms, searching and sorting algorithms, tree and graph traversal algorithms. Additional topics chosen from mathematical algorithms for matrices and polynomials, NP-complete problems and intractable problems. Prerequisite, Math 236 and 272. Three hours per week. *Three semester hours.* (Alternates with 373.)

***050-372. Computer Organization** **Dr. Hagelgans**

Hierarchical structure of computer architecture, number systems, arithmetic operations, codes, switching algebra, logic gates, assembly language programming. Prerequisite, Math 236 and Math 171 or 271. Three hours of lecture and two hours of laboratory per week. *Four semester hours.* (Alternates with 374.)

050-373. Theory of Computation **Dr. Hagelgans**

Principles of formal languages, automata, computability and computational complexity. Prerequisites, Math 236 and 272. Three hours per week. *Three semester hours.* (Alternates with 371.)

050-374. Principles of Programming Languages **Dr. Hagelgans**

Syntax, processors, representations and styles of programming languages. Study and comparison of several modern programming

languages. Prerequisites, Math 236 and 272. Three hours per week.

Three semester hours. (Alternates with 372.)

050-381. Internship **Staff**

An off-campus academic/work experience under the supervision of an internship advisor and an on-site supervisor. Contact the chairman of the department for further details. Prerequisites, junior standing, nine credits in mathematics and/or computer science, and approval of a faculty internship adviser. Eight to 10 hours per week. *Three semester hours.*

050-382. History of Mathematics **Staff**

Mathematical thought from ancient times to the early 1800's. Topics from the modern era may be included. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.*

050-411. Functions of a Complex Variable **Dr. Rosenthal**

An introduction to the theory of analytic functions, integrals of complex functions, conformal mapping, harmonic functions. Taylor's and Laurent's series, residue theory, geometry of elementary functions. Prerequisite, Math 211. Three hours per week. *Three semester hours.* (Not scheduled for 1989-1990.)

050-434. Theory of Numbers **Dr. Neslen**

Divisibility; unique factorization; congruences; theorems of Fermat, Euler, and Wilson; primitive roots; quadratic reciprocity; Diophantine equations; Fermat's conjecture; sums of squares; distribution of primes. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.* (Not scheduled for 1989-1990.)

050-451. Topics in Advanced Mathematics I **Dr. Shuck**

A course designed to acquaint the student with modern trends in advanced topics in mathematics and its applications. The course will be adapted to the students' preferences and needs. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.* (Not scheduled for 1989-1990.)

**This course is not offered in 1988-1989.*

***050-452. Topics in Advanced Mathematics II Mr. BreMiller**

A course designed to acquaint the student with modern trends in advanced topics in mathematics and its applications. The course will be adapted to the students' preferences and needs. Prerequisite, permission of the instructor. Three hours per week. *Three semester hours.*

***050-461. Mathematical Models Dr. Jessup**

Mathematical methods are used to develop models for use in fields outside of mathematics with emphasis on the social and biological sciences. Prerequisite, Math 112. Three hours per week. *Three semester hours.*

***050-462. Numerical Analysis Dr. Jessup**

Selected topics from numerical analysis are presented. These may include solving systems of linear equations, linear and nonlinear differential equations, numerical integration and differentiation, eigenvalue problems, error analysis, interpolation and approximation. The computer will be used. Prerequisites, Math 212 and an ability to program. Three hours per week. *Three semester hours.*

050-464. Mathematical Economics Dr. Gassler

Topics in mathematics of particular importance in economics, with applications. Offered jointly by the department of mathematics and computer science and the department of economics and business administration. A research paper will be

required. Prerequisites, Math 211, and EcBA 100, 251, 252, and either 351 or 352, or permission of the instructor. Three hours per week. *Three semester hours.*

This course is the same as Economics and Business Administration 464.

050-471. Topics in Computing I Dr. Jessup

A detailed study of some advanced topics in computer science such as file and data base management, operating systems, compiler design and formal languages. Prerequisite, Math 272 and written permission of the instructor. Three hours per week. *Three semester hours.*

050-472. Topics in Computing II Dr. Jessup

The course will cover topics similar to those listed in Math 471. Prerequisites, Math 272 and written permission of instructor. Three hours per week. *Three semester hours.* (Not scheduled for 1989-1990.)

050-491. Research/Independent Work Staff

Independent investigation of an area of mathematics or computer science not covered in regular courses. Prerequisite, written consent of a member of the staff to serve as an adviser. *Three semester hours.*

050-492. Research/Independent Work Staff

Content and prerequisites as in Math 491. *Three semester hours.*

MODERN LANGUAGES

Associate Professors Clouser, Eaton, Espadas (*Chair*) Lucas, Novack; *Assistant Professors* Cameron, Hall, Thelen; *Lecturers* Doughty, Kanagy, Roberts-Gassler, Rojas, Rolon-Alexander, Stopkie.

The modern language department aims, in its elementary and intermediate courses, to develop the students' linguistic ability and understanding of a foreign culture and to introduce them to its literature. More advanced courses seek to perfect the use of the oral and written language, to study foreign societies and civilizations, and to explore the foreign literature in order to develop faculties of analysis and aesthetic judgment.

**This course is not offered in 1988-1989.*

Major in Modern Languages

Majors interested in international affairs, business or diplomacy should choose appropriate course programs from the economics and business administration department or the political science department.

Similarly, students with international interests who are majors in other departments should formulate a minor in French, Spanish, German, or romance languages to suit their goals. Students planning to obtain certification for secondary school teaching in French, German or Spanish must take a minimum of 21 credit hours in French, German or Spanish at the 300 and 400 levels. The following courses are required: French, German or Spanish 305, 306, 313, 314, 428, and at least one 400 level literature course. In addition to the course requirements, students are required to pass a qualifying examination before they will be admitted to candidacy for certification and a competency examination before being certified. These tests will examine students' linguistic competence, orally and in writing, testing phonetics, conversation, grammar and composition. The exit exam will also check their knowledge of French, German, or Spanish literature and culture, including the arts, history and geography. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs (April 1987)*.

The varied activities of the language clubs add to the department's offerings. Language majors are encouraged to supplement their work at Ursinus by spending a summer, a semester or an entire year in a foreign country with a program approved by the department.

Modern Language Minors

A minor concentration in French consists of 305, 306, and twelve additional credits of French at the 300 or 400 level, excluding 331.

A minor concentration in German consists of German 305, 306, and twelve credits of German at the 300 or 400 level.

A minor concentration in Spanish consists of Spanish 305, 306, and twelve additional credits of Spanish at the 300 or 400 level, excluding Spanish 332.

A minor concentration in Latin American studies consists of Spanish 306, 314, 332, Anthropology 211; and two of the following courses: Spanish 300, 409, 412, 451, Politics 242, 344, 355, 357.

A minor concentration in romance languages consists of nine credits of French at the 300 or 400 level, excluding French 331, and nine credits of Spanish at the 300 or 400 level, excluding Spanish 332.

054-ENGLISH AS A SECOND LANGUAGE

The ESL courses are meant to be taken during the first year at Ursinus during which many foreign students may have adjustment problems.

054-101. English as a Second Language
C. Doughty

A developmental course in English for non-native speakers. Admission by permission of the instructor. Three hours per week. *Three semester hours.*

054-102. English as a Second Language
C. Doughty

Continuation of ESL 101. Three hours per week. *Three semester hours.*

086-FRENCH

French majors are required to take at least 30 semester hours in French above the 200 level. Majors must select a variety of courses in order to create a balance between language, literature, and civilization in their program. French 305, 306 and at least one 400 level course in French, History 101, 102 and six semester hours of advanced history or Fine Arts 311 and 312, Music 211 and 212 are required. It is strongly recommended that all majors study a second language through the intermediate level. Students preparing for graduate study should elect the following courses: English 203, 204, Latin 101, 102, 203, 204 and two 300-level courses in a second language. In the senior year, majors must pass a comprehensive examination.

086-101. Elementary French Staff

An introduction to French language and grammar with particular emphasis on comprehension, speaking, reading and writing. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

equivalent. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

086-102. Elementary French Staff

Continuation of French 101. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

086-204. Intermediate French Staff

Continuation of French 203. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

086-200. Summer Study in France Staff

A four-week travel and study tour of France directed by members of the Ursinus College faculty. Offered annually, mid-May through mid-June. Prerequisite, French 102 or permission of the instructor. *Three semester hours.*

086-300. Summer Study in France Staff

A four-week travel and study tour of France directed by members of the Ursinus College faculty. Offered annually, mid-May through mid-June. Prerequisite, French 204 or permission of the instructor. *Three semester hours.* (NOTE: Students who have received credit for French 200 cannot receive credit for French 300.)

086-203. Intermediate French Staff

A review of grammar, conversation and vocabulary development, writings and discussions based on cultural, social and literary selections. Prerequisite, French 102 or

086-305 French Literature From the Middle Ages to the 18th Century
Dr. Lucas

Major French writers and their contribution to world culture and civilization from the Middle Ages to the Revolution. Prerequisite, French 204 or equivalent. Three hours per week. *Three semester hours.*

086-306. French Literature of the 19th and 20th Centuries Dr. Hall

Continuation of French 305. From 1789 to the present. Prerequisite, French 204 or equivalent. Three hours per week. *Three semester hours.*

086-313. French Civilization Dr. Lucas

This course investigates French culture and society from the *Ancien Regime* to de Gaulle's Republic. Readings will be selected from historical and literary documents. Prerequisite, French 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

086-314. France Today Dr. Hall

Cultural, political, economic and social aspects of contemporary France. Prerequisite, French 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

086-315. Conversation and Composition Dr. Hall

Practice in oral elements of the language, written composition, and grammar. Topics relating to French culture and society will be emphasized. Prerequisite, French 204 or equivalent. Three hours per week. *Three semester hours.*

086-316. Conversation and Composition Dr. Hall

Continuation of French 315. Class discussions are based on cultural, social and literary texts, accompanied by oral and written presentations. Prerequisite, French 204 or equivalent. Three hours per week. *Three semester hours.*

***086-318. Commercial and Economic French** Dr. Novack

Introduction to the economic situation, business organization and commercial practices of France and French-speaking countries. Prerequisite, French 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-325. Advanced Conversation** Dr. Hall

This course is designed for the perfection of previous conversation skills through discussions on a wide range of topics related to French life and contemporary society. Prerequisite, French 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-326. Advanced Composition** Dr. Hall

This course is designed for the development of advanced writing skills through class discussions and composition assignments based on contemporary French writings and issues. Prerequisite, French 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

086-331. French Literature in Translation Staff

A study of topics in French literature. Future topics: Paris, the study of a city; The comic tradition in French literature; French autobiographical writings; The French short story. Specific topics will be announced in advance. Not open to freshmen. Open to majors, but does not fulfill departmental requirements. Three hours per week. *Three semester hours.*

086-381. Internship Staff

An off-campus academic/work experience under the supervision of an internship advisor and an on-site supervisor. Contact the chairman of the department for further details. Prerequisite, junior standing, nine credits in French, and approval of a faculty internship advisor. Eight to ten hours per week. *Three semester hours.*

***086-411. 19th Century French Novel** Dr. Novack

The development of the French novel of the nineteenth century, with special emphasis on Benjamin Constant, Stendhal, Balzac, Flaubert, and Zola. Prerequisite, French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

**This course is not offered in 1988-1989.*

***086-412. Modern French Poetry**
Dr. Lucas

An analysis and interpretation of the poetry of Baudelaire, Mallarme, Verlaine, Rimbaud, Apollinaire, the Surrealists and the modern poets. Prerequisite, French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

086-413. 20th Century French Novel
Dr. Hall

Authors studied include Proust, Gide, Malraux, Sartre, Camus, and the writers of the new novel. Prerequisite: French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-419. Medieval and Renaissance Literature**
Dr. Hall

Works from the medieval epic and courtly romance through the Renaissance philosophical essay. Readings include works of Chretien de Troyes, Villon, the Pleiade, Rabelais and Montaigne. Prerequisite: French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-420. 17th and 18th Century Prose**
Dr. Stopkie

The individual and society: discoveries about human nature, liberty, reason and their limits. Readings in Pascal, La Rochefoucauld, Voltaire, Diderot, Rousseau. Prerequisite, French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-425. French Theater From the Middle Ages to the 18th Century**
Dr. Hall

The development of the theater from its origin to the Revolution with special emphasis on the works of Corneille, Moliere and Racine. Prerequisite, French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-426. French Theater of the 19th and 20th Century**
Dr. Lucas

Readings from the Romantic drama to the theater of the absurd. Some of the authors studied are Hugo, Musset, Jarry, Cocteau, Giraudoux, Camus, Beckett, Genet, and Duras. Prerequisite, French 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***086-428. Advanced Grammar** **Staff**

Basic linguistic principles as applied to phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite, French 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

086-451, 452. Advanced Seminar in French **Staff**

Study of topics in French literature and culture. Recent topics have included twentieth century women writers; the literature of Quebec; French political writers. Future topics will be determined according to interest and announced in advance. Prerequisite, one 400-level course in French or permission of the instructor. Three hours per week. *Three semester hours.*

086-491. Research/Independent Work **Staff**

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

086-492. Research/Independent Work **Staff**

A continuation of course 491. Prerequisite, course 491 and permission of the department chairman. *Three semester hours.*

**This course is not offered in 1988-1989.*

035-GERMAN

German majors are required to take at least 30 semester hours in German beyond the 200 level. Majors must select a variety of courses in order to create a balance between language, literature, and civilization in their programs. German 305, 306 and at least one 400 level course in German, History 101, 102 and six semester hours of advanced history or Fine Arts 311 and 312, Music 211 and 212 are required. It is strongly recommended that all majors study a second language through the intermediate level. Students preparing for graduate study elect French and/or Latin as supplemental languages and the following complementary courses from other departments: History 301, 302, 304, 307, 308, 316, 327, 328; English 203, 204, 209, 210, 324, 326; Philosophy 101, 102. In the senior year, majors must pass a comprehensive examination.

035-101. Elementary German Staff

An introduction to German language and grammar with particular emphasis on comprehension, speaking, reading, and writing. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

035-102. Elementary German Staff

Continuation of German 101. Three hours per week plus one hour language laboratory per week. *Three semester hours.*

**035-203. Intermediate German
Dr. Thelen**

A review of grammar, conversation and vocabulary development, writings and discussions based on cultural, social and literary selections. Prerequisite, German 102 or equivalent. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

**035-204. Intermediate German
Dr. Thelen**

Continuation of German 203. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

**035-305. Survey of German Literature:
Beginnings to 1750 Dr. Thelen**

Representative literature from the Old High German Period to the Age of Enlightenment.

Prerequisite, German 204 or equivalent. Three hours per week. *Three semester hours.*

**035-306. Survey of German Literature:
1750 to Present Dr. Clouser**

Representative literature from the Age of Enlightenment to the modern period. Prerequisite, German 204 or equivalent. Three hours per week. *Three semester hours.*

035-312. Scientific German Dr. Clouser

Reading of classical and contemporary scientific literature. Completion of grammar for intermediate students. German 203-312 fulfills the language requirement for majors in physical and natural sciences. Prerequisite, German 203 or equivalent. Three hours per week. *Three semester hours.*

***035-313. German Studies in Literature
and Culture Dr. Clouser**

Readings in a special theme, topic or writer. Previous offerings have included The German fairy tale, the works of Heinrich von Kleist, and German Romanticism. Prerequisite, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***035-314. German Studies in Literature
and Culture Dr. Thelen**

German culture and civilization. Such topics as Germany's historical development, political

**This course is not offered in 1988-1989.*

system, educational system, music, folksong, theater, film, folklore, traditional costume and holidays will be discussed. Prerequisite, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

035-315. Conversation and Composition
Dr. Clouser

Practice and review in conversation, composition, and grammar. Topics relating to German culture and society will be emphasized. Prerequisite, German 204 or equivalent. Three hours per week. *Three semester hours.*

035-316. Conversation and Composition
Dr. Thelen

Continuation of German 315. Three hours per week. *Three semester hours.*

035-318. Commercial and Economic German
Staff

Introduction to the economic situation, business organization, and commercial practices of Germany. Prerequisite, German 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

035-319. Contemporary German Literature
Dr. Thelen

The 20th-century German short story. Representative short stories from Naturalism to the present with emphasis on the literature since 1945. Prerequisite, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

035-320. German Novelle
Dr. Clouser

History and development of the German Novelle from Goethe to the 20th century. Prerequisite: German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

035-381. Internship
Staff

An off-campus academic/work experience under the supervision of an internship advisor and an on-site supervisor. Contact the chairman of the department for further details. Prerequisite, junior standing, nine credits in

German, and approval of a faculty internship advisor. Eight to ten hours per week. *Three semester hours.*

***035-423. German Medieval Studies**
Dr. Thelen

A comprehensive study of the courtly or heroic epic. Reading and analysis of such works as Parzival and the Nibelungenlied, with lectures, discussions and comparison with other versions. Prerequisites, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***035-424. German Theater**
Dr. Clouser

Studies in the masterpieces of the German stage from the Enlightenment to the present. Prerequisite, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***035-425. German Prose**
Dr. Clouser

Readings in the masterworks of German narrative prose. Prerequisite, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

***035-426. German Poetry**
Dr. Thelen

Thematic study of poetry from the Middle Ages to the present. Works by such poets as Walther von der Vogelweide, Goethe, Schiller, Morike, Rilke, and Brecht will be analyzed and interpreted. Prerequisite, German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

035-428. Advanced Grammar
Staff

Basic linguistic principles as applied to phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite, German 316 or permission of the instructor. Three hours per week. *Three semester hours.*

035-451, 452. Advanced Seminar in German Studies
Staff

Study of topics in German literature and culture. Recent topics have included: the Nibelungenlied; post World War II short story; German Classicism; Walther von der

**This course not offered in 1988-1989.*

Vogelweide; poetic realism. Future topics will be determined according to interest and announced in advance. Prerequisite, any 300 or 400 level German literature course above German 305, 306 or permission of the instructor. Three hours per week. *Three semester hours.*

035-491. Research/Independent Work Staff

This course is open to candidates for departmental honors and to other students

036-JAPANESE

The Japanese language courses are designed to develop linguistic skills and an understanding of Japanese culture. There is not a major in Japanese language, but it is recommended for students interested in East Asian Studies and international relations.

036-101. Elementary Japanese Ms. Kanagy

Introduction to Japanese language and grammar with particular emphasis on comprehension, speaking and enunciation. The Japanese *kana* syllabary and some characters will be introduced. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

036-102. Elementary Japanese Ms. Kanagy

Continuation of Japanese 101. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

036-201. Advanced Elementary Japanese Ms. Kanagy

Continuation of Japanese 102. Expansion of vocabulary and aural skills. Introduction to reading, culture and writing. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

036-202. Advanced Elementary Japanese Ms. Kanagy

Continuation of Japanese 201. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

with the permission of the department chairman. *Three semester hours.*

035-492. Research/Independent Work Staff

A continuation of German 491. Prerequisite, German 491, and permission of the department chairman. *Three semester hours.*

036-203. Intermediate Japanese Ms. Kanagy

Development of comprehension, speaking, reading and writing skills. Expansion of *kanji* characters and vocabulary. Discussions will be based on cultural, social and literary texts. Prerequisite: Japanese 202 or equivalent. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

036-204. Intermediate Japanese Ms. Kanagy

Continuation of Japanese 203. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

036-300. Readings in Japanese Staff

Readings and discussions based on Japanese literary, cultural and social texts. Prerequisite, Japanese 204 or equivalent. Three hours per week. *Three semester hours.*

036-314. Japanese Culture and Society
See East Asian Studies.

088-SPANISH

Spanish majors are required to take at least 30 semester hours in Spanish above the 200 level. Majors must select a variety of courses in order to create a balance between language, literature, and civilization in their programs. Spanish 305, 306, at least one 400 level course in Spanish, History 101, 102 are required. Majors must select at least two courses from the following: Anthropology 211, Politics 100, 242, 252, 344, 355, 357, Fine Arts 311, 312, Music 211 and 212, advanced history, Interdisciplinary Studies 332. It is strongly recommended that all majors study a second language through the intermediate level. Students preparing for graduate study should elect the following courses: English 203, 204, 214, 220, Latin 101, 102, 203, 204 and two 300 level courses in a second language. In the senior year, majors must pass a comprehensive examination.

088-101. Elementary Spanish Staff

An introduction to Spanish language and grammar with particular emphasis on comprehension, speaking, reading, and writing. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

088-102. Elementary Spanish Staff

Continuation of Spanish 101. Three hours per week plus one hour of language laboratory. *Three semester hours.*

088-110. Elementary Spanish in Review Staff

A review of elementary Spanish with particular emphasis on comprehension, speaking, reading and writing. This course is designed for students with some background in Spanish and prepares them for Spanish 203. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

NOTE: A student may not receive credit for Spanish 101 or 102 and Spanish 110.

088-203. Intermediate Spanish Staff

A review of grammar, conversation and vocabulary development, writings and discussions based on cultural, social and literary selections. Prerequisite, Spanish 102 or equivalent. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

088-204. Intermediate Spanish Staff

Continuation of Spanish 203. Three hours per week plus one hour of language laboratory per week. *Three semester hours.*

088-208. Spanish for the Health Professions Staff

Continuation of Spanish 203. This course is designed for students interested in medicine and related health services. Grammar review, vocabulary development, conversation and readings. Prerequisite, Spanish 203 or permission of the instructor. This course may be used toward fulfillment of the language requirement. Three hours per week plus one hour of language laboratory. *Three semester hours.*

088-300. Summer Study in Mexico Staff

A three-week course of study and travel in Mexico directed by members of the Ursinus College faculty. Offered annually, in August. Prerequisite, Spanish 204, 208 or equivalent, or permission of instructor. *Three semester hours.*

088-305. Introduction to Spanish Literature Dr. Eaton

Study of major literary works and genres of Spain from the Middle Ages through the 20th century with special attention given to the literature of the Golden Age, the Generation of 1898, and the post-Civil War period. Prerequisite, Spanish 204 or equivalent. Three hours per week. *Three semester hours.*

088-306. Introduction to Latin American Literature Dr. Eaton

Study of major trends in Latin American literature from the Colonial period through the 20th century with emphasis on Latin America's progress toward artistic and literary independence from European models. Prerequisite, Spanish 204 or equivalent. Three hours per week. *Three semester hours.*

088-313. Spanish Civilization and Culture Dr. Espadas

A study of Spain from pre-Roman to the present times. Spain's contribution to Western Civilization and its role in world affairs will be explored through its art, literature and thinkers. Prerequisite, Spanish 204 or equivalent. Three hours per week. *Three semester hours.*

088-314. Latin American Civilization and Culture Dr. Cameron

A study of Latin America from pre-Columbian to the present times. Latin America's contribution to world civilization and its role in world affairs will be explored through its art, literature and thinkers. Prerequisite, Spanish 204 or equivalent. Three hours per week. *Three semester hours.*

088-315. Conversation and Composition Dr. Cameron

Practice in oral elements of the language, written composition, and grammar. Topics relating to Hispanic culture and society will be emphasized. Prerequisite, Spanish 204 or equivalent. Three hours per week. *Three semester hours.*

088-316. Conversation and Composition Dr. Cameron

Continuation of Spanish 315. Three hours per week. *Three semester hours.*

088-318. Commercial and Economic Spanish Dr. Cameron

Introduction to the economic situation, business organization and commercial practices of the Hispanic world. Prerequisite, Spanish 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

***088-325. Advanced Conversation** Dr. Espadas

This course is designed for the perfection of conversational skills through discussion on a wide range of topics related to Hispanic life and contemporary society as presented in newspapers and magazine articles. Prerequisite, Spanish 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

***088-326. Advanced Composition** Dr. Espadas

This course is designed for the development of advanced critical writing skills in Spanish through class discussion and composition assignments based on contemporary Spanish and Latin American writings and issues. Prerequisite, Spanish 315, 316 or permission of the instructor. Three hours per week. *Three semester hours.*

029-332. Latin American Studies Staff

See under Interdivisional Studies.

088-381. Internship Staff

An off-campus academic/work experience under the supervision of an internship advisor and an on-site supervisor. Contact the chairman of the department for further details. Prerequisite, junior standing, nine credits in Spanish, and approval of a faculty internship advisor. Eight to ten hours per week. *Three semester hours.*

088-409. Contemporary Hispanic Novel Dr. Cameron

Study of the 20th century Spanish and Latin American novel. Prerequisite, Spanish 301, 302. Three hours per week. *Three semester hours.*

***088-410. Literature of the Golden Age** Dr. Espadas

Study of representative writers of 16th and 17th century Spain. Prerequisite, Spanish 301, 302 or permission of the instructor. Three hours per week. *Three semester hours.*

***088-411. Cervantes** Dr. Cameron

Study of Cervantes, prose with an emphasis on the *Novelas ejemplares* and *Don Quijote*.

**This course is not offered in 1988-1989.*

PA. GERMAN STUDIES

Prerequisite, Spanish 301, 302 or permission of the instructor. Three hours per week.
Three semester hours.

088-412. Hispanic Poetry Dr. Espadas

A study of the representative poets of Spain and Latin America. Prerequisite, Spanish 301, 302. Three hours per week. *Three semester hours.*

***088-428. Advanced Grammar**

Dr. Espadas

Basic linguistic principles as applied to phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite, Spanish 316 or permission of the instructor. Three hours per week. *Three semester hours.*

088-451, 452, 453. Advanced Seminar in Hispanic Studies

Staff

Study of topics in Hispanic literature and culture. Recent topics have included: the

picaresque in Hispanic literature; the literature of the Spanish Civil War; myth, legend and the fantastic in Latin American Literature. Future topics will be determined according to interest and announced in advance.

Prerequisite, Spanish 305, 306 or permission of the instructor. Three hours per week.
Three semester hours.

088-491. Research/Independent Work

Staff

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. Prerequisite, a minimum of six semester hours of 300 or 400 level courses and the permission of the department chairman. *Three semester hours.*

088-492. Research/Independent Work

Staff

A continuation of course 491. Prerequisite, course 491 and permission of the department chairman. *Three semester hours.*

MUSIC

See Fine Arts

058-PENNSYLVANIA GERMAN STUDIES

Professors Snyder, Assistant Professor Gallagher.

The purpose of Pennsylvania German studies is to examine the origins and values of the Pennsylvania Germans (or Pennsylvania Dutch), their history, customs, arts and folklore. The program aims to increase awareness of cultural aspects of the Pennsylvania Germans; to foster appreciation of their folk culture in comparison with the *Volkskunst* or folklife studies of other peoples; and to preserve the dialect and other folk remains. Facilities of Myrin Library, the Pennsylvania German studies archives and southeastern Pennsylvania offer special opportunities for study and research. Selections from these courses are offered during the summer session. Particulars may be found in the Summer School catalog.

A minor in Pennsylvania German studies consists of Pennsylvania German Studies 201, 202 and 12 additional credits.

**This course is not offered in 1988-1989.*

***058-201. Pennsylvania German Culture
Staff**

A study of the history, language and culture of the Pennsylvania Germans, their influence on American life and contributions to the American scene in 17th & 18th centuries. Readings, lectures, discussion and folk performances on campus. Three hours per week. *Three semester hours.*

***058-202. Pennsylvania German Culture
Staff**

Study of the history, language and culture of the Pennsylvania Germans in 19th & 20th century America, the diaspora, and status of women among the Pennsylvania Germans. Three hours per week. *Three semester hours.*

***058-305. Pennsylvania German Music
Staff**

Folk songs of German origin and from Pennsylvania. Formal music by composers of Pennsylvania German origin. Three hours per week. *Three semester hours.*

***058-306. Pennsylvania German Art
Staff**

Pattern, symbolism and content in Folk Art. Formal painters of Pennsylvania German origin. Three hours per week. *Three semester hours.*

**058-307. Pennsylvania German Folklife
Staff**

Classroom study and field techniques related to the folklore, folklife, and folk culture of the Pennsylvania Dutch country. Three hours per week and field trips. *Three semester hours.*

***058-308. Pennsylvania German Crafts
Staff**

History and theory of eighteenth century occupational and domestic crafts of the Pennsylvania Germans. Three hours per week. *Three semester hours.*

***058-310. The Pennsylvania Germans
and Religion Staff**

An examination of the varieties of religious denominations and institutions of these persons, attitudes toward religion, as well as the transition to 20th century religious forms. Three hours per week. *Three semester hours.*

***058-311. Pennsylvanisch Deutsch: The
Dialect Dr. Snyder**

A study of the dialect language of the Pennsylvania Germans. Basic of the oral language and its written variations. Three hours per day. *Three semester hours.* Summer only.

***058-312. Pennsylvanisch Deutsch: The
Dialect Dr. Snyder**

Continuation of PGS 311. Three hours per day. *Three semester hours.* Summer only.

***058-313. Pennsylvania German Prose
and Poetry Dr. Snyder**

Works of 19th and 20th century dialect authors, poets and playwrights, *Iwwersetzung* ins Deutsch. Prerequisite: PGS 311, 312, or German 203, 204, or evidence of competence in the dialect. Three hours per day. *Three semester hours.* Summer only.

Study of *Pennsylvanisch Deutsch* will not fulfill the College general requirement of language for graduation.

****058-421, 422, 423, 427, 428.****Seminars Visiting Lecturers**

Topics on the life, culture, customs and values of the Pennsylvania Germans. Individual topics supervised and directed by professors and specialists. Research and folk culture interviews, panels or workshops. Topics for each summer to be announced by preceding January 31. *One semester hour each.*

**This course is not offered in 1988-1989.*

***This course offered only in summer 1988.*

060-PHILOSOPHY AND RELIGION

Professor Hardman, (Chair); Lecturer Young

The department of philosophy and religion seeks to encourage the student's practical appreciation and facile use of the tools of philosophy, to cultivate his informed awareness and critical appraisal of philosophical perspectives, and to give him opportunity for a scholarly and appreciative study of historic as well as contemporary religious insights. In this manner the department strives to translate into the terms of today's academic interests the traditional roles both disciplines have played in liberal education.

The offerings of the department are open to all students, but will be of special interest to pre-theological students, prospective teachers in the fields of philosophy, religion and ethics, and all of those interested in the general humanities.

Requirements for Majors

Majors must take thirty-six hours of work within the department including Philosophy 101, 102, 105; Religion 201, 202; and Philosophy 403, 404, which are required. Each major is also encouraged to earn a minor in another field of study, or to elect 18 hours of coursework in an area of concentration which will broaden his or her skills and interests, e.g. literature, the classics, the arts, and the social sciences.

Requirements for Minors

A minor concentration in philosophy consists of Philosophy 101, 102, 105 and three of the following: 103, 104, 106, 108, 109, 110, 301, 302, 303, 311, 314.

A minor concentration in religion consists of Philosophy 101, 102, 201, 202, and two of the following: 110, 203, 204, 207, 209, 303, 311, 312.

060-101. History of Ancient and Medieval Philosophy

Dr. Hardman and Staff

A survey of the evolution of reflective thought in the Western World from Thales to Descartes. Philosophy 101 is open to all students. Three hours per week. *Three semester hours.*

060-102. History of Modern Philosophy

Dr. Hardman and Staff

A survey of developing reflective thought in the Western world, beginning with Descartes

and including several representative modern philosophers. Philosophy 102 is open to all students. Three hours per week. *Three semester hours.*

***060-103. General Problems of Philosophy**

Staff

A study designed to orient the student with reference to perennial problems of philosophical inquiry. Intensive use is made of primary sources. (Alternates with Philosophy 109.) Three hours per week. *Three semester hours.*

**This course is not offered in 1988-1989.*

060-104. Contemporary Philosophy**Staff**

A study of late 19th century and twentieth century philosophers and trends in philosophic thought beginning with Nietzsche and Moore. Intensive use is made of primary sources. (Alternates with Philosophy 108.) Three hours per week. *Three semester hours.*

060-105. Introductory Logic**Mrs. Young**

A study of the guiding principles involved in correct thinking: the function of language; definition; fallacious forms of reasoning as they receive expression in daily life; the nature of deductive argument forms; an introduction to the use of symbols. Three hours per week. *Three semester hours.*

060-106. Advanced Logic**Mrs. Young**

A study of symbolic logic with reference to truth functions, rules of inference, proof of validity, and quantification; inductive argument as a crucial component of inquiry in the natural sciences; a critical analysis of the presuppositions of scientific method. Three hours per week. *Three semester hours.*

060-108. Aesthetics*Staff**

An examination of the canons of beauty and art to supply a background for evaluation of specific works of literature, painting, sculpture, music and architecture. (Alternates with Philosophy 104.) Three hours per week. *Three semester hours.*

060-109. Ethics**Staff**

A study of the principles of moral judgment, with exposition and criticism of the more important theories concerning the basic distinction between right and wrong conduct; the various problems of theoretical and practical ethics. (Alternates with Philosophy 103.) Three hours per week. *Three semester hours.*

060-110. Philosophy of Religion**Staff**

A philosophical analysis of religious beliefs with particular attention devoted to the

validity of religious language and knowledge and the questions of the natures of God and man, of miracles, evil, morality and immortality. Three hours per week. *Three semester hours.*

060-201. History and Anthropology of Religion: the Western Setting**Dr. Hardman**

A systematic examination of the phenomenology of religion, its personal, social, psychological and cultural manifestations in history with special attention to Judaism, Islam and Christianity. Three hours per week. *Three semester hours.*

060-202. History and Anthropology of Religion: the Eastern Setting**Dr. Hardman**

A systematic examination of the phenomenology of religion, its personal, social, psychological and cultural manifestations in history with special attention to the Oriental religions. Three hours per week. *Three semester hours.*

060-203. Introduction to the Literature of the Bible: Old Testament**Dr. Hardman**

Foundations of the Judaeo-Christian tradition in the literature and thought of the Old Testament. Emphasis is placed both on the biblical materials themselves and on the varying methodologies of Old Testament interpretation. Three hours per week. *Three semester hours.*

060-204. Introduction to the Literature of the Bible: New Testament**Dr. Hardman**

A study of the Judaistic background of the New Testament, the life and times of Jesus, the emerging Church, and relevant literature. Three hours per week. *Three semester hours.*

060-207. History of the Christian Church**Dr. Hardman**

A study of the development of the Christian Church from the apostolic period to modern times, with a view to understanding the nature and extent of its contribution to

**This course is not offered in 1988-1989.*

PHILOSOPHY AND RELIGION

society. (Alternates with Religion 209.) Three hours per week. *Three semester hours.*

***060-209. Literature and Religious Ideas** **Dr. Hardman**

An analysis of the significant themes common to works of imaginative literature exploring the interrelation of religion and artistic creativity. Attention will be given to Camus, Eliot, Faulkner, Kazantzakis, Waugh, etc. (Alternates with Religion 207.) Three hours per week. *Three semester hours.*

***060-301. Epistemology** **Staff**

A critical study of the theories of truth, belief, perception, understanding, and the important concepts involved in the characterization, analysis, and appraisals of classic and contemporary discussions of human knowledge. Three hours per week. *Three semester hours.*

***060-302. Philosophy of Science** **Staff**

An examination of the nature of scientific method and scientific theory, with reference to presuppositions, inference, explanation, prediction, application and verification. Three hours per week. *Three semester hours.*

060-303. Selected Topics

Content for the course will be drawn from either philosophy or religion, concentrating on special issues, movements and leaders in both areas. Three hours per week. *Three semester hours.*

060-311. Seminar in Religion **Dr. Hardman**

The directed study of a given topic in religion as it relates to the vital issues of our time. Prerequisite, departmental permission. Three hours per week. *Three semester hours.*

060-311A Philosophy and Religion

***060-311B Topic for 1988-1989**

060-312. Seminar in Religion **Dr. Hardman**

The directed study of a given topic in religion as it relates to the vital issues of our time.

Prerequisite, departmental permission. Three hours per week. *Three semester hours.*

060-312A Contemporary Theology

***060-312B Topic for 1988-1989**

060-314. Seminar in Biomedical Ethics **Staff**

An examination of ethical decision-making procedures available to health care professionals who face dilemmas caused by acute medical problems and the technological advances in the delivery of health care. Opportunity is given to apply decision-making processes to the major issues in biomedical ethics. Students present papers exploring a dilemma, its empirical and evaluative elements, and proposing an ethical resolution. Prerequisite, permission of the department. Limited to 20 students. Three hours per week. *Three semester hours.*

060-403. Senior Seminar: Current Issues and Movements in Philosophy **Dr. Hardman and Staff**

A study of contemporary thinkers and schools of thought in philosophy, making use of lectures, discussions, research papers, and the like. Open only to philosophy and religion majors except with departmental permission. Three hours per week. *Three semester hours.*

060-404. Senior Seminar: Current Issues and Movements in Religion **Dr. Hardman and Staff**

A study of contemporary theological and institutional trends in religion, making use of lectures, discussions, research papers, and the like. Open only to philosophy and religion majors except with departmental permission. Three hours per week. *Three semester hours.*

060-491. Research/Independent Work **Staff**

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

**This course is not offered in 1988-1989.*

060-492. Research/Independent Work

Staff

A continuation of Research 491. Prerequisite,
Research 491. *Three semester hours.*

065-PHYSICS

*Professors Snyder (Chair), Takats; Associate Professor Nagy;
Lecturers Bloom, Ronning*

The courses in physics are designed to give the student an understanding of the logic and structure of physics. Methods of analysis and presentation of concepts and ideas are emphasized. Laboratory work demonstrates the dependence of physical theory on experimentation.

Requirements for Majors

Students majoring in physics must take the following courses: Chemistry 111, 112; Math 111, 112, 211, 212; Physics 111, 112, 203, 203a, 204, 207, 208, 207a, 208a, 315, 316, and at least six additional hours of credit in physics at the 200, 300, or 400 level. These courses comprise the Tier II Core Specialization in physics.

Students anticipating graduate study in physics should also take Math 235, 311, 312 and Physics 309, 310, 401, 404. These courses plus the core specialization comprise the Tier II advanced specialization in physics.

Students majoring in physics who are preparing to teach in secondary schools must take Biology 101, 102 or 111, 112; Chemistry 111, 112; Math 111, 112, 211, 212; Physics 103, 104, 111, 112, 203, 203a, 204, 207, 208.

Requirements for Minors

A minor concentration in physics consist of Physics 111, 112, 204 and a minimum of nine credits at the 200, 300 or 400 level.

A minor concentration in astrophysics consists of Physics 111, 112, 204, 301, 302, and a minimum of three credits of seminar from the following topics: planetary science, cosmology, celestial mechanics, observational techniques.

Students in the pre-engineering program take Chemistry 111, 112; Math 111, 112, 211, 212, 271; Physics 111, 112, 204, 207, 208. Additional courses in chemistry, mathematics, and physics are chosen in consultation with the pre-engineering advisor. The courses are determined by the particular field of engineering the student plans to enter.

PHYSICS

***065-101. Introduction to Physics Staff**

A survey of classical physics with emphasis on the structure and intellectual development of physics as well as its application to everyday life. Concepts of motion, force, and energy. Prerequisite, knowledge of trigonometry. Two hours lecture and two hours laboratory per week. *Three semester hours.*

***065-102. Introduction to Physics Staff**

Continuation of Physics 101, following the development of physics to the 20th century. Concepts of waves, light, electromagnetism, atomic and nuclear physics. Prerequisite, 065-101. Two hours lecture and two hours laboratory per week. *Three semester hours.*

A student may receive credit for only one of the two general physics sequences: Physics 101, 102, or 111, 112.

065-103. Introduction to Astronomy

Dr. Nagy

A survey emphasizing the methods and discoveries of modern astronomy. Historical astronomy, motions of the earth, observational astronomy, stars. Prerequisite, ability to perform basic algebraic operations. Two hours lecture and two hours laboratory per week. *Three semester hours.*

065-104. Introduction to Astronomy

Dr. Nagy

Continuation of Physics 103. Stellar evolution, galaxies, cosmology, the origin and evolution of the solar system. Prerequisite, 065-103. Two hours lecture and two hours laboratory per week. *Three semester hours.*

065-111. General Physics Staff

A study of elementary mechanics and thermodynamics, utilizing the principles of calculus in the presentation and in exercises. Math 111 must either be previously completed or studied concurrently. Three hours of lecture, and three hours of laboratory per week. *Four semester hours.*

065-112. General Physics Staff

A continuation of Physics 111. A study of waves, sound, electricity, magnetism, and

light. Prerequisite, Physics 111. Math 112 must either be previously completed or studied concurrently. Three hours of lecture, and three hours of laboratory per week. *Four semester hours.*

065-203. Mechanics I Dr. Snyder

Vectors, statics, vector calculus, kinematics of a particle, dynamics of a particle, energy, harmonic motion, moving reference systems, central forces. Prerequisites, Physics 111, 112; Math 111, 112. Three hours per week. *Three semester hours.*

065-203a. Laboratory in Mechanics I

Dr. Snyder

Laboratory work (optional) for Physics 203. Three hours per week. *One semester hour*

065-204. Electricity and Magnetism I Dr.

Takats

Electrical forces, electric fields and potentials, capacitance, conductors, D-C circuits, magnetic fields, inductance, A-C circuits, electric and magnetic fields in matter. Prerequisite, Physics 111, 112; Math 111, 112. Three hours lecture and three hours laboratory per week. *Four semester hours.*

065-205. Waves

Dr. Nagy

Introduction to the general phenomena of wave motion. Oscillations, traveling waves, modulation, polarization, interference, diffraction, geometric optics. Prerequisite, Physics 111, 112. Three hours lecture and three hours laboratory per week. *Four semester hours.*

065-207. Modern Physics Dr. Takats

Classical waves and particles, wave-particle duality, elementary theory of the hydrogen atom, atomic spectra, and electron distribution. Prerequisites, Physics 111, 112; Math 111, 112. Three hours per week. *Three semester hours.*

065-207a. Laboratory in Modern Physics

Dr. Snyder

Laboratory work (optional) for Physics 207. Three hours per week. *One semester hour.*

This course is not offered in 1988-1989.

065-208. Modern Physics Dr. Takats

A continuation of Course 207. Special relativity, elementary particle physics, nuclear physics. Prerequisite, Physics 207. Three hours per week. *Three semester hours.*

065-208a. Laboratory in Modern Physics**Dr. Snyder**

Laboratory work (optional) for Physics 208. Three hours per week. *One semester hour.*

065-301. Introduction to Astrophysics*Dr. Nagy**

The celestial sphere, celestial mechanics, the motions of the earth, the solar system, the Earth-Moon system, the Sun, stellar distances and magnitudes, binary stars, spectral classification, and the Hertzsprung-Russell diagram. Prerequisites, Physics 111, 112. Three hours per week. *Three semester hours.*

065-302. Introduction to Astrophysics*Dr. Nagy**

The Milky Way Galaxy, stellar motions, the structure and evolution of stars, variable and unusual stars, the interstellar medium, extragalactic objects, cosmology. Prerequisite, Physics 301. Three hours per week. *Three semester hours.*

065-309. Electricity and Magnetism II*Dr. Takats**

Electric and magnetic fields and potentials, Laplace's equation, dielectrics and magnetic materials, Maxwell's equations, electromagnetic waves. Prerequisites, Physics 204; Math 211, 212. (Alternates with 401.) Three hours per week. *Three semester hours.*

***065-310. Mechanics II Dr. Snyder**

Dynamics of a system of particles, mechanics of rigid bodies, general motion of a rigid body, Lagrange's equations, Hamilton's equations, theory of vibrations. Prerequisites, Physics 203, Math 211, 212. Three hours per week. *Three semester hours.* (Alternates with 404.)

065-315. Elements of Mathematical Physics Dr. Snyder

Introduction to selected concepts and techniques of theoretical physics. Complex

numbers, matrices, eigenvalues, vector algebra, vector calculus, Fourier series, calculus of variations, gamma, beta and error functions. Prerequisites, Math 211, 212; Physics 111, 112. Three hours per week. *Three semester hours.*

065-316. Elements of Mathematical Physics Dr. Snyder

Continuation of Physics 315. Coordinate transformations tensors, series solutions of differential equations, Legendre polynomials, Bessel functions, orthogonal functions, integral transforms, partial differential equations. Prerequisite, Physics 315. Three hours per week. *Three semester hours.*

065-317. Seminar Staff

Study and discussion of advanced topics or recent developments in physics. Among topics offered are relativity and astrophysics. Students must consult the chairman of the department before registering for this course. Three hours per week. *Three semester hours.*

065-318. Seminar Staff

Same description as Physics 317. Three hours per week. *Three semester hours.*

065-401. Introductory Quantum Mechanics Dr. Takats

Eigenvalues and eigenfunctions; probability density, expectation values, and operators; the Schrodinger equation in one and three dimensions; the hydrogen atom; perturbation theory; identical particles, spin. The course is open to fourth-year chemistry, mathematics, and physics majors and to qualified third-year students having the consent of the instructor. (Alternates with 309.) Three hours per week. *Three semester hours.*

065-404. Thermodynamics Dr. Snyder

Primarily classical thermodynamics with a brief introduction to statistical aspects. Temperature, laws of thermodynamics, work, heat, energy, entropy, thermodynamic potentials, kinetic theory of dilute gases, equations of state. Prerequisites, Physics 111, 112; Math 211, 212. Three hours per week. *Three semester hours.* (Alternates with 310.)

**This course is not offered in 1988-1989.*

POLITICS

065-411. Research Staff
Investigations, of experimental or theoretical nature, pursued independently by the student. The preparation of a summarizing report is required. To register for this course a student must have the consent of a member of the physics staff to serve as his adviser. *One semester hour.*

065-412. Research Staff
Continuation of Physics 412. *One semester hour.*

065-421. Research Staff
Continuation of Physics 411, but more extensive in scope. *Two semester hours.*

065-422. Research Staff
Continuation of Physics 421. *Two semester hours.*

065-491. Research/Independent Work Staff
This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

065-492. Research/Independent Work Staff
A continuation of Physics 491. Prerequisite, Physics 491. *Three semester hours.*

070-POLITICS

Professor Berry, (Chair); Assistant Professors Bennett, Fitzpatrick, Hood, Kane.

The general objectives of the department of politics are:

- 1) To help students attain knowledge of the theory and practice of politics.
- 2) To help students develop the faculties of expression and critical thinking.
- 3) To challenge students to evaluate their conceptions of the good life for the individual and for society.
- 4) To prepare students for lives of enlightened and responsible citizenship.

The professional objectives are:

- (1) To prepare students for graduate work in political science, law, and public service.
- (2) To prepare students for examinations required for governmental service.
- (3) To prepare students to be political leaders.

Requirements for Majors

A major in politics requires Politics 100, 218, 237, 242, 252, one seminar at the 400 level, plus four additional courses for a total of 30 semester hours. In addition, nine semester hours in history; six semester hours in another social science; and Math 170 or Math 241 or Philosophy 106 are required for the major.

Secondary School Teaching Certificate

This program satisfies the Pennsylvania State requirements for secondary school certification in social science-social studies emphasis. In addition to the basic requirements of the major, students seeking a teaching certificate must have a registered minor in education. Substantial further course work outside of politics and education is required in order to prepare the student for actual subject matters taught in the secondary curriculum. Students who wish teaching certification should consult their departmental adviser and the chair of the department of education as early as possible, preferably at the end of the freshman year. Students and their advisers should also consult the education department booklet, *Ursinus College Teacher Education Programs (April 1987)*.

Requirements for Minors

A minor in politics consists of Politics 100; two courses from among Politics 218, 237, 242, 252; and three courses at the 300 or 400 level for a total of 18 semester hours.

070-100. Politics and Government

Dr. Bennett, Dr. Berry,
Dr. Fitzpatrick, Dr. Hood

Great works in political behavior, comparative institutions, methodology, international politics, and political theory create the framework for explaining politics and conducting basic research. Three hours per week. *Three semester hours.*

070-218 American Government

Dr. Fitzpatrick

A critical examination of the institutions, processes, policies, and underlying principles of the American political system. Topics include the Constitution, interest groups, parties and elections, the presidency, Congress, the bureaucracy, and the judiciary. Prerequisite, Politics 100. Three hours per week. *Three semester hours.*

070-237. Classical Political Theory

Dr. Bennett

An exploration of Western world views and their implications, focusing on tragic, reason-centered, and Christian conceptions of self and politics. Readings will include Aeschylus, Sophocles, and Euripides; Plato and Aristotle; and Augustine and other early Christian thinkers. Prerequisite, Politics 100. Three hours per week. *Three semester hours.*

070-242. Comparative Politics

Dr. Hood

The structures and functions of governments and political groups will be compared to develop basic theory. Representative Western, Third World, and Communist systems will be studied. Prerequisite, Politics 100. Three hours per week. *Three semester hours.*

070-252. International Politics

Dr. Berry

General theory, simulations, games, and case studies explain the relation between states and the roles of politics, individuals, and international law and organizations in the making and resolving of conflict. Prerequisite, Politics 100. Three hours per week. *Three semester hours.*

070-310. Congress and the Presidency

Dr. Fitzpatrick

The decision-making process in Congress and the executive branch with emphasis on the interaction of the branches in their struggle to make and apply policy. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-321. Constitutional Interpretation I

Dr. Fitzpatrick

The role of the Supreme Court in the interpretation and enforcement of the

POLITICS

Constitution is examined through analysis of leading cases. Judicial review, powers of Congress and the President, and the division of powers between the national and state governments are among the topics considered. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-322. Constitutional Interpretation II Dr. Fitzpatrick

The role of the Supreme Court in the interpretation and enforcement of individual rights within a system of limited government. Substantive and procedural due process, freedom of expression and conscience, and equal protection of the law are among the topics considered. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-323. American Local Government Staff

The structure, policies, politics, and problems of local government institutions in the American Federal system. Intergovernmental relations, citizen participation policy development, leadership, and service performance are all considered. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-324. Political Parties and Elections Dr. Fitzpatrick

An examination of the evolution of the American two-party system and the increasingly-volatile nature of the American electorate. Topics include the dynamics of party realignment, the changing characteristics of the American voter, the politics of presidential selection, and the consequences of party and electoral reform. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-325. The Judicial Process Dr. Fitzpatrick

Proceeding from the idea that the judicial process is essentially a political process, this course will examine the ways in which participants in the judicial process—particularly judges—reach decisions, engage in politics, and affect public policy. Prerequisite, Politics 218. Three hours per week. *Three semester hours.* (Offered alternate years)

070-328. Law and Society Dr. Kane

A study of the origins, objectives, and manifestations of law in the United States political system. The case method of analysis is used to identify the salient features of the major classes of law and to evaluate the judicial procedures and institutions by which law is applied in the United States. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-329. Public Administration Dr. Kane

A survey of the field of public administration, emphasizing administrative organization, fiscal management and personnel management. The administrative process is considered as a unit encompassing Federal, state and local administration. Prerequisite, Politics 218. Three hours per week. *Three semester hours.*

070-330. American Political Theory Dr. Bennett

Thinkers such as Roger Williams, Thomas Paine, James Madison, Ralph Waldo Emerson, Hannah Arendt, and Robert Dahl will be studied to explore the themes of piety, revolution, democracy, individualism, and capitalism as they have found expression in American political thought from the 17th century to the present. Prerequisite, Politics 237. Three hours per week. *Three semester hours.*

070-338. Modern Political Theory Dr. Bennett

A study of conceptions of self, government, nature, knowledge, freedom, and dissent advanced by thinkers such as Machiavelli, Hobbes, Rousseau, Hegel, Mill, and Nietzsche. Prerequisite, Politics 237. Three hours per week. *Three semester hours.*

070-339. Issues in Contemporary Theory Dr. Bennett

An exploration of one issue of contemporary political concern from a theoretical perspective. The issue selected will vary: liberalism, politics and literature, Marxism, politics and gender. Prerequisite, Politics 237. Three hours per week. *Three semester hours.*

070-344. Political Development**Dr. Hood**

An analysis of political change in developed and less-developed countries, focusing on the various theories used to explain socio-economic and political conditions, and development strategies among several political systems in the international community. Prerequisite, Politics 242. Three hours per week. *Three semester hours.*

070-346. Japanese Politics**Dr. Hood**

Focus on 20th century Japanese politics. Examines the major issues, events, institutions and trends of the modern Japanese political experience. Prerequisite, Politics 242. Three hours per week. *Three semester hours.*

070-347. Chinese Politics**Dr. Hood**

Focus on the government and politics of 20th century China. Will examine issues, events, personalities and policy trends of the modern Chinese political experience. Prerequisite, Politics 242. Three hours per week. *Three semester hours.*

070-353. International Relations of Asia**Dr. Hood**

An examination of the foreign and international policies of the major countries of East Asia. Special emphasis is given to the politics of international trade and economics, war and security issues, and the role of the super-powers in the East Asian region. Prerequisite, Politics 252. Three hours per week. *Three semester hours.*

070-355. U.S. Foreign Policy**Dr. Berry**

Works of scholars and statesmen analyze the process and substance of recent foreign policy. Attention is paid to the capabilities of presidents, the influence of Congress and public opinion, and the organization and function of the National Security Council. Prerequisite, Politics 252. Three hours per week. *Three semester hours.*

070-357. War and Revolution**Dr. Berry**

Various theories of international conflict will be tested by way of a series of case studies on 20th century wars and revolutions. The Inter-Nation Simulation will be played using a

historical or hypothetical conflict to further test theories. Prerequisite, Politics 252. Three hours per week. *Three semester hours.*

070-381. Internship in Politics and Government**Staff**

Internship in a public or governmental organization or participation in an overseas study program. An 81.67 grade average and permission of the department are required. *Three semester hours.*

070-418. Seminar in American**Government Dr. Fitzpatrick**

Intensive study of a special topic in American government emphasizing original research and substantial oral and written work. Prerequisite, junior or senior status and one 300 level course in American Government. Three hours per week. *Three semester hours.*

070-420. Topics in Law and Politics**Staff**

An occasional course dealing with special subject areas or events. *Three semester hours.*

070-437. Seminar in Political Theory**Dr. Bennett**

Intensive study of a special topic in political theory emphasizing original research and substantial oral and written work. Prerequisite, junior or senior status and one 300 level course in political theory. Three hours per week. *Three semester hours.*

070-442. Seminar in Comparative Politics**Dr. Hood**

Intensive study of a special topic in comparative politics emphasizing original research and substantial oral and written work. Prerequisite, junior or senior status and one 300 level course in comparative politics. Three hours per week. *Three semester hours.*

070-452. Seminar in International Politics**Dr. Berry**

Intensive study of a special topic in international politics emphasizing original research and substantial oral and written work. Prerequisite, junior or senior status and one 300 level course in international politics. Three hours per week. *Three semester hours.*

070-491. Research/Independent Work Staff

This course is open to candidates for departmental honors and to other students with the permission of the department chair. *Three semester hours.*

070-492. Research/Independent Work Staff

A continuation of course 491. Prerequisite, Politics 491. *Three semester hours.*

075-PSYCHOLOGY

Professor Fago, (Chair); Associate Professors Chambliss, Rideout; Assistant Professor Richardson; Lecturer McMahon

The objectives of the department of psychology for the student are 1.) to familiarize the student with the general methods of behavioral research; 2.) to familiarize the student with the various content areas of psychology; 3.) to develop an appreciation of the interplay of theory and research in psychology; and 4.) to develop the ability for critical, analytic and independent thinking in the realm of behavioral science.

A student meeting these objectives is prepared not only for graduate work in psychology and the other behavioral sciences, but also for study in other areas and professions as well as employment in a wide variety of industrial, business, and governmental positions. Also attainable is Pennsylvania certification for secondary school teaching in social science with an emphasis in psychology. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Programs (November 1987)*.

In order to meet these objectives, the psychology curriculum is divided into four components: major core, ancillary courses, major concentration, minors. These are explained individually below.

A. Major Core

This is required of all psychology majors. It consists of a basic set of courses required of all majors, and four content areas from each of which the student must select one course.

1. Required: Psychology 101, 102, 111, 112, 210.
2. Content areas: each student must select one course from each content area. a. Experimental: Psychology 335, 336, 351, 352 b. Developmental/Personality: Psychology 333, 334, 437, 438 c. Social/Applied: Psychology 246, 315, 409, 440 d. Research/Theory: Psychology 441, 442, 444, 491, 492
3. Two additional elected courses.

B. Ancillary Courses

Required of all majors

1. Biology 101, 102, or 111, 112
2. Math 171 or 271
3. Math 241
4. Six credit hours in Anthropology or Sociology.

C. Major Concentration

This is not required but rather intended for the student who plans to pursue graduate study in psychology or related fields.

1. Math 242
2. Psychology 441 or 442, 491, or 492 (beyond the course taken as part of the major core).
3. Three electives from departmental offerings at the 300-400 level.

D. Minor Concentrations

A minor concentration in general psychology consists of Psychology 101 and 111, or 102 and 112; 210 or 409; one course in experimental psychology chosen from 335, 336, 351, or 352; one course in developmental/personality psychology chosen from 333, 334, 437 or 438; one course in social/applied psychology chosen from 246, 315, 409, or 440.

A minor concentration in human behavioral development consists of Psychology 101 and 111, or 102 and 112; 223, 334, 417, 437.

A minor concentration in neuroscience consists of Biology 317 and 318; Psychology 210, 335 and 336; and either Psychology 441 or 442 (approved topic applicable to the neurosciences), or Biology 481 or 482 (approved topic applicable to the neurosciences), or Biology 422. Psychology 337 is recommended but not required.

075-101. Introductory Psychology Staff

A survey of the basic biological and environmental influences on the psychological processes. Emphasis will be on areas such as physiological correlates of behavior, the senses, and learning. Three hours per week. *Three semester hours.*

Psychology majors will take this course in conjunction with Psychology 111. This course may not be taken by students who have completed Psychology 100 in the Evening School.

075-102. Introductory Psychology Staff

This course surveys the more complex psychological and environmental determinants of individual behavior. Specific topics include the normal personality, abnormality, social behavior, work, and problems of scientific measurement. Three hours per week. *Three semester hours.*

Psychology majors will take this course in conjunction with Psychology 112. This course

may not be taken by students who have completed Psychology 100 in the Evening School.

075-111. Introductory Psychology Laboratory Staff

Designed primarily for psychology majors, the laboratory provides basic experience with the research methods and procedures utilized in the content areas covered in Psychology 101. Prerequisite, major in psychology or permission of the instructor. Two hours per week. *One semester hour.*

075-112. Introductory Psychology Laboratory Staff

Designed primarily for psychology majors, the laboratory provides basic experience with the research methods and procedures of the content areas covered in Psychology 102. Prerequisite, major in psychology or permission of the instructor. Two hours per week. *One semester hour.*

PSYCHOLOGY

075-108. Mental Health and Abnormal Psychology Dr. Chambliss

The problems of mental health are treated under the following topics: The dynamics of human behavior, normal and abnormal reactions to frustration and conflict.

Psychological, organic and social causes of poor mental health. The roles played by the home, the school and society in mental health. Additional topics include psycho-neuroses and functional psychoses, epilepsy, drug addiction and alcoholism. Methods of prevention and treatment of mental illness are discussed. This course is given from the point of view of preventive mental hygiene. Prerequisite, Psychology 101 or 102. Three hours per week. *Three semester hours.*

075-210. Experimental Psychology Dr. Rideout

This course is designed to familiarize the student with principles of experimental design, statistical techniques, and laboratory methods used in psychology. Lectures, demonstrations, data collection, and the preparation of scientific reports. Prerequisites, Psychology 101 or 102, Psychology 111, Math 241, or permission of instructor. Three hours lecture, two hours laboratory per week. *Four semester hours.*

075-223. Educational Psychology—Learning Dr. Richardson

Contemporary learning theory for teachers. The course takes an information-processing approach to cognition, and includes such topics as concept formation, problem solving, memory, and attention. Educational applications will be stressed. (The same course as 223 under Education.) Prerequisite, Psychology 101 or 102. Three hours per week. *Three semester hours.*

075-224. Educational Psychology—Growth and Development Dr. Richardson

The nature of development of the psychological processes from the prenatal period through adolescence. (The same course as 224 under Education.) Prerequisite, Psychology 101 or 102. Three hours per week. *Three semester hours.*

075-246. Psychology in the Community Dr. Chambliss

Applications of psychological theory, research methods, and empirical findings to community programs dealing with contemporary social problems, such as crime and delinquency, racial prejudice, mental illness, drug addiction, poverty and other forms of deprivation. Prerequisites, Psychology 101 or 102. Three hours per week. *Three semester hours.*

***075-311. History and Theories of Psychology** Dr. Fago

A study of the more important findings and theories contributing to the development of modern scientific psychology. Prerequisite, Psychology 101 or 102. Three hours per week. *Three semester hours.*

075-315. Psychology in Industry Dr. Richardson

Applications of psychology to industry: employee and job ratings, aptitudes and skills, work methods, training programs, fatigue, safety, attitudes, morale, interviewing and counseling. Human relations problems are emphasized using the case method and role playing. (Alternates with 417.) Prerequisites, Psychology 101 or 102; Math 241. Three hours per week. *Three semester hours.*

075-333 Adolescent Psychology Dr. Fago

A review of physical and psychological development during the adolescent period. The topics covered will include physical and sexual development, cognitive development, personality development, sex roles and gender identity, and social development. Prerequisite, Psychology 101 or 102. Three hours per week. *Three Semester Hours.*

075-334. Child Psychology Dr. Fago

A study of human growth and development from conception to adolescence. Theories and research will be reviewed in the context of the development of the various psychological processes, such as perceptual, linguistic, and cognitive development. Prerequisites, Psychology 101 or 102. Three hours per week. *Three semester hours.*

**This course is not offered in 1988-1989.*

075-335. Behavioral Neurosciences**Dr. Rideout**

A study of the structure and function of the vertebrate nervous system, particularly of the neural substrates of behavior. Topics include evolutionary, anatomical and physiological approaches to the nervous system and behavior. Some emphasis will be placed on topics in sleep research and in cerebral lateralization of function. May be taken in conjunction with Psychology 337.

Prerequisites, Psychology 101 or 102; Biology 101 or 111; or by permission of the instructor. Three hours per week. *Three semester hours.*

075-336. Sensation and Perception**Dr. Rideout**

The nature of the fundamental sensory processes will be explored with emphasis on vision and audition. Theory and experiments bearing on significant perceptual phenomena will be surveyed from both physiological and behavioral viewpoints. Prerequisites, Psychology 101 or 102, Psychology 210.

Three hours of lecture, two hours of laboratory per week. *Four semester hours.*

075-337. Neurosciences Laboratory**Dr. Rideout**

A study of nervous system structure and function using the basic anatomical, physiological, and behavioral methods of the neurosciences. Topics include gross and microscopic neuroanatomy, electrophysiological recording, techniques of stereotaxic surgery, and experimental interventions in the central nervous system.

Corequisites, Psychology 335 and permission of the instructor. Two hours per week. *One semester hour.*

075-341. Readings in Psychology Staff

Individual study of one or more selected topics in the psychological literature, and preparation of an annotated bibliography or a detailed proposal for subsequent research. To register for this course, the student must have the consent of a member of the psychology staff to serve as adviser. *One semester hour.*

075-342. Readings in Psychology Staff

Content and prerequisites as in Psychology 341, but offered in the spring term. *One semester hour.*

075-351. Learning and Motivation**Dr. Fago**

A review of learning theory, past and contemporary. Emphasis will be on the basic processes of classical conditioning and instrumental learning, the phenomena associated with these processes, and the development of learning theory in response to experimentation. Lectures, individual experimentation and the preparation of scientific reports. Prerequisites, Psychology 101 or 102, and 210. Three hours lecture, two hours laboratory per week. *Four semester hours.*

075-352. Cognitive Psychology Dr. Fago

A review of contemporary research and theory dealing with human mental processes. Topics covered include attention, pattern recognition, structure of memory, memory processes, and language acquisition. Prerequisites, Psychology 101 or 102, and 210. Three hours lecture, two hours laboratory per week. *Four semester hours.*

075-381. Psychology Internship**Dr. Chambliss**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact Dr. Chambliss for further information.

Prerequisite, junior standing, nine credits in Psychology, and approval of a faculty internship adviser. Eight to ten hours per week. *Three semester hours.*

075-409. Educational and Psychological Tests and Measurements**Dr. Richardson**

An introductory survey of the field of measurement in psychology and education; main features of the techniques of testing and test construction; types of tests and scales; evaluation; interpretation; use. Prerequisites, Psychology 101 or 102; Math 241. Two hours of lecture, two hours of laboratory per week. *Three semester hours.* (The same course as 409 under Education.)

075-437. Personality Dr. Chambliss

A comprehensive survey of psychological theory and research dealing with the normal aspects of human nature. The psychoanalytic, trait, humanistic, and behavioral perspectives will be explored. Includes experiential

PSYCHOLOGY

introduction to computer-assisted analytical techniques. Prerequisites, Psychology 101 or 102, 108, and 224 or 334. Three hours per week. *Three semester hours.*

075-438. Psychopathology and Psychotherapy Dr. Chambliss

Clinical and experimental approaches to the understanding and treatment of psychosis, anxiety disorders, and related conditions. Selected topics are studied intensively to illustrate the wide variety of contemporary viewpoints and techniques. Includes experiential introduction to computer-assisted analytical techniques. Prerequisites, Psychology 101 or 102, 108, and 224 or 334. Three hours per week. *Three semester hours.*

075-440. Social Psychology

Dr. Richardson

A study of group action and of the group influences by which the individual is surrounded; tradition, custom, public opinion and other psychological and social forces which affect individual judgment and action. Prerequisite, Psychology 101 or 102 and 223 or 351 or 352. Three hours per week. *Three semester hours.*

075-441. Research

Staff

Investigations of an experimental, clinical or theoretical nature pursued independently by the student. The preparation of a scientific report is required. To register for the course a student must have the consent of a member of the psychology staff to serve as his or her adviser. *Three semester hours.*

075-442. Research

Staff

Content and prerequisites as in Psychology 441, but offered in the spring term. Students who have been admitted to the course and who have fulfilled its requirements may be awarded departmental honors, but no additional semester hours of credit, if they have qualified in other ways for admission to the honors program. *Three semester hours.*

075-444. Seminar in Psychology

Staff

A seminar intended to familiarize the student with the current trends and special topics in theoretical and applied psychology. Emphasis will be given to the preparation and presentation of papers on selected topics which will vary from year to year. Open to third- and fourth-year students majoring in psychology. Three hours per week. *Three semester hours.*

075-491. Research/Independent Work

Staff

This course is open to candidates for departmental honors and to other students with the permission of the department chairman. *Three semester hours.*

075-492. Research/Independent Work

Staff

A continuation of Psychology 491. Prerequisite, course 491. *Three semester hours.*

RELIGION

See Philosophy and Religion

SPANISH

See Modern Languages

SPECIAL INTERDIVISIONAL OFFERINGS

012-College Scholars' Program

Guided independent study for qualified freshmen in their second term, sophomores and juniors. Each course is credited as three semester hours. (See The Ursinus Plan for details.)

012-211. Languages Dr. Espadas and
012-212 Divisional Tutors
012-213

012-221. Humanities Dr. DeCatur and
012-222 Divisional Tutors
012-223

012-231. Social Sciences Dr. Rideout
012-232 and Divisional Tutors
012-233

012-241. Natural and Physical Sciences
012-242 Mrs. Shinehouse and
012-243 Divisional Tutors

029-Interdivisional Studies

029-100. Natural Science Perspectives
Staff

A survey of scientific thinking from Atomos to the modern views of matter in atomic, astronomic, electronic and biological thinking. The course is designed primarily for the non-scientist to meet the criticism that society is developing dual cultures. Lectures are presented by a variety of science and non-science faculty. Three hours per week. *Three semester hours.*

029-301. Women's Studies
Interdisciplinary Course Staff

An interdisciplinary course to promote an awareness and understanding of men's and women's potential and options in our society. Readings and lectures will explore such topics as women in history, gender and gender roles, women and society, women's place in the working world, in legal and religious institutions. Weekly lectures, case studies, tutorials and independent research. Open to upperclass students. Three hours per week. *Three semester hours.*

029-332. Latin American Studies Staff

An interdivisional approach to the study of Latin America. The development of the history, politics, society and literature of Latin American nations will be examined. Readings will be selected from the works of major intellectual figures and writers. Emphasis will be on the 20th century. Weekly lectures, tutorials and independent research topics. Open to upperclass students. Open to Spanish majors, but does not fulfill Spanish language requirements. Three hours per week. *Three semester hours.*

029-350. Human Sexuality
Dr. Allen, Dr. Chambliss

A study of the development and expression of human sexuality through the ages and through the lifespan of the individual. Alternate orientations, variances and sexual dysfunctions, disorders and diseases are also considered. Prerequisites, Biology 101, 102 or 111, 112 and Psychology 101, 102; or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

029-401. Senior Symposium Staff

The Senior Symposium is an elective course designed to encourage seniors from all departments to apply their accumulated knowledge to some of the major problems of the age. It is hoped that open discussion of current movements, ideas and values will help the students to move with a greater degree of confidence and usefulness in the world after graduation and will result in individual participation and involvement in the issues of their time. The Symposium, therefore, will deal with meanings and values as well as facts. Independent readings and periodic conferences with a tutor, with emphasis on the contemporary world. Open only to seniors. *Three semester hours.*

COMBINED MAJORS

029-402. Community and Civilization Staff

An interdisciplinary comparative studies program that examines the interdependence of values and institutions of the modern world. Students will be asked to discover the forces favoring continuity and change in values and institutions in an attempt to find the parameters of future developments. In addition to a weekly lecture, there will be tutorials, independent research and case studies in the form of disputations. Open to third- and fourth-year students. Three hours per week. *Three semester hours.*

030-World Literature

030-201. Western Literature Staff

Critical reading of selected representative works from Western literature. Three hours per week. *Three semester hours.*

030-202. Western Literature Staff

A continuation of World Literature 201. Prerequisite, Course 201. Three hours per week. *Three semester hours.*

*030-203. Chinese Literature Dr. DeCatur

Critical reading of selected representative works from Chinese literature in modern translations. Three hours per week. *Three semester hours.*

*030-204. Japanese Literature Dr. DeCatur

Critical reading in Japanese poetry, novels, short stories and essays in modern translations. Three hours per week. *Three semester hours.*

COMBINED MAJORS

052-Applied Mathematics/Economics

Students majoring in applied mathematics/economics must take the following mathematics courses: 111, 112, 211, 235, 241, and 271. They must also take the following economics courses: 100, 251, 252 and either 351 or 352.

All majors must take Math 464, Mathematical Economics, offered jointly by the departments of mathematics and computer science and economics and business administration.

The student must choose at least two advanced courses each from at least two of the following three areas: (A) Math 242, 341, 342, 461. (B) Math 272, 371, 372, 373, 374, 471, 472. (Note: Math 236 is a prerequisite for 371, 372, 373, and 374.) (C) EcBA 315, 463. (Note: EcBA 242 is a prerequisite for 463.)

Economics courses will not satisfy the Tier I social science requirement. Physics 111, 112, although not required for the major, may be elected to satisfy the Tier I science requirement. Advanced courses shown above that are not chosen to satisfy requirements are recommended as electives.

074-INTERNATIONAL RELATIONS

See page 110.

SUGGESTED FIRST-YEAR PROGRAMS

Academic advisers help students decide what courses to take each year to satisfy course requirements within each of the TIERS. Shown below are typical course selections of freshmen in the major programs.

BIOLOGY (B.S.)*First Year (Plan CMB)*

TIER I	
English Composition 101, 102	6
Foreign Language	6
Physical Education 110	1/2
Physical Education Activities Courses (optional)	1 1/2
TIER II	
Biology 111, 112	8
Chemistry 111, 112	8
Math 111, 112	6
TIER III	0
TIER IV	0
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	36

First Year (Plan CMP)

TIER I	
English Composition 101, 102	6
Foreign Language	6
Physical Education 110	1/2
Physical Education Activities Courses (optional)	1 1/2
TIER II	
Chemistry 111, 112	8
Physics 111, 112	8
Math 111, 112	6
TIER III	0
TIER IV	0
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	36

CHEMISTRY (B.S.)

TIER I	
English Composition 101, 102	6
Foreign Language	6
Physical Education 110	1/2
Physical Education Activities Courses (optional)	1 1/2
TIER II	
Chemistry 111, 112	8
Physics 111, 112	8
Math 111, 112	6
TIER III	0
TIER IV	0
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	36

CLASSICAL STUDIES (B.A.)

TIER I	
English Composition 101, 102	6
History 101, 102	6
Physical Education 110	1/2
Physical Education Activities Courses, optional	1 1/2
TIER II	
Greek 101, 102	6
Latin 101, 102 or 203, 204 or 304, 305	6
TIER III	0
TIER IV	0
Elective	6
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	32

COMMUNICATION ARTS (B.A.)

TIER I	
English Composition	6
Science	6
Social Science	6
Foreign Language	6
Humanities	6
H & PE	2
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	32

**ECONOMICS AND BUSINESS
ADMINISTRATION (B.A.)**

TIER I	
English Composition	6
Science	6
Foreign Language	6
Math 101, 102, or 111	6
Physical Education 110	1/2
Physical Education Activities Courses (optional)	1 1/2
TIER II	
EcBA 100	3
TIER III	0
TIER IV	3
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	32

SUGGESTED PROGRAMS

ENGLISH (B.A.)

TIER I	
English Composition 101, 102	6
Humanities	6
Science	6
Foreign Languages	6
Social Science	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	0
TIER III	0
TIER IV	0
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	32

HEALTH, PHYSICAL EDUCATION AND RECREATION (B.S.)

TIER I	
English Composition 101, 102	6
History 101, 102	6
Foreign Language	6
Biology 101	3
Chemistry 101, 102 or	
Physics 101, 102	6
TIER II	
Physical Education 131, 132.....	6
Physical Education Activities	4
TIER III	0
TIER IV	0
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	37

HISTORY (B.A.)

TIER I	
English Composition 101, 102	6
Science or Mathematics	6
Foreign Language	6
Social Science	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	0
History 101, 102	6
TIER III	0
TIER IV	0
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	32

MATHEMATICS (B.S.)

TIER I	
English Composition 101, 102	6
Foreign Language	6
Humanities or Social Science	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	
Math 111, 112	6
Physics 111, 112	8
TIER III	0
TIER IV	0
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	34

MODERN LANGUAGES

French (B.A.); German (B.A.); Spanish (B.A.)

TIER I	
English Composition 101, 102	6
History 101, 102	6
Science	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	
Foreign Language 203, 204	
or higher	6
Other language or Social	
Science	6
TIER III	0
TIER IV	0
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	32

PHILOSOPHY AND RELIGION (B.A.)

TIER I	
English Composition 101, 102	6
Foreign Language	6
Science	6
Social Science	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	
Philosophy 101, 102.....	6
TIER III	0
TIER IV	0
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	32

PHYSICS (B.S.) AND PRE-ENGINEERING

TIER I	
English Composition 101, 102	6
Foreign Language	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	
Chemistry 111, 112.....	8
Math 111, 112.....	6
Physics 111, 112.....	8
TIER III	0
TIER IV	0
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	36

POLITICAL SCIENCE (B.A.)

TIER I	
English Composition 101, 102	
History 101, 102	6
Science.....	6
Foreign Language	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	
Political Science 100; 200,218, 237, 242, or 252.....	6
TIER III	0
TIER IV	0
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	32

PSYCHOLOGY (B.S.)

TIER I	
English Composition 101, 102	6
Foreign Language.....	6
Math 101, 102 or 171, 241	6
Biology 101, 102	6
Physical Education 110	1/2
Physical Education Activities	
Courses (optional).....	1 1/2
TIER II	
Psychology 101, 102, 111, 112	8
TIER III	0
TIER IV	0
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	34

PREPARATION FOR PUBLIC SCHOOL TEACHING:

Students and their advisers should consult the education Department Booklet, (*Ursinus College Teacher Education Programs [Nov. 1987]*)

Directory

BOARD OF DIRECTORS

	<i>First Elected</i>	<i>Term Expires</i>
JOAN D. AIKENS, B.A., Washington, D.C.	1985	1990
ROBERT B. ANDERSON, B.S., M.S., Dallas, Texas	1972	1992
LILLIAN ISENBERG BAHNEY, B.A., LL.D., Myerstown	1951	1991
JAMES H. BAIRD, B.S., M.S. Sc.D., Wilmington, Delaware	1979	1989
RUSSELL C. BALL, JR., B.S., LL.D., Paoli	1968	1988
C. EUGENE BLUM, B.A., B.D., D.D., York	1950	1990
DAVID A. CORNISH, A.A., Collegeville	1986	1991
JOHN E.F. CORSON, B.A., Plymouth Meeting	1983	1988
JAMES G. CROUSE, B.S., M.S., Royersford	1980	1990
THOMAS G. DAVIS, B.S., M.D., Radnor	1980	1990
PAUL L. DOUGHTY, B.A., Ph.D., Gainesville, Fla.	1987	1992
NANCY JEANNE TALCOTT EVEREST, B.A., A.M., Yardley	1981	1991
THOMAS P. GLASSMOYER, B.A., LL.B., LL.D., Willow Grove	1956**	1992
CAROL K. HAAS, B.A., Ph.D., Seaford, Del.	1987	1992
ROBERT F. HARTMAN, B.A., Valley Forge	1986	1991
PETER HAVENS, B.A., M.B.A., Rosemont	1985	1990
WILLIAM F. HEEFNER, B.A., LL.B., LL.D., Perkasio	1969***	1990
ALEXANDER LEWIS, JR., B.S., M.S., Ph.D., Sc.D., Pittsburgh	1972	1992
SHELDON E. MACKKEY, B.A., B.D., D.D., LL.D., Exton	1960	1991
GEOFFREY MARSHALL, B.A., M.A., Ph.D., East Windsor, N.J.	1986	1991
LOUIS N. MCCARTER, B.S., Malvern	1984	1989
BETTY UMSTAD MUSSER, B.A., Villanova	1982	1992
DONALD E. PARLEE, B.S., M.D., Doylestown	1983	1988
GLADYS PEARLSTINE, B.S., Collegeville	1984	1989
HENRY W. PFEIFFER, B.S., M.S., Chatham, N.J.	1978	1988
ROBERT POOLE, B.S., M.D., West Chester	1985	1990
CARL A. POSSE, Bryn Mawr	1979	1989
ROBERT A. REICHLEY, B.A., LL.D., Providence, R.I.	1987	1992
J. PERMAR RICHARDS, JR., L.H.D., Bryn Mawr	1978	1988

** Did not serve 1968-1969

*** Did not serve 1979-1980

RICHARD P. RICHTER, B.A., M.A., LL.D., Collegeville	1976	1991
JACK W. ROBBINS, B.A., LL.B., Fort Washington	1984	1989
JOHN C. SHETLER, A.B., B.D., Th.M., D.D., Collegeville	1976	1991
MARILYN L. STEINBRIGHT, B.S., LL.D., Norristown	1975	1990
ELIOT STELLAR, A.B., M.S., Ph.D., Sc.D., Ardmore	1979	1989
ALBERT E. TESKE, B.A., B.D., D.D., East Greenville	1984	1989
WILLIAM G. WARDEN, B.A., Newtown Square	1982	1992
ROY WENHOLD, B.S., M.D., Abington	1968	1988

LIFE MEMBERS

THOMAS J. BEDDOW, B.A., J.D., LL.D., Tequesta, Fla.	1958*	1985
RALPH CONNOR, B.S., LL.D., Sc.D., Sun City, Ariz.	1971	1980
WILLIAM ELLIOTT, LL.D., Jupiter, Fla.	1964	1984
MILLARD E. GLADFELTER, A.B., A.M., Ph.D., Sc.D., LL.D., D.H.L., D.C.L., L.H.D., Litt.D., Jenkintown	1967	1987
HENRY P. LAUGHLIN, M.D., SC.D., SC.S.D., B.S. Union Bridge, Md.	1967	1977
WILLIAM S. PETTIT, B.S., M.S., Sc.D., Naples, Fla.	1970	1984
WILLIAM R. ROBBINS, B.S., West Hartford, Conn.	1971	1986
CHARLES V. ROBERTS, B.S., Drexel Hill	1956	1985
DAVID M. SCHMID, B.S., Norristown	1971	1986
THEODORE R. SCHWALM, LL.D., Lancaster	1963	1983
E. EUGENE SHELLY, B.S., LL.B., LL.D., York	1971**	1987
L. G. LEE THOMAS, S.B., L.H.D., LL.D., Bryn Mawr	1976	1986
JOHN H. WARE, 3RD, B.S., LL.D., Oxford	1975	1984
HARLESTON R. WOOD, B.A., LL.D., Gladwyne	1956	1984

* Did not serve 1968-1969

** Did not serve 1981-1982

COMMITTEES OF THE BOARD OF DIRECTORS

(President Richter is appointed ex officio to all committees with voice and vote.)

ATHLETICS: PFEIFFER, CHAIR; Bahney, Baird, Cornish, Haas, Richards, Teske, Wenhold.

BUDGET: DAVIS, CHAIR; Anderson, Baird, Crouse, Glassmoyer, Heefner, Mackey, McCarter.

BUILDINGS AND GROUNDS: WARDEN, CHAIR; Baird, Ball, Cornish, Everest, McCarter, Poole, Shetler, Teske.

DEVELOPMENT: HEEFNER, CHAIR; Baird, Cornish, Corson, Crouse, Davis, Glassmoyer, Hartman, Mackey, Musser, Parlee, Pfeiffer, Poole, Posse, Reichley, Richards, Warden.

EXECUTIVE: (Officers of the Corporation) GLASSMOYER, CHAIR; Heefner, Pfeiffer, Steinbright. (Committee chairs) Davis, Stellar, Warden, Baird, Corson, Wenhold. (At Large) Hartman.

FINANCE: HEEFNER, CHAIR; Aikens, Crouse, Havens, Lewis, Posse, Richards, Jack Robbins.

GOVERNMENT AND INSTRUCTION: STELLAR, CHAIR; Anderson, Davis, Doughty, Glassmoyer, Heefner, Marshall, Musser, Pearlstine, Jack Robbins, Reichley, Shetler.

HONORARY DEGREES: STELLAR, CHAIR; Baird, Davis, Glassmoyer, Heefner.

LIBRARY: WENHOLD, CHAIR; Aikens, Cornish, Everest, Mackey, Pearlstine, Steinbright, Teske.

LONG-TERM PLANNING: BAIRD, CHAIR; Blum, Davis, Haas, Havens, Lewis, McCarter, Poole, Warden.

NOMINATING: CORSON, CHAIR; Blum, Crouse, Glassmoyer, Parlee, Poole, Posse, Musser.

OTHER: Representatives to Campus Life Committee: Cornish; Musser; Shetler.

OFFICERS OF THE CORPORATION

President: THOMAS P. GLASSMOYER, Willow Grove

Vice-President and Treasurer: WILLIAM F. HEEFNER, Perkasia

Secretary: HENRY W. PFEIFFER, Chatham, N.J.

Assistant Secretary: MARILYN L. STEINBRIGHT, Norristown

The Administration

RICHARD P. RICHTER, M.A., LL.D., *President*

Administrative Officers

WILLIAM E. AKIN, Ph.D., *Dean of the College*

J. HOUGHTON KANE, J.D., *Dean of Student Life*

JOHN R. VAN NESS, Ph.D., *Vice President for College Relations*

NELSON M. WILLIAMS, *Vice President for Business Affairs*

Administrative Staff

BLANCHE Z. ALLEN, A.A., *Administrative Assistant, College Communications*

MARGARET M. BAER, B.B.A., *Supervisor for Development Computer Operations*

PATRICIA L. BENES, M.S., *Development Research/Writer*

BARBARA A. BORIS, B.S., *Registrar*

STERLING R. BROWN, M.Ed., *Assistant Director of Athletics*

A. BRUCE CHAMBERLIN, B.A., *Admissions Counselor*

MONA S. CHYLACK, A.B., *Assistant to Vice President for Business Affairs*

JUDITH H. CLAYCOMB, R.N., *Nurse*

ELIZABETH L. DAVIDSON, B.B.A., *Assistant to Vice President for Business Affairs*

ROBERT R. DAVIDSON, Ed.D., *Director of Athletics*

STEPHANIE WRIGHT DENSON, B.A., *Admissions Counselor*

MARY ELLEN DEWANE, B.A., *Director of Alumni Affairs*

INGRID L. EVANS, M.A., *Director of Development*

JANEEN A. FLAMER, B.A., *Admissions Counselor-Minority Student Counselor*

CATHY L. GARRICK, M.A., *Assistant Director of Student Activities/Resident Director*

DOMINIC E. GONZALEZ, M.D., *Physician*

KATHERINE D. HAGER, M.A., *Director of Student Activities*

R. JEFFREY HARP, M.C.S., *Assistant Director of Academic Computing*

EVA J. HESS, M.Ed., *Director of Student Financial Aid*

CHARLES A. JAMISON, M.L.S., *Library Director*

GARY E. JOHNSON, B.A., *Assistant Director of Admissions*

MARGARET DILLON KATZ, B.A., *Assistant Director of Admissions*

FREDERICK L. KLEE, B.S., *Director of Physical Facilities*

M. SCOTT LANDIS, M.Div., M.A.P.C., *Campus Minister*

JANIS L. LANGE, B.A., *Assistant to the Dean of Continuing Education*

ANNETTE V. LUCAS, Ph.D., *Assistant Dean of the College*

JANET S. LUFT, *Purchasing Coordinator*

JOHN C. MAERZ, M.D., *Physician*

- W. BRIAN McCULLOUGH, M.S.W., *Director of Security*
BRUCE J. MENKOWITZ, M.D., *Orthopedic Surgeon*
C. JOSEPH NACE, M.B.A., *Dean of Continuing Education*
DEBORAH O. NOLAN, M.A., *Director of Residence Life/Assistant Dean of Student Life*
BEVERLY A. OEHLERT, B.S., M.A., M.S., *Counselor*
MICHELLE G. QUINLAN, B.S., *Coordinator of Continuing Studies*
DAVID B. RAIBLE, B.A., *Associate Director of Development*
JILL L. RANDOLPH, M.A., *Director of Annual Giving*
CARLA MOLLINS RINDE, M.S.Ed., *Director of Career Planning and Placement*
JAMES B. ROBSON, M.Ed., *Assistant Director of Residence Life/Resident Director*
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LISA E. TREMPER, M.A., *Muriel M. Berman Director, Art Center*
NANCY A.M. VILLEGAS, B.A., *Admissions Counselor*
RICHARD J. WHATLEY, M.S., *Associate Dean of Student Life; Assistant Director of Athletics*
BETTE H. WHITE, R.N., *Nurse*
SARAH H. WIDMAN, B.A., *Editor*
LORRAINE R. ZIMMER, B.A., *Director of Admissions*

The Faculty 1987-1988

President of the College

- RICHARD PAUL RICHTER, M.A., LL.D.,
B.A., Ursinus College; M.A., University of Pennsylvania; LL.D., Ursinus College.

Emeriti

- EVERETT MARTIN BAILEY, M.A., Sc.D., *Professor of Health and Physical Education, Emeritus*
B.P.E., B.S., Springfield College; M.A., Columbia University; Sc.D., Ursinus College.
- DONALD GAY BAKER, Ph.D., *Professor of Greek, Emeritus*
B.A., Haverford College; M.A., Ph.D., Harvard University.
- ROBERT VICTOR COGGER, Ph.D., *Professor of Education, Emeritus*
B.A., State University of New York at Albany; M.A., Ph.D., Yale University.
- JAMES PRESSLEY CRAFT, Ph.D., *Professor of Political Science, Emeritus*
B.S., U.S. Naval Academy; M.S., Massachusetts Institute of Technology; Ph.D., University of Pennsylvania.
- ALFRED L. CREAGER, B.D., D.D., *Professor of Religion, Emeritus*
B.S., Ursinus College; B.D.; Lancaster Theological Seminary; D.D., Ursinus College.
- JAMES DOUGLAS DAVIS, M.A., *Professor of History, Emeritus*
B.A., Ursinus College; M.A. University of Pennsylvania.

- GEOFFREY DOLMAN, M.A., *Professor of English, Emeritus*
 B.A., M.A., University of Pennsylvania.
- RICHARD MUMMA FLETCHER, Ph.D., *Professor of Psychology, Emeritus* B.S., Ursinus College; M.Ed., Temple University.
 B.A., Franklin and Marshall College; Ph.D., Pennsylvania State University.
- RAYMOND VICTOR GURZYNSKI, M. Ed., *Professor of Health and Physical Education, Emeritus*.
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Scholarships: Pilgrim, ch.; Allen, E. Hess, Novack, Richter, Wailgum, Zimmer

Student Activities: Hager, ch.; Chlad, Eaton, Garrick, Hager, Hardman, Kane, Landis, Randolph, F. Shaw, Thelen; Michele Litner, Noelle Rontondo, Lisa Gilmore

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Parents' Day: Hager, ch.; Boyd, DeWane, Kruse, Randolph, Rideout, Robson, Whatley; Ginny Nelson, Michele Litner

Student Publications: Lionarons, ch.; Bowers, Cobbs, Hager, Harris, Malone, Miller, Tannenbaum, Volkmer; students TBA

Teacher Education: O'Brien, ch.; Bowers, BreMiller, Davidson, DeCatur, S. R. Doughty, Dungan, Espadas, Fago, Fields, Fitzpatrick, Fryer, Hankel, Shelton, Snyder, R. Staiger, Wickersham; Tracy Hitchner

Special Committees with Academic Functions

College Scholars: Wickersham, ch.; Gallagher, Lionarons, Shinehouse

Committees to which faculty elect members

Academic Council: Akin, ch.; Clark, Coleman, Fitzpatrick, Gallagher, Hall, Jamison, O'Brien, Richter, Small; Keilly Whitman, Noelle Rotondo

Advisory Committee on College Priorities: Richter, ch.; Akin, French (Perreten in spring term), J. H. Kane, Lucas, Takats (Jessup in spring term), Thelen; (also functions as *Campus Planning Group* with the inclusion of Pilgrim, Van Ness, Williams, Zimmer; Chris Harbach, Jon Verlin)

Advisory Committee on Faculty Retention Promotion and Tenure: Richter, ch.; Akin, Espadas, Lentz, Takats, Visser

Appeals Committee: Chambliss, Perreten, Shuck; administrators TBA

Campus Life Committee: Borsdorf; Jones; J. H. Kane, Landis, Nolan, O'Neill; Richardson; Laura Pietro, Megan Hamilton, Brian Finger, Lynn Leonard, Liz Young, Noelle Rotondo

Campus Investment Committee Representative: Meyer

Board Building and Grounds Committee Representatives: Hall, M. Staiger, Kane, Klee, Williams; Kim Vernon

Faculty Development: Akin, ch.; Chambliss, Jessup, Lentz, Perreten, Visser

Judiciary Board: BreMiller, ch.; Coleman, Schroeder, Tortorelli; Ben Minardi, Keilly Witman, Cheryl Fisher, Brown, Shuck, Thelen; Jeanne Radwanski, Mike Gould, Alison Smokowitz

Nominating Committee: Tortorelli, ch.; Bowers, Davidson, Fago, Lionarons, Novack, O'Neill, Shinehouse, Visser

Ad hoc committee

Ad hoc Committee on Departmental Leadership: Akin, ch; Espadas, Fields, Fitzpatrick, Jessup, Lentz, Lionarons, Snyder

Prizes, Honors, Degrees

AWARDED IN 1987

- The Alumni Senior Award—Richard Alán Hess '87, Angela Marie Salas '87
The American Chemical Society Award—Michele M. Moyer '89
The American Institute of Chemists Award—Jeanne Marie Streiber '87
The Cyrus E. Beekey Prize—Michael Harper '87
The Boeshore Prize—Frank R. Moulton, Jr. '88
The Chemistry Laboratory Technique Award—Joseph Francis Herforth '87
The CRC Press Freshman Chemistry Achievement Award—Susan Patten '90, Connie L. Newell '90
The George Ditter Prize—Linda Marie Giunta '87
The Ehret Prize—John Joseph Ginley, Jr. '87
The Edwin M. Fogel Prize—Leslie A. Roes '88
The French Award—Melissa Susan French '87
The Thomas P. and Frances T. Glassmoyer Scholastic Award—Andrew Mark Standeven '87
The Thomas Jefferson Prize—James Todd Alderfer '87, Douglas H. Prince '87
The Ronald C. Kichline Prize—Richard Alan Hess '87, Michael Stephen Griffin '87
The William L. Lettinger Chemistry Award—Jeanne Marie Streiber '87
The Elizabeth Rockefeller McCain Prize—Julie A. Cornish '89
The Merck Award—Maria Christine Pribula '87
The Professor Eugene H. Miller Prize—Melissa Susan French '87
The George E. Nietzsche Prize—Lois Joanne Groff '87
The Paisley Prize—Jerrold Bleier Hoberman '87
The Pennsylvania Institute of Certified Public Accountants—William J. Eby '87
Professor William J. Phillips Prize—Rosemary C. Chuck, ES
The Robert Trucksess Prize—Linda Marie Giunta '87
The Ursinus Women's Club Prize—Beth Ann Bingaman '87, Virginia Ann Migliore '87
The Wagman Prize—Lois Joanne Groff '87
Wall Street Journal Award—Linda Marie Giunta '87
The Professor Elizabeth B. White Prize—Charles Walter McGray '87
The Whitian Prize—Susan Patten '90

COMMENCEMENT HONORS

Valedictorian: Andrew Mark Standeven

Salutatorian: Linda Marie Giunta

Summa Cum Laude:

James Todd Alderfer	Amy Beth Kistler
Nancy Ann Emmons	Andrew Mark Standeven
Linda Marie Giunta	

Magna Cum Laude:

David F. Carroll	Robin Michele Knoblach
Paul Howard Eppley	Twila Anne Moore
Gregory Allen Fraser	Douglas H. Prince
Lois Joanne Groff	Arvind Srinivasan
Jill R. Kisloff	

Cum Laude:

Paul Charles Barone	Kimberly Sue Kester
Charles James Bellitto	Susan Beth Landis
William J. Eby	Lynn Denise Messier
Melissa Susan French	S. Bryan Ross Pollack
Bonney Boyd Gronka	Jennifer A. Suter
Michele Grzywacz	Andrew Paul Wack
Michael Harper	Eric Chandlee Wilson
Jeffrey A. Heebner	

EVENING SCHOOL HONORS

Summa Cum Laude:

Margaret Bentz Baer	Joanne E. Weinstein
David E. Schultheisz	

Cum Laude:

Elbert O. Alexanderson	Robert Lee Keeler
B. Thomas Green	Ann F. May
Keith D. Hunsberger	Katherine Elizabeth Qawasmy

DEPARTMENTAL HONORS

Biology:

James Todd Alderfer	Douglas H. Prince
---------------------	-------------------

English:

Gregory Allen Fraser	Eric Chandlee Wilson
Angela Marie Salas	

History:

Charles Walter McGray	Martin Miller
-----------------------	---------------

Mathematics and Computer Science:

Andrew Paul Wack

Psychology:

Nancy Ann Emmons

URSINUS COLLEGE CATALOG

CHAPTER SCHOLARS

James Todd Alderfer, '87
Charles James Bellitto, '87
David F. Carroll, '87
Nancy Ann Emmons, '87
Paul Howard Eppley, '87
*Linda Marie Giunta, '87
Lois Joanne Groff, '87
George Brian Holloway, '88
Jill R. Kisloff, '87

*Amy Beth Kistler, '87
Robin Michele Knoblach, '87
Frank R. Moulton, Jr., '88
Jeanne M. Radwanski, '88
Debra L. Ritter, '88
Angela Marie Salas, '87
Arvind Srinivasan, '87
*Andrew Mark Standeven, '87
Andrew Paul Wack, '87

* elected junior year

SIGMA XI CLUB

James Todd Alderfer
Joseph Francis Herforth
George Brian Holloway
Jill Ann Hunter
Kevin Carl Mange

Douglas H. Prince
Andrew Mark Standeven
Jeanne Marie Streiber
Andrew Paul Wack

DEGREES-HONORARY

Muriel Mallin Berman
Anne d'Harnoncourt
Glenn Edgar Eshbach
Ansley Coe Throckmorton

Doctor of Humane Letters
Doctor of Humane Letters
Doctor of Laws
Doctor of Divinity

FACULTY AWARDS

Lindback Award

Jeffrey W. Neslen

Professional Achievement Award

Keith J. Hardman

ASSOCIATE IN ARTS

Susan J. Lynch

ASSOCIATE-BUSINESS ADMINISTRATION

Daniel C. Allen	Cindy Lee Miller
Dawn E. Beaulieu	Joseph Robert Miller
Robert C. Boruta	Pauline R. Moran
Kay Frances Broussard	Frank H. Morott
Charles W. Brynan III	Anna Daryl (McCoy) Myers
Martin A. Burke	Anna Louise Neiffer
Bridget Mary Denshaw	Nancy Lee Nissel
Mary Grace T. Dippolito	Denise B. Nissle
Patrick R. Donovan	Alexander M. Pavloff, Jr.
Valerie J. Gable	Randy P. Pforter
Patricia A. Gibble	Kenneth W. Rudolph
Kathleen W. Johns	Roy P. Scherrer
Eleanor D. Laney	Sandra Mae Smoyer
Donna Jean Lee	Dean L. Warner
Michael J. Migdal	Gene T. Yerger

BACHELOR-BUSINESS ADMINISTRATION

Elbert O. Alexanderson	Michael William Handwerk	Darwin F. Ottolini
Margaret Bentz Bear	Robert Paul Hrasok	Carol E. Penney
James R. Baker, Jr.	Keith D. Hunsberger	Lynn E. Price
Martin Carr	Robert Lee Keeler	Katherine Elizabeth
Loretta Chen	Diane F. Martin	Qawasmy
Thomas M. Everly	Ann F. May	David E. Schultheisz
Rocio Ines Fernandez	John Greir Means III	Lance Martin Tittle
Anthony V. Gambone	Marjorie B. Milos	Joanne E. Weinstein
B. Thomas Green	Judith A. Nagy	Bonnie Jane Wilson

BACHELOR OF ARTS

John Alexander Ackerman	Roger Phillip Brewster	William J. Eby
Lauren Marie Ahlback	Thomas Michael Brown	Gregory Allen Fraser
Vincent David Ajello	Frank John Butch	David Owen Frazier
Richard Carl Alercio	Marie Louise Campanale	Melissa Susan French
Gregory Andrew Baltz	Sean J. Caplan	Raymond C. Gaspari
Mary Barattucci	David F. Carroll	Christopher A. Gay
James Francis Barnes	Michele L. Cauvin	Gwendolyn Carol Getter
Lillian Suzanne Baues	Toni Lynn Chambers	Mark Richard Gill
Matthew E. Beagle	Dean Arthur Condodina	John Joseph Ginley, Jr.
Karen Michelle Berthold	Dominic M. Conicelli	Linda Marie Giunta
Grace Marie Beston	Terence Clark Conroy	Lois Joanne Groff
Jeffrey Scott Bill	Denise Michele Coyle	Bonney Boyd Gronka
David Edward Bloom	Joel Andrew Davies	James T. Guille
Susan Emily Blumberg	Diana Lynn Delaney	John T. Haurin
James David Bonasera	Christopher Paul De Santis	Daniel F. Healy
John R. Boyle	Mary Ellen Deskins	Jeffrey A. Heebner
Tobias Donald Breder	Richard E. Dillon	Jerold Bleier Hoberman
Diane M. Brennan	Kathleen Donohue	Mary Beth Howard

URSINUS COLLEGE CATALOG

Joseph Paul James	JoAnn McSurdy	Lynne Celia Shaheen
Brian W. Jankauskas	Martin Miller	Laurie J. Smith
John W. Jones	Brian Robert Morris	Donnalee Sorenson
Michael Joseph Kalavik	Annetta Marie Morrison	Carl E. Spaeth, Jr.
Elizabeth Ann Kapczynski	J. Michael O'Malley	Rochelle Marie Stief
Lesley Frederika Katz	Barry Jay Papier	Jennifer A. Suter
Paul Carl Kazakauskas	Russell Edward Perry	Amy L. Sweet
Kimberly M. Kiester	Andrew Charles Pickel	Jennifer Susan Swezey
Jill R. Kisloff	Geoffrey Scott Pinter	John Francis Thompson
Harry Steven Kobus, Jr.	Joseph Francis Pirro	Timothy Todd Timko
Hope Lafreeda	S. Bryan Ross Pollack	Jennifer Carole Tomlinson
Lori Ann Landolfi	Joseph William Pooler	Tamra S. Trauger
John J. Langdon, Jr.	Matthew T. Proulx	Kevin C. Trayner
Sophia K. Lappas	Cynthia Kirsten Rand	Julia Lynn Turnbull
Marie A. Leahy	Susan Mary Reilly	Sally Jane Umble
Dean Michael Lent	Kurt Richard Richter	Grace C. Velasco
Karen Jill Mac Feeters	Leonard Joseph Rivera	Nancy Anne Marie Villegas
Anthony R. Maiore	Zachary J. Robinson	Richard T. Volko
Edward A. Malandro	Janis Lynn Rosenzweig	Lisa Karin Wall
Michael James Maratea	Lisa Maria Sabia	Daniel Lee Whitten
Judith Katherine Marmo	Denise Ann Sadjian	Eric Chandlee Wilson
Gary Thomas McAnaney	Angela Marie Salas	Susan Margaret Wilson
Charles Walter McGray	William B. Schneider	Jill L. Winner
William Richard McGrory	Daniel F. Scholl	Annmari Victoria Young
John Edward McGurk		James Bradford Young

BACHELOR OF SCIENCE

James Todd Alderfer	Sheri Ruth Green	John Joseph Mardi
Esma Siddiqi Ali	Michael Stephen Griffin	Loretta Marie Marion
Paul Charles Barone	Michele Grzywacz	David Scott Marsden
Wayne Bryan Bauerle	Michael Harper	John James Martino
Charles James Bellitto	Joseph Francis Herforth	Heather Ann McCreary
Beth Ann Bingham	David Benjamin Herman	Lynn Denise Migliore
Chris Raloy Brown	Richard Alan Hess	Virginia Ann Migliore
Constance M. Capriola	Lynda Mary Hobbs-Fernie	Susan Marie Mischissin
Janell Mae Cepeda	Mary Louise Hohwald	Twila Anne Moore '84
Todd Ian Cohen	Nancy L. Karkoska	Blaine Alan Moyer
Elizabeth C. Colket	Kimberly Sue Kester	Bonnie Lee Nemeth
Suzanne J. Dewane	Dong Uk Kim	Mary Elizabeth Ovack
Carolyn M. Diestler	Amy Beth Kistler	Leonard Adam Paparo
Debra A. Doleniak	Linda Anne Kloss	Hema Navin Parikh
Susan Lynn Douglas	Robin Michele Knoblach	Mayank Chhotubhai Patel
Daniel Jay Ely	Joshua Samuel Krassen	Susan Mary Pileggi
Nancy Ann Emmons	David Michael Kulp	Jeanne Marie Pinto
Paul Howard Eppley	Susan Beth Landis	Dawn Marie Plasha
Patricia Shirley Fatzinger	Dale Robert Lent	Maria Christine Pribula
Christine Marie Fedorkiw	Suzanne Angela Lessard	Douglas H. Prince
Maria Ann Fields	Francis John Lochetto	Alfred J. Prisco
George Joseph Fresolone	Karen Patricia Lohse	Kathleen M. Rauscher
William H. Furlong	Beth A. Long	Barton DeShields Reese
Gavin William Geiger	Wendy Ann Lusch	John David Reichling
William Earl Gomez	Michael Charles Lynch	Susan Margaret Reifenheiser

Roderick Mendoza Relova	Joseph Christian Sewter	Jeanne Marie Streiber
Brad Taylor Ritter	Amit B. Shah	Anne Jessica Taylor
Ann Elisa Robinson	Linda Anne Snedaker	Andrew Paul Wack
Christopher J. Ruhnke	Arvind Srinivasan	Steven Charles Wilbraham
Robert H. Russell	Andrew Mark Standeven	Carol Ann Wolbert
Donald Scott Schneider	Richard Jeffrey Stefanowicz	Amy Sarah Wolfram
Laura Joan Rideout	Gregory A. Stoeckle	Christine Ke-Fen Yao
Schroeder	Simon Jeremy Howell	Patricia Ann Yoder
Sylvia H. Schueller	Stokes	Jeffry Thomas Zern
Susan Ann Schwemmer	Suzette Marie Strauss	Gregory Charles Zwack

ALUMNI ASSOCIATION EXECUTIVE COMMITTEE – 1987-88

President:

Gregory R. Wenhold, '75, 348 W. Valley Forge Road, King of Prussia, Pa. 19406

Vice President:

Jenepher Price Shillingford, '54, 409 Oak Lane, Wayne, Pa. 19087

Secretary:

Shirley Cressman Metzger, '73, 1033 North Seventh Street, Perkasie, Pa. 18944

Faculty Representatives:

Margaret Brown Staiger, '43, 707 Chestnut Street, Collegeville, Pa. 19426

S. Ross Doughty, '68, 18 Walters Lane, Royersford, Pa. 19468

Alumni Representatives:

Jan M. Smith, '74, 1540 Buchert Road, Pottstown, Pa. 19464

Gregory R. Gifford, '81, 920 Church Street, North Wales, Pa. 19454

Betty Brown Dando, '45, 616 Bridle Road, Glenside, Pa. 19038

George E. Saurman, '50, 360 Mattison Avenue, Ambler, Pa. 19002

Sylvia Killough Kundrats, '62, 14 Clay Avenue, Quakertown, Pa. 18951

Eve. Sch. Rep.:

Ronald E. Bywaters, '76, 2508 Line Lexington Rd., Hatfield, Pa. 19440

Alumni Directors:

Donald E. Parlee, '55, 75 Foxcroft Drive, Doylestown, Pa. 18901

James H. Baird, '38, 38 Ringfield Road, Chadds Ford, Pa. 19317

Robert Poole, '50, 1008 N. New Street, West Chester, Pa. 19380

Nancy Jeanne Talcott Everest, '47, 6 Central Dr., Yardley, Pa. 19067

Carol K. Haas, '70, 98 Walnut Drive, North Shores, Seaford, Del. 19973

College Calendar For 1988-89

1988

January	18	Monday	Second Semester begins, 8:00 a.m.
January	29	Friday	Last day to add courses*
February	29	Monday	Preferred date for filing financial aid applications (F.A.F.)
March	4	Friday	Last day to drop courses without recording a failure*
March	4	Friday	Mid-semester grades due, 4:00 p.m.
March	4	Friday	Spring vacation begins, 5:30 p.m.
March	14	Monday	Spring vacation ends, 8:00 a.m.
March	21	Monday	Fall semester pre-registration begins
March	31	Thursday	Fall semester pre-registration ends
March	31	Thursday	Easter recess begins, 5:30 p.m.
April	5	Tuesday	Easter recess ends, 8:00 a.m.
April	29	Friday	Last day to file P.H.E.A.A.
May	3	Tuesday	Arbor Day
May	3	Tuesday	Last day of classes
May	3	Tuesday	Last day to drop a course
May	4	Wednesday	Reading Day
May	5	Thursday	Second semester exams begin
May	12	Thursday	Second semester exams end
May	15	Sunday	Baccalaureate service, 10:30 a.m.
May	15	Sunday	Commencement, 2:30 p.m.
May	27-29	Fri.-Sun.	Alumni Weekend
June	1	Wednesday	Summer School begins, 9:00 a.m.
June	4	Saturday	Freshman orientation
June	11	Saturday	Freshman orientation
July	28	Thursday	Summer school ends
August	25	Thursday	Faculty conference
August	27	Saturday	Freshman check-in
August	28	Sunday	Upperclass students check-in
August	29	Monday	First Semester begins, 8:00 a.m.
August	30	Tuesday	Ursinus Day Convocation, 11:15 a.m.
September	9	Friday	Last day to add courses*
September	24	Saturday	Parents' Day
October	8	Saturday	Homecoming Day
October	14	Friday	Last day to drop courses without recording a failure*
October	14	Friday	Mid-semester grades due, 4:00 p.m.
October	17	Monday	Fall holiday
October	19	Wednesday	Mid-semester grades mailed (freshmen)
October	30	Sunday	Founders' Day
November	7	Monday	Spring term pre-registration begins
November	18	Friday	Spring term pre-registration ends
November	23	Wednesday	Thanksgiving recess begins, 5:30 p.m.
November	28	Monday	Thanksgiving recess ends, 8:00 a.m.
December	7	Wednesday	Last day of classes
December	7	Wednesday	Last day to drop a course
December	8	Thursday	Reading Day
December	9	Friday	First semester examinations begin
December	16	Friday	First semester examinations end

*Note: These dates do not apply to health, physical education and recreation activities courses.

Deadlines for adding these courses are January 22, March 18, September 2, and October 24, 1988. Deadlines for dropping without recording a failure are February 10, April 8, September 21, and November 10, 1988.

College Calendar For 1988-89

1989

January	16	Monday	Second Semester begins, 8:00 a.m.
January	27	Friday	Last day to add courses*
February	28	Tuesday	Preferred date for filing financial aid applications (F.A.F.)
March	3	Friday	Last day to drop courses without recording a failure*
March	3	Friday	Mid-semester grades due, 4:00 p.m.
March	3	Friday	Spring vacation begins, 5:30 p.m.
March	13	Monday	Spring vacation ends, 8:00 a.m.
March	23	Thursday	Easter recess begins, 5:30 p.m.
March	28	Tuesday	Easter recess ends, 8:00 a.m.
March	28	Tuesday	Fall semester pre-registration begins
April	7	Friday	Fall semester pre-registration ends
April	28	Friday	Last day to file P.H.E.A.A.
May	2	Tuesday	Arbor Day
May	2	Tuesday	Last day of classes
May	2	Tuesday	Last day to drop a course
May	3	Wednesday	Reading Day
May	4	Thursday	Second semester examinations begin
May	11	Thursday	Second semester examinations end
May	21	Sunday	Baccalaureate service, 10:30 a.m.
May	21	Sunday	Commencement, 2:00 p.m.
May	26-28	Fri.-Sun.	Alumni Weekend
June	3	Saturday	Freshman orientation
June	5	Monday	Summer School begins, 9:00 a.m.
June	10	Saturday	Freshman orientation
August	1	Tuesday	Summer School ends

*NOTE: These dates do not apply to health, physical education and recreation activities courses for non-majors. Deadlines for adding these courses are January 20 and March 17, 1989. Deadlines for dropping without recording a failure are February 8 and April 7, 1989.

Index

Absences.....	42	Computer Facilities.....	17
Academic Probation.....	43	Computer Science.....	112
Acceleration.....	24	Continuing Education.....	27
Accreditation.....	7	Core Curriculum.....	49
Activities Courses.....	100	Correspondence with the College.....	2
Administration.....	151	Costs.....	28
Admission.....	22	Courses of Instruction.....	61
Admission, Notification of.....	26	Course Requirements and Options.....	52
Advanced Standing and Placement.....	24	Cultural Environment.....	7
Advisers.....	161	Degrees.....	45
Alumni Association.....	169	Degrees-Honorary.....	45
Anthropology.....	61	Departmental Honors.....	55
Applied Mathematics/Economics.....	144	Directors, Board of.....	148
Art.....	95	Directory.....	148
Associate in Business Administration.....	45,167	Dismissal.....	43
Astronomy, see Physics.....	131	Dormitories.....	17
Athletics.....	11	Early Admission.....	23
Attendance.....	42	Early Decision.....	23
Bachelor of Arts Degree.....	45,167	East Asian Studies.....	80
Bachelor of Business Administration.....	45,167	Economics and Business Administration, Courses in.....	70
Bachelor of Science Degree.....	45,168	Suggested Programs.....	145
Bills.....	28	Education, Courses in.....	86
Biology, Courses in.....	65	Educational Program.....	40
Suggested Programs.....	145	Employment, Student, Bureau of.....	36
Board Costs.....	28	Engineering Program.....	131
Board of Directors.....	148	Suggested Programs.....	147
Buildings and Grounds.....	14	English as a Second Language.....	118
Bureau of Student Employment.....	36	English, Courses in.....	90
Business Administration.....	81	Suggested Programs.....	145
Calendar, College, 1988-1989.....	170	Evening School.....	27,45
Career Opportunities.....	18	Evening School Honors.....	165
Career Planning and Placement Office.....	18	Expenses.....	28
Chapter Scholars.....	46	Extra-curricular Activities.....	11-14
Chemistry, Courses in.....	70	Faculty.....	152
Suggested Programs.....	145	Fees.....	28
Choice of Studies.....	40	Financial Aid.....	32
Class Attendance.....	42	Fine Arts, Courses in.....	95
Classical Studies, Courses in.....	75	Foreign Languages, Placement in.....	24
Suggested Programs.....	145	Foreign Students.....	47
College Advancement.....	8	Foreign Study.....	45
College Level Examination Program (CLEP).....	25	French, see Modern Languages	
College Scholar's Program.....	54	Geography, Course in.....	97
College Store.....	16	Geology, Courses in.....	98
College Year.....	7	German, see Modern Languages	
Combined Majors.....	144	Government, see Political Science Grades of Scholarship.....	43
Commencement Honors.....	46	Graduation, Requirements for.....	41
Committees, Board of Directors.....	150	Grants, Financial.....	35-38
Committees, Faculty.....	162	Greek, see Classical Studies	
Communication Arts.....	77	Gymnasiums.....	15,16
Complementary Programs.....	60	Handicapped Students.....	26
		Health, Physical Ed. and Recreation, Courses in.....	98
		Suggested Programs.....	146

- History, Courses in 104
 Suggested Programs 146
 History of Ursinus 5
 Honors 46
 Honor Societies 46
 Infirmary 10
 Insurance, Accident and Health 30
 Interdivisional Studies 143
 International Relations 110
 Internships 56
 Japanese, see Modern Language
 Japanese Studies 123
 Latin, see Classical Studies Library 15
 Loans 32-39
 Map, Campus 176
 Mathematics and Computer Science,
 Courses in 112
 Suggested Programs 146
 Matriculation 40
 Meals 11
 Medical Service and Insurance 10,30
 Mission, College 46
 Modern Languages, Courses in 116
 Suggested Programs 146
 Music, Courses in 96
 Musical Ensembles 97
 National Merit Scholarship 37
 Notification of Admission 26
 Nurse, 10
 Officers of the Corporation (Board) 148
 Officers, Faculty 166
 Organizations 12
 Part-Time Students 25
 Payments 28-33
 Pennsylvania German Studies, Courses in 126
 Philosophy, Courses in 128
 Suggested Programs 146
 Physician 10
 Physics, Courses in 131
 Suggested Programs 147
 Placement 21
 Political Science, Courses in 134
 Suggested Programs 147
 Principles, College 6
 Prizes, Honors, Degrees 45,46,47,164
 Prizes Awarded in 1987 164
 Psychology, Courses in 138
 Suggested Programs 147
 Publications 13
 Re-admission 44
 Refund Policy 32
 Registration 40
 Regulations 31
 Religion, Course in 128
 Suggested Programs 146
 Religious Life 9
 Requirements, Admission 22
 Requirements, Graduation 41
 Residence Halls 17
 Room and Meals 17
 Scholarships 32-39
 Sciences
 Concentration in Biology 65
 Concentration in Chemistry 70
 Concentration in Mathematics 110
 Concentration in Physics 147
 Senior Symposium 143
 Shipment of Belongings 18
 Sigma Xi Club 46
 Sociology, Courses in 64
 Spanish, see Modern Languages
 Special Career Interests 18-21
 Special Offerings 143
 Special Program for High School Students
 and Senior Citizens 24
 Special Students 25
 Store, College 16
 Student Activities 11-13
 Student Communications 13
 Student Center 9
 Student Employment, Bureau of 36
 Student Life 9
 Study Abroad 45
 Suggested First-Year Programs 145
 Summer School 44
 Theater 12,95
 Tiers 49-54
 Transfer Students 25
 Tuition 28
 Tuition Exchange Program 38
 Ursinus Plan, The 49
 Vocations, preparation for 18-21
 Withdrawal 41
 Work-Study Program 36
 World Literature 144
 Worship 9

URSINUS COLLEGE

The Catalog

1988-89

ADDENDUM

Requirements for Graduation

Students who matriculated prior to June 1988 must follow requirements in effect when they matriculated.

The requirements for the degree of Bachelor of Arts or Bachelor of Science for students who matriculated in or after June 1988 are:

- (1) the completion of 122 semester hours, and all the courses required by the faculty, including the courses required for a major; and
- (2) a GPA of C (2.00) or above for all courses taken at Ursinus College.

To qualify for the degree of Bachelor of Arts or Bachelor of Science and to receive a diploma from the College, not the Evening School, a student must be registered for a minimum of 60 semester hours of credit at Ursinus and must have spent a minimum of the two terms of the senior year as a full-time student, taking at least 12 credits during each of the last two semesters before graduation.

A full-time student may not take fewer than 12 semester hours of work in any one term. The normal load for a term is five courses, or 15 semester hours. Three hours above the normal maximum (18) may be scheduled with the adviser's approval; more than 18 may be scheduled with the adviser's and the dean of the College's permission, provided the student's average for the preceding term is at least 3.0. Engineering and physical education majors are an exception to this rule: they may schedule three hours more than the maximum (18) each term without special permission. Students carrying fewer than 12 hours are not permitted to remain or become residents of College residence halls.

All requirements for graduation must be satisfied before the end of the last day of examination week preceding commencement. *Each student must bear responsibility for fulfilling the requirements for graduation.*

Grades of Scholarship

Students who matriculated prior to June 1988 must follow the system in effect when they matriculated.

When a course has been completed, the standing of the student is expressed by one of the following grades: A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. Letter grades have the following equivalence assigned:

<u>grade</u>	<u>GPA</u>
A+	4.00
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0.00

The mark of W signifies that a student withdrew from the course prior to the mid-point of a course, and is not calculated into a student's average. The mark of WF signifies that a student withdrew from the course after the mid-point of the course, and is calculated into the student's average as an F (0.00).

The mark of I, which may be given only with the written permission of the dean, is reserved for cases of incomplete work, due to documented physical incapacitation or other extenuating circumstances beyond the student's control. If the mark of I is not removed within one month after the beginning of the following regular term, the grade of F will be assigned for the course.

Repeating courses

Students who matriculated prior to June 1988 must follow requirements in effect when they matriculated.

Students who matriculated in or after June 1988 may retake any course, but they shall receive credits only once for the same course. Although a course may be retaken as many times as necessary to receive a passing grade, students may repeat only once courses they passed on the initial try. All grades for courses taken at Ursinus will appear on the transcript, but the last grade earned will replace the previous grades for the purpose of calculating the GPA. Credits earned elsewhere and accepted as transfer credits will not alter the GPA or serve as a replacement grade.

Dismissal

Students who matriculated prior to June 1988 must follow requirements in effect when they matriculated.

Students who matriculated in or after June 1988 will be dismissed from the College if at the end of their first semester their GPA is below 0.67; if at the end of their second semester their GPA is below 1.33; if at the end of their third semester their GPA is below 1.67; if at the end of their fourth semester or 60 semester hours (including transfer credits), or any subsequent semester, their GPA is below 2.00. Students will also be dismissed if they achieve a semester average below C (2.00) for more than two successive semesters, regardless of their cumulative average. Exceptions to the above policy must be approved by the faculty, or by the Academic Standing Committee acting for the faculty. The action of the faculty, or the Academic Standing Committee acting for the faculty, in all cases is final. Students who have been dismissed are not eligible to take courses in the Ursinus College Evening School or in summer school at Ursinus.

Any student may be dismissed from the College for academic violations such as cheating or plagiarism, regardless of the student's academic average. Non-academic reasons for dismissal are outlined in the Student Handbook.

Academic Probation

Students who matriculated prior to June 1988 must follow requirements in effect when they matriculated.

Any students who matriculated in or after June 1988 and who have a GPA below C (2.00) at the end of any semester or who have a semester GPA below 2.00 will be placed on academic probation by the Committee on Academic Standing or by the faculty. Students on academic probation may be restricted in their extra-curricular activities. On-campus employment and Ursinus College financial aid may be restricted for a student whose average for the preceding academic year, including summer session, is below C (2.00).

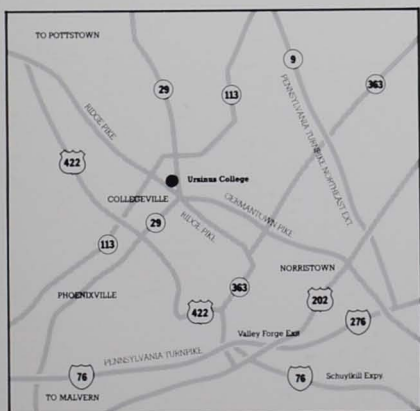


1. 732 Main Street
2. Todd Hall
3. 716 Main Street
4. Lynewood Hall
5. Schaff Hall
6. Olevian Hall
7. 624 Main Street
8. Zwingli Hall
9. Duryea Hall
10. Shreiner Hall
11. Hobson Hall
12. Fetterolf House
13. Super House
14. Trinity United Church of Christ
15. Maples Hall
16. 500 Main Street

17. Isenberg Hall
18. Marjorie T. Elliott House, President's home
19. 777 Main Street
20. Omwake Hall
21. Life Sciences Building
22. Pfahler Hall
23. Curtis Hall
24. Wilkinson Hall
25. Brodbeck Hall
26. Myrin Library
27. Bomberger Hall
28. Bookstore and English Department

29. Philip I. Berman Art Center
30. Corson Hall
31. Studio Cottage
32. Modern Languages Building
33. Sprinkle Hall
34. Maintenance Building
35. Stauffer Hall
36. Paisley Hall
37. Beardwood Hall
38. Wismer Hall
39. Reimert Complex
40. Helferich Hall

41. Ritter Center
42. 944 Main Street
43. 942 Main Street
44. Musser Hall
45. Sturgis Hall
46. Keigwin Hall
47. 476 Main Street
48. 444 Main Street
49. 424/426 Main Street
50. Utility Gym
51. Baseball diamond
52. Athletic fields
53. Effie Brant Evans hockey field
54. Clamer Hall



Ursinus College is located in Collegeville, a borough in Montgomery County, Pennsylvania, 25 miles northwest of Philadelphia and just a few miles from the Norristown and Valley Forge exits of the Pennsylvania Turnpike.