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1993-1994 Ursinus College Course Catalog

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URSINUS COLLEGE



Catalog 1993-94

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January 1993

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(215) 489-4111
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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.

1993-94 Course Catalog



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, P.O. Box 1000, Collegeville, Pennsylvania 19426-1000.

The College telephone number is (215) 489-4111. The FAX number is (215) 489-0627.

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. To assure a satisfactory visit, applicants for admission should call or write for an appointment.

Directions and maps to Collegeville are found in the back of the catalog.

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The mission of Ursinus College is to enable students to become independent, responsible, and thoughtful individuals through a program of liberal education.

That education prepares them to live creatively and usefully and to provide leadership for their society in an interdependent world.

This is Ursinus



The College in Brief

Ursinus College is an independent, four-year liberal arts college with a tradition of academic excellence from its founding in 1869 to its recent approval by the national Council of Phi Beta Kappa for a campus chapter.

Ursinus enrolls an average of 1,100 full-time students, about equally divided between men and women. Ninety percent of them live in College residence halls; the others live at home and commute from the surrounding area. Because of its scale, the College combines an informal and friendly social atmosphere with a personal but challenging style of teaching.

All students take the liberal studies curriculum, designed to equip them with the skills and knowledge of a broad general education and to give them an in-depth experience in an academic discipline. Students also have an opportunity to take minor concentrations in areas outside their major discipline to allow for career options or for greater intellectual breadth or depth.

The full-time teaching faculty of Ursinus have prepared in the great graduate schools of the United States and Europe. Acting as mentors to students, they encourage a collaborative style of learning in their preparation of students for professional pursuits beyond Ursinus.

Three out of four Ursinus students enter graduate and professional schools. Many become leaders in their careers as well as in civic and cultural life. By setting standards for students in both academic and extra-curricular life, the College enables them to interweave their professional aspirations with a sense of service to society.

Ursinus College is part of the richly varied higher educational community of the greater 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 corporate and retail complex 10 miles away at Valley Forge/King of Prussia, and with the biotechnology research concentration just outside the town.

How Ursinus Began

The beginning of educational work on what is now the campus of Ursinus College dates back to the construction some two centuries ago of a 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 an adjacent tract. During the following two decades many young men were educated there.

In 1867, 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. On Feb. 5, 1869, the College was granted a charter by the Legislature of Pennsylvania. The buildings of Freeland Seminary were acquired, and instruction began on Sept. 6, 1870. Women were first admitted to the College in 1881.

Coincident with the founding of the College was the establishment of a preparatory department as a successor to Freeland Seminary. The preparatory school, known as Ursinus Academy, operated until 1910.

College Principles and Traditions

Although independent of church control, Ursinus College is voluntarily related to the United Church of Christ through its Council for Higher Education. The College has been church-related since its founding in 1869 by pastors and lay members of the German Reformed Church.

The inclusive spirit of the Reformed Church led to unions with the Evangelical Synod of North America to form the Evangelical and Reformed Church in 1934 and with the Congregational Christian Churches in 1957 to form what is now the United Church of Christ.

This broad and open religious tradition stresses the importance of intellectual development and strongly affirms higher education. By

virtue of its association with the church through the decades, Ursinus has always given priority to the development of high ethical standards, personal values, and an understanding of others. Today, the Christian principles and traditions of the College continue to reinforce its educational mission. They help to inform the College community, which is composed of persons of many religious persuasions, in the search for an understanding of peace, justice, and the need for human cooperation.

Educational Mission

The mission of Ursinus College is to enable students to become independent, responsible and thoughtful individuals through a program of liberal education. That education prepares them to live creatively and usefully and to provide leadership for their society in an interdependent world.

Liberal education is provided through an academic program that empowers the intellect, awakens moral sensitivity, and challenges students to improve society. Students gain intellectual curiosity, the capacity to think analytically, critically, and creatively, and the skill to express thoughts with logic, clarity, and grace. Further, they develop a deepened sense of human history and an understanding of who they are as persons, what they ought to do as citizens, and how they best can appreciate the diversity and ambiguity of contemporary experience.

The faculty is the cornerstone of our academic program. Faculty members are dedicated to teaching and learning and set high standards for themselves and for students. They choose to be active scholars because they are involved teachers, seeking to transmit their enthusiasm for learning to their students.

The faculty joins with the professional staff in an educational program that extends outside of the classroom. As a predominantly residential community, the College fosters a shared life and provides an opportunity for the comprehensive personal development of all students. By taking active part in the varied programs of the campus, students have the opportunity to develop their intellectual, creative, and physical talents and to strengthen their personal values in the context of the principles and traditions of Ursinus.

The College seeks students of varied backgrounds who actively search for meaning and purpose in their lives. It nurtures a sense of community by engaging students and faculty in an unfinished conversation about liberal learning—how it is grounded in the

fundamentals of human experience, broadens the mind, enhances compassion, and prepares us for a life of service.

Cultural Environment

Students have the advantages of living in a small town, yet have easy access to the rich cultural opportunities available in nearby Philadelphia and in New York City. The College is the home of the Philip and Muriel Berman Museum of Art, which offers a variety of exhibitions and events for the campus community. An important outdoor sculpture collection enhances the living and academic environment. In addition, students can 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 that is rich in historical tradition. In Colonial days, this region was a center for the cultural and political development of America. Today, it is also the center of a nationally important complex of high-technology corporations and one of the largest shopping malls in 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 16 weeks each and a summer session. 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.

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 and cultivate a sense of service. 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, security, multi-cultural services, student activities, and residential life.

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 educational climate 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.

Wisner Center

Wisner Center is a major social center on campus, providing many services and activities. It includes a main dining facility and a snack shop, a game room, several lounges, a large multi-purpose room, a print shop, and offices for student administrative leaders. The large lower lounge is a focal point of student social life.

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 philosophy and religion, Ursinus College offers a variety of worship services on campus. The campus minister is the coordinator of campus religious life and serves as a counselor to those in need. The campus minister's office sponsors ecumenical services and activities during the academic year and coordinates the activities of the four campus religious organizations (Fellowship of Christian Athletes, Intervarsity Christian Fellowship, the Newman Society, and Hillel). Informal Protestant worship services 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 Hillel 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 campus minister and various resources on campus.

Counseling

With the goal of promoting emotional well-being for members of the Ursinus community, the Counseling Office assists students in addressing common developmental issues. Counseling services are offered in Studio Cottage by the director of counseling and the campus minister. In addition, the Counseling Office supports and assists wellness programming for the campus.

Wellness Services

The Wellness Center educates students in preventative health, general wellness issues, and assists those students requiring regular medications or needing treatment for illness or injury. Students having medical emergencies are transported by local ambulance to nearby hospitals. 24-hour, non-emergency medical care is coordinated through the Wellness Center and is available at on-campus or off-campus locations. Students requiring regular medication, such as allergy injections, may arrange to receive these through the Wellness Center.

Security

Located in the Reimert Residential Complex, the Department of Security provides 24-hour service, seven days a week. The staff consists of a director, six full-time officers, two part-time officers, and 50 student security officers. An escort service is available to all students, and the service is provided between academic buildings and residences by student and non-student security officers. All security personnel participate in in-service training programs and regularly receive updated security materials. While Ursinus College security officers cannot make arrests, they are all acquainted with criminal laws and procedures. Officers have received training in basic first aid and C.P.R., and emergency medical assistance is available through the Trappe Ambulance Corps. The department cooperates with the state police agency and maintains an excellent working relationship with the Colledgeville Police Department, which assists as needed. All crimes involving violence, major property loss or any felony are reported by the Security Department to the Police Department. All crime statistics are reported on forms and in the format required by the Pennsylvania State Police and the Federal Crime Awareness and Campus Security Act of 1990.

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 Center. 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 at both the intramural and intercollegiate levels. Athletics is but one 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, supporting it and not detracting from it. Furthermore, the athletics program supports and reflects the mission of the College: **to enable students to become independent, responsible and thoughtful individuals through a program of liberal education.**

The College believes that participation in athletics should be a constructive experience in which the physical welfare of the student-athlete is paramount. Consequently, the **primary emphasis**

of the athletics program is placed on enhancing the personal development of the student-athlete, through a broad-based program of spirited competition. However, the College recognizes that winning is also a legitimate objective, when achieved in an ethical manner consistent with the College's stated mission; we strive for excellence in the classroom and we strive for excellence on the field of athletic endeavor.

Equal opportunities for participation in athletics are available for all men and women. Intercollegiate competition takes place in ten sports for men and ten sports for women. Since the ultimate objective of the athletic program is to develop in students the recreational and social competencies for the effective lifetime use of leisure time, an extensive program of intramural sports is in operation; students are encouraged to participate.

Coaches are educators and coaching is a specialized form of teaching student-athletes the values of training, strategy, hard work, team work, vigorous competition, and winning and losing — all part of a sound educational experience. In addition, courtesy and sportsmanship in participants and spectators alike are fostered.

Student-athletes at Ursinus College are subject to the same policies, procedures, and criteria as non-athletes, with respect to such matters as admissions standards, administration of financial aid, credit-granting, progress toward and achievement of academic degrees, and transfer. Ursinus operates in full compliance with the rules and regulations of the National Collegiate Athletic Association and of those athletic conferences to which the College belongs.

Men's intercollegiate competition takes place in football, basketball, soccer, wrestling, swimming, cross country, golf, baseball, track and tennis. For women students, the College supports intercollegiate competition in field hockey, basketball, softball, tennis, swimming, lacrosse, gymnastics, volleyball, cross country and track. The intramural program provides additional recreational opportunities for men and women in touch football, basketball, volleyball, softball, water polo, tennis, track and table tennis. Club programs for men and women are sponsored in lacrosse, fencing, sailing, bicycling, bicycle racing, dancing, fishing, cheerleading, skiing and racquetball.

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. The primary source of funding for student activities is the student activities fee. The proceeds from this fee are allocated by the Activities Fee Allocation Committee (AFAC). Constitutions for all student organizations are approved by the Ursinus Student Government Association (USGA) and the faculty. Members of the faculty and administration serve these groups as advisers, and the Student Activities Office serves as a resource. The 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 Activities. 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, Student Chapter of the Association for Computing Machinery, the Communications Club, the Economics and Business Club, the German Club, the Haines-Barnard Pre-Legal Society, the International Relations Club, the Japanese Club, *Le Cercle Français*, Musser Hall International Organization, the G. Leslie Omwake Education Club, the Political Science Club, the Psychology Club, the Society of Physics Students, the Spanish Club, and the Forensic Society.

Religious organizations include the Fellowship of Christian Athletes, Hillel, Intersarsity Christian Fellowship, and the Newman Society.

Special-interest organizations include Amnesty International, Circle K, College Republicans, GALA, Minority Student Union, Organization of Commuting Students, SADD, Students Right-to-Life, Student Voice for Choice; Tri-Lambda, Life-Long Learners; Ursinus Students Environmental Action Coalition, and the Young Democrats.

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.

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 variety of intellectual, cultural and social life programs enhances students' appreciation of the arts and awareness of issues of contemporary interest. The Arts and Lecture Series brings notable artists and speakers to the campus community through a four-part program consisting of the Creative, Performing and Visual Arts Series; the Academic Speakers Program; the Campus Life Speakers Series; and the Ursinus Lecture Series. In addition, film series, theatrical productions, and concerts are sponsored by campus organizations and academic departments.

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

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.

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

The highly attractive campus provides an ideal setting for liberal education. The campus is organized around a graceful plaza and walkway linking three buildings central to the College's mission—Myrin Library, F.W. Olin Hall, and Wismer Center. Together, these buildings represent the interaction of academic and social life at the College. The plaza also provides numerous places where students and faculty can pause for brief moments of conversation or more extended discussions with one another.

The notable buildings on campus include the following:

F.W. Olin Hall, dedicated in 1990 and funded entirely by a grant from the F.W. Olin Foundation, contains a 300-seat lecture hall, a 63-seat tiered classroom, a 42-seat tiered classroom, two microcomputer laboratories, an international learning center, the College's writing center, seven traditional classrooms, and four seminar rooms. It houses the offices of faculty members in the departments of English, history, modern languages, classics, and philosophy and religion.

Wismer Center provides dining facilities, social lounges, an office complex for student activities, the snack shop, and a new multipurpose lounge completed in 1991. The building is named for the late Ralph F. Wismer, '05, former treasurer of the College and member of the Board of Directors.

Myrin Library, constructed in 1970 and totally renovated in 1988, houses more than 185,000 volumes, 155,000 microforms, 17,500 audiovisual materials, and 900 current periodical subscriptions. It is a selective depository for U.S. Government documents and Pennsylvania documents. In July 1991, the library began a two-and-one-half year collection development project funded by a \$260,000 gift from an anonymous donor.

There are study facilities for 500 persons in carrels, seminar rooms, private study rooms and lounges. During the academic year, the library is open 110 hours per week.

As part of the renovation in 1988, an automated bibliographic system replaced the old card catalog. Through terminals located in the library and in other buildings on campus, individuals are connected to the Online Computer Library Center's bibliographic network, providing worldwide access to 6,500 research collections and over 21 million volumes. Students can also take advantage of the Interlibrary Delivery Service of Pennsylvania to obtain library materials from other academic libraries throughout the region.

The library also houses the College's Academic Computing Center, The Pennsylvania Folklife Archives, and the Ursinusiana Collection.

Bomberger Memorial Hall houses classrooms and the offices of the economics and business administration, politics, education, and music departments. Bomberger Auditorium contains the Heefner Memorial Organ, a three-manual 62-rank organ dedicated in 1986, the gift of Mrs. Lydia V. Heefner in memory of her husband, Russell E. Heefner. Bomberger Hall is a Romanesque structure built in 1891 of Pennsylvania blue marble. The building is named for the first President of Ursinus, Dr. J. H. A. Bomberger, and was made possible by the benefactions of Robert Patterson. 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).

Thomas Hall (formerly Life Science Building) was opened for use in September 1970 and completely renovated in 1991. It is named in honor of the Thomas family, long-time faithful friends of the College. It is the home of the biology and psychology departments and the following endowed laboratories: Levi Jay Hammond Laboratory of Comparative Anatomy, the W. Wayne Babcock Laboratory of General Biology, the Anna Heinly Schellhammer Laboratory, and the Parlee Laboratory.

Pfahler Hall of Science houses classrooms and laboratories for work in chemistry, physics, mathematics, computer science, and geology. It was built in 1932, and extensively renovated in 1971 and is named in honor of Dr. George E. Pfahler, famed radiologist.

The Philip and Muriel Berman Museum of Art was dedicated in 1989 and is located in the original Alumni Memorial Library, built in

1921. The museum offers exhibitions and related programming focusing on an outstanding permanent collection and a variety of touring exhibitions from around the country.

The Berman Museum provides a valuable cultural resource for the campus community and the surrounding region. The facilities include a multipurpose space for seminars, lectures, and films; a non-circulating art library focusing on important texts related to the collections and specific art reference volumes; three separate exhibition galleries; and complete storage and work areas. The museum library has an on-line public access catalog terminal linked to Myrin Library to facilitate research.

Corson Hall, 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 1970. Located near the main entrance to the campus, it houses the Admissions Office and other administrative offices.

The D. L. Helfferich Hall of Health and Physical Education and *The William Elliott Pool* were dedicated in 1972 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 services both men and women with three full-size basketball courts; 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 stood next to the end zone of the football field until 1983, is located in the lobby.

Helfferich Hall is supplemented by the Utility Gym, located nearby and used for both athletic and social events.

Ritter Center for the Dramatic Arts opened in 1980 and houses a 260-seat theater with flexible staging, a television studio, and various auxiliary rooms. It is named in honor of Dr. Rolland A. Ritter, LL.D., '60, and his wife, Lullis M. Ritter. It occupies the former Thompson-Gay Gymnasium, built in 1927. The memory of the 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 as seniors at the College.

A new College Bookstore, built in 1989, is located adjacent to Ritter Center.

Outdoor athletic and recreational facilities include Price Field, Patterson Field, Evans Field and Snell Field. Price Field, which includes the baseball diamond, soccer field, 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. The Eleanor Frost Snell Softball Field, named after an outstanding Ursinus educator and coach, is one of the newest additions to the athletic field complex.

Eight tennis courts and an outdoor shuffleboard 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; *Sprinkle Hall*, on the east campus fronting Fifth Avenue, used for the Campus Wellness Center and student housing; the *Eger Gateway*, erected at the entrance of the walk leading from Main Street to Myrin Library and provided through the generosity of George P. Eger of Reading, Pa.; the statue of Zacharias Ursinus in front of Bomberger Hall, donated by Philip and Muriel Berman and sculpted by Michael Price; and the *Marjorie T. Elliott House*, 785 Main Street, former home of the late Dr. Edward Platte, College physician, now occupied by the president of the College and his wife. The house is named in memory of the late wife of William Elliott, a member of the Board of Directors.

The campus setting is enhanced by the presence of a collection of outdoor sculpture by noted artists, provided through the generosity of Philip and Muriel Berman. A printed guide is available, complete with information about the sculptures and artists.

Computer Facilities

The Ursinus College academic computing facilities consist of a Micro-VAX computer, several interconnected personal computer networks, and various microcomputers located around campus. The main academic computer facility is located in the Myrin Library where students may use the VAX or one of the three microcomputer labs exclusively for student use. The Myrin Library microcomputer labs contain 35 PC-compatibles and 20 Apple Macintosh computers and are open seven days a week for a total of 110 hours. Additionally, there are two labs in F.W. Olin Hall

containing a total of 50 PC-compatibles available for student use and classroom instruction.

The Academic Micro-VAX 3100 is a Digital Equipment Corporation 32-bit supermicrocomputer capable of handling a total of 96 simultaneous users. This system is exclusively for student and faculty use (the administrative and library systems run on separate Micro-VAX computers.) The Micro-VAX 3100 has 28 megabytes of memory and 4.5 gigabytes of disk storage. Micro-VAX users may choose between the VMS and UNIX Shell operating systems. BASIC, C, COBOL, FORTRAN and Pascal programming languages are available to students and faculty. The Micro-VAX software library includes SAS statistical software, KERMIT, and the computer algebra system REDUCE. Communication with students and faculty at other institutions is possible through the national computer network BITNET. Academic Computing maintains dialup facilities so that connection to the VAX is possible 24 hours a day, seven days a week.

The Ursinus College VAX computers and microcomputer labs are connected via Ethernet. The software contained on the microcomputer networks include several word processors, Lotus 1-2-3, dBase III PLUS, C, Pascal, MINITAB, SPSS, and BASIC. Most microcomputers are connected to dot-matrix printers; laser printing is also available in Myrin. The Myrin Library On-Line Catalog is also accessible via the networked microcomputers and dialup facilities.

Residence Halls

The College offers living accommodations for 1,050 students. 32 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 five 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 Mail Room between the hours of 8 A.M. and 4:00 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

The Career Planning and Placement Office assists students in relating their educational plans to future opportunities and in acquiring life skills essential for successful career planning and creative job hunting. The Career Planning and Placement Office will assist students in designing their college experience to insure the best possible preparation for the personal and occupational objectives they have chosen.

Through individual career counseling and special programs, students are given the opportunity for self assessment and career exploration. Seminars and workshops on topics related to career planning, such as "Resume Writing," "Interviewing Skills," and "Job Search Strategies" are open to all students. SIGI plus, a computer-assisted guidance program, is available to students interested in learning about the career decision process.

A career resources library offers information about corporations, government agencies, nonprofit organizations, specific career fields, internships, graduate schools, and general career planning and job hunting resources. Also available is a set of job announcements listing full-time, part-time, and summer opportunities.

Representatives from business, government, and nonprofit organizations visit the Ursinus campus throughout the academic year to interview seniors for positions available after graduation. A number of students participate in this on-campus recruiting program.

The *Grizzly Network* is made up of alumni and parents who have volunteered to share their experiences and advice with interested students. They provide exciting contacts in all career areas including business, law, communications, medicine, and the like. Some of these alumni participate in campus programs such as the "Grizzly Network Career Day."

Exploring Careers is a monthly newsletter advertising career seminars, graduate testing dates, special events, employment trends, and visits by recruiters.

Job Flash is a biweekly publication listing part-time, full-time, and summer job vacancies.

Admission

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

The first step in seeking admission to Ursinus College is to file an application. The Admissions Office will supply forms for this purpose to all who request them. Each completed application must be accompanied by a \$30 application fee. The applicant must be recommended by two teachers and the high school guidance office, and must request that an official transcript of his or her secondary school records be sent to the College by the secondary institution. Further, it is the responsibility of the candidate to make arrangements to take the Scholastic Aptitude Test of the College Board and to have the official test results sent to the director of admissions. The personal interview is strongly recommended, the arrangements for which are the responsibility of the candidate.

The deadline for applying under the Regular Decision plan is Feb. 15. Candidates for Early Decision must apply by Dec. 15 (See below for a description of the Early Decision plan).

Tests

Candidates for admission to the freshman class are required to take the Scholastic Aptitude Test. 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, N.J. 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 (11 units)

English, *Four years, Four units*

Elementary Mathematics (Algebra and either Geometry or
PreCalculus), *Three Units*

Science, *One Unit*

Social Studies, *One Unit*

Foreign Language, *Two Units in One Language*

Additional Academic Credits (at least 2½ Units)

Calculus

Advanced Mathematics

Statistics

Computer Science

Solid Geometry

Trigonometry

Science

Social Studies

Foreign Language

Electives (Maximum of 3½ Units)

Not more than one unit will be granted for any single elective

Music (history or appreciation)

Art (history or appreciation)

Studio Art

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 judgment of the Committee on Admissions, they are qualified to do college work satisfactorily.

Early Decision

The College offers a program of early decision to those students for whom Ursinus College is their first choice. The procedure for making application under the Early Decision plan is the same as outlined above. However, candidates applying under the Early Decision plan have chosen Ursinus College as their first choice and, if admitted, their commitment to attend is binding. Admitted candidates must withdraw all other college applications. Admission decisions are deferred until Regular Decision for those students applying and not admitted under the Early Decision plan. The

deadline for applying under the Early Decision plan is Dec. 15. Candidates will be notified of the admission decision by Jan. 5.

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.

Junior Admission

A limited number of outstanding high school juniors who have completed all or nearly all requirements for graduation from high school may be considered for admission. Such students will be considered only upon the strong 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.

Outstanding juniors may apply for admission in the late spring or during the summer preceding the senior year. An applicant must be recommended by two teachers and the high school guidance office, and must request that an official transcript of his or her secondary school records from ninth through eleventh grades be sent to the College by the secondary institution. He or she also should have junior year Scholastic Aptitude Test results sent to the director of admissions. We strongly recommend that all candidates take achievement tests. The personal interview is strongly recommended, the arrangements for which are the responsibility of the candidate.

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.

Candidates for the engineering program must present four 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 languages 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. Interested applicants should write for a *CLEP Bulletin of Information for Candidates* to the Program Director, College Level Examination Program, Box 1821, Princeton, N.J. 08540.

Readmission (see page 48.)

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 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, recommendations from two professors and 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 (2.00) or better has been earned.

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

Foreign Students

The College encourages superior foreign students who have successfully completed their secondary school studies to apply for admission. Foreign students are asked to complete a preliminary application before eligibility can be determined. Applicants must achieve a minimum score of 550 in the Test of English as a Foreign Language (TOEFL) if their language of instruction has not been English. A limited amount of financial aid is available to eligible foreign students demonstrating need.

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 graduates (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 may wish to secure written permission from their respective institutions indicating that they will be given transfer credit for successful work in the courses selected.
3. Evening Division students at Ursinus or elsewhere, with a high school diploma and with a minimum of 15 semester hours of college work successfully completed (equivalent of C/2.00 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 Dean of Continuing Education, Summer School, Ursinus College, P.O. Box 1000, Collegetown, Pa., 19426-1000.

Continuing Education

Ursinus endeavors to educate nontraditional students by means of a continuing education program that is in harmony with the College's mission of liberal education, informed by the educational programs for traditional students, and responsive to the special needs of the people in its region. Continuing education consists of the Evening Division, the Life-Long Learning program for nontraditional students taking courses in the day, noncredit continuing education programs, St. Joseph's University MBA at Ursinus, and day and evening summer session programs.

The Ursinus College Evening Division was founded in 1952. Its purpose is to make both single college courses and entire degree programs available to adults ("nontraditional" students) who, because of employment, family or other personal commitments, are unable to pursue academic goals during traditional daytime

hours. Evening programs are designed to enable a student to: complete 64 semester hours of coursework leading to an associate's degree; complete 128 semester hours of coursework leading to a bachelor's degree; complete coursework leading to a post-baccalaureate Certificate of Professional Studies or teacher certification; select individual courses of special interest; complete coursework leading to a Master of Business Administration degree in conjunction with St. Joseph's University. Full-time Ursinus students enrolled in the College may register for evening courses, with the permission of their advisers and the dean of the College, when class space is available. Evening Division registration procedures must be followed.

The College provides counseling, support services, individualized academic advising and special tuition grants for qualified adult students seeking admission to both day and evening programs.

For information about credit and noncredit Continuing Education Programs, address the Dean of Continuing Education, Ursinus College, P.O. Box 1000, Collegetown, Pa., 19426-1000.

Special note is made of the following continuing education programs:

Degree Programs: Degree programs offered entirely through evening courses are Associate in Business Administration and Bachelor of Business Administration, with majors in accounting, computer science, finance, human resources, management and marketing; Associate in Arts, with majors in communication arts, English, and history; Bachelor of Arts, with majors in communication arts, English, history, and philosophy and religion; and Bachelor of Science, with a major in psychology.

Evening Division students have the option of pursuing the Bachelor of Arts or Science Degree in other major areas, but these programs involve taking some day courses.

Post-Baccalaureate Certificates of Professional Studies: The Certificate of Professional Studies is offered to college graduates holding the bachelor's degree or higher, who want to add specific organizational/business knowledge and skills to their existing knowledge base. The certificate is available entirely at night in accounting, computer science, finance, human resources, management, and marketing areas of concentration, and consists of 32 to 35 hours of coursework.

Secondary Teacher Certification: Adults who have earned a bachelor's degree, or who are currently completing requirements

for a bachelor's degree, may take education courses as a minor concentration or as electives in their program. These students may also obtain teacher certification through a traditional program of study, which includes a student-teaching experience to be scheduled during day hours.

Teaching Intern Certification: Teaching Intern Certification is an alternative program of study for adults who already possess a bachelor's degree and wish to add secondary teaching certification to their credentials. This program enables an adult to teach full-time as a paid professional employee in a public school system while completing the education courses required for teacher certification.

Adults Taking Day Courses: Adults who meet the College entrance requirements may be admitted into day courses on either a part-time or full-time basis.

St. Joseph's University Master of Business Administration Program at Ursinus: Ursinus College has contracted with St. Joseph's University, Philadelphia, Pa., to provide instruction and support services for the offering of preparatory and graduate courses on the Ursinus campus, leading to the MBA degree conferred by St. Joseph's.

Noncredit Programs: Varied noncredit workshops and seminars provide opportunities for members of the community at large to participate in evening and Saturday programs of short duration. These courses develop and enhance academic, professional and personal skills.

The College provides counseling, support services, individualized academic advising and special tuition grants for qualified adult students seeking admission to both day and evening programs.

For information about credit and noncredit Continuing Education Programs, address the Dean of Continuing Education, Ursinus College, P.O. Box 1000, Collegeville, Pa., 19426-1000.

Financial Information

Tuition, Board, Fees

Student Charges Per Year

Basic student charges at Ursinus College include tuition, room and board for resident students, activities fee, and a health and wellness fee. To help 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 65 percent of all students receive some form of assistance in paying tuition and fees.

For 1993-94, the following rates apply for full-time students: tuition, \$14,100; room and board, \$4,900; activities fee, \$115; wellness fee, \$50. Special and part-time students are charged at the rate of \$495 per semester hour. If registered for 12 or more hours, students will be charged full tuition.

Payments are made as follows: new students, \$300 advance payment as requested and \$100 reserve deposit as indicated on the bill; returning students, \$300 advance payment as requested. All students pay half of the annual charges in August less credit for advance payment, and one-half of the activities and wellness fees. The second half of the charges are due in January.

Billings are presented semiannually and are due for payment no later than the date indicated on the billing. A graduated late payment fee is charged each account which remains unpaid at the end of the seventh week of each semester. See the "Explanation of Charges" section.

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 to the account for each semester bill.

For those who prefer to pay college costs on a monthly basis, the College offers a 12-month, no interest payment plan managed by the Knight Insurance Agency Incorporated in Boston. In addition, for those who prefer longer-term extended payments, the College makes available two other plans through the Knight Insurance

Agency. Information about these programs is available through the Business Office.

While the College makes available the payment plans noted, parents and students may choose from any available programs that provide for payment to the College as indicated on the student bill. For 1993-94, there is a Federally supported Parent Loan Program (PLUS). For additional information, see page 39. *These arrangements should be made early enough to assure payment of bills no later than the date indicated on the billing.*

Explanation of Charges

Application Fee: A fee of \$30 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.

Advance Payment: (a) Upon acceptance by the College, applicants must make an advance payment of \$300 by May 1. This payment is credited on the bill for the first semester. If they fail to complete matriculation, this payment is forfeited. (b) All regularly enrolled students must make an advance payment of \$300 at such time as may be designated by the College. Payment of this fee by the date due also qualifies the student to participate in the room draw. The student will not be included in the room draw if this fee is not paid by the due date. This payment is forfeited if the student fails to complete registration.

Fee for Tuition covers classroom instruction, use of libraries, gymnasium, and campus facilities. Room and board charges cover use of residence hall room and the meal plan for the period that classes are in session.

The College reserves the right to make reasonable adjustments in these fees at the beginning of any term to cover unforeseen costs.

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, and activities approved by the Activities Fee Allocation Committee. It also covers subscription to *The Grizzly*, admission without further charge to all Ursinus athletic contests at the College, and use of College athletic facilities as scheduled.

Wellness Fee: This fee covers routine physician and nursing services, both on campus and in a local physician's office. In

addition, a Wellness Coordinator assists students in obtaining medical care and in learning about health and wellness.

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. This insurance is mandatory for all foreign students.

Science Major Fee: A fee of \$125 per semester is charged all students majoring in biology, chemistry, physics, pre-engineering and freshmen who are enrolled in undesignated natural science.

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, supervised field experience, or the teaching internship. This is payable upon presentation of the bill.

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 or if the student is in default on a student loan.

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.

Late Payment Fee: A late payment fee, as determined by the schedule below, will be applied to any balance due at the end of

the seventh week of each semester. The amount charged depends upon the size of the outstanding balance.

Outstanding Balance	Fee
\$ 500.00 - 1,999.99	\$ 50.00
2,000.00 - 3,999.99	100.00
4,000.00 - 5,999.99	150.00
6,000.00 - 7,999.99	200.00
8,000.00 - 9,999.99	250.00
10,000.00 or above	300.00

Placement Service Fee:

- (a) Students until Sept. 1 following their graduation: No charge.
- (b) Alumni from Sept. 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 of the dining hall charges 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 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. No changes in student charges are made because of changes in enrollment status after the second week of classes.

After the first day of class and until the end of the first half of an academic term, the pro rata refund of tuition 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

There is no refund of tuition after the first half of an academic term because of a student's dismissal or withdrawal from the College.

There is no refund of amounts paid for dormitory rooms after the first day of classes.

A pro rata refund of amounts paid for meals is based upon the date of withdrawal or dismissal.

To supplement the College's refund policy, a Tuition Refund Plan is offered through A.W.G. Dewar, Inc. This plan provides for up to 100 percent refund of tuition and room and board charges should the student be forced to withdraw for medical reasons at any time during the semester. Information on the plan and the insurance premium is available through the Business Office.

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 shall be the date on which the College has notified the student of such action.

In the event that a student participates in the Federal Stafford Loan Program or other Title IV program, refunds of such funds shall be made promptly, but not more than 30 days after the College receives a loan disbursement or other check, as provided under Federal Regulation ss682.604 and PHEAA Guidelines, Chapter III, Section 3, pages 8 and 9.

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 Federal Pell Grants, Charlotte Newcombe Scholarships, or Federal Stafford 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 grants, loans, and employment. The financial aid package is based on demonstrated need as determined through the Federal Methodology. Proven academic excellence and leadership abilities may also be considered.

Application Procedure

All students wishing consideration for institutional financial aid must submit a Free Application for Federal Student Aid (FAFSA) and a Financial Aid Form Supplement (FAF), with *all* questions completed, to the College Scholarship Service (CSS) no later than Feb. 15. A student who wants to be considered only for the Federal financial aid programs need only complete the FAFSA (the FAF supplement is not required). All late applications will be considered if funds are available. The FAFSA and the student's individual state application, where applicable (i.e., in Pennsylvania, the FAFSA and PHEAA Aid Information Request are required), are the only applications required to be filed for state grant consideration. These forms must be filed for each year the student wishes to continue aid.

The Free Application for Federal Student Aid (FAFSA), PHEAA Aid Information Request (PAIR), and the Financial Aid Form Supplement (FAF) can be obtained from secondary school guidance offices or the Ursinus College Financial Aid Office. The Ursinus College Code is #2931 on the FAF supplement and 010189 on the PAIR. If the FAFSA and FAF are filed before Feb. 15, freshman and transfer students' award notices will be released by April 1. Upperclass applicants should obtain the FAFSA and FAF by January and submit them to CSS by April 1. Upperclass award notices will be sent by early July if all required documentation is received in the Financial Aid Office. *The College requires the submission of parent and student Federal income tax forms and W2 forms to be considered for any aid offered by Ursinus College.*

An independent (self-supporting) student must file the FAFSA and FAF with CSS under the same guidelines as above. All students who enter Ursinus as dependent aid filers will remain dependent for all Ursinus funds for the entire period of enrollment. Independent students are those who are over 24 years of age; orphans or wards of the court; married; veterans; parents of dependent children; graduate students; 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, Federal Stafford Loan and Federal PLUS Loan. Foreign students must submit the Declaration of Finances and Application for Foreign Students, available from the Office of Admissions.

URSINUS COLLEGE SCHOLARSHIP AND FINANCIAL AID PROGRAMS

Ursinus College offers an extensive financial aid program designed to recognize the high school achievements of students, while at the same time providing access to students from a wide range of economic backgrounds. That is why Ursinus awards financial aid based both on merit and financial circumstances.

The College's scholarship, grant, loan, and student employment programs totalled nearly \$9.5 million for 1992-93. Of the entire student body, approximately 80 percent receive some form of

financial aid, whether it be through student employment, loans, college grants, or scholarships. Every student submitting the FAFSA and FAF will be considered automatically for **all** aid programs administered by the College.

URSINUS COLLEGE SCHOLARSHIPS

As part of the financial aid program at Ursinus, the College awards merit scholarships to recognize those students who by their strong high school performances have demonstrated the potential to make special contributions to our College community.

Merit scholarships are awarded in recognition of achievements which are consistent with the high ideals of the Ursinus educational mission: strong academic achievement and personal qualities which promise the potential to provide leadership and to lead lives of service, acting as worthy role models for others.

Ursinus Merit Scholarships: Ursinus Merit Scholarships are awarded to applicants who have earned the College's recognition by their academic and extracurricular achievement in high school. Ursinus Merit Scholars are chosen by the Ursinus College Scholarship Committee on the basis of their overall high school achievement and their potential to contribute to the College community. To be eligible, candidates must apply for admission to the College and arrange for an admissions interview by February 15. Ursinus Merit Scholars are awarded up to \$7,000 annually, renewable for four years if the student maintains a 2.67 yearly GPA and maintains standards of satisfactory academic progress.

Steinbright Scholarships: Ursinus College awards six full-tuition scholarships to applicants who attend high school in Berks, Bucks, Chester, Delaware, Montgomery, or Philadelphia counties in Pennsylvania. The College will award one Steinbright Scholarship in each county. Steinbright Scholarships are awarded to those outstanding students who through superior high school achievements demonstrate the greatest potential of fulfilling the Ursinus mission by becoming independent, thoughtful and inquiring adults, who will live creatively and usefully and serve society by providing leadership. To be eligible, candidates must apply for admission to the College and arrange for an admissions interview by February 15. The Ursinus College Scholarship Committee will invite finalists to campus in March for individual Scholarship Committee interviews. Steinbright Scholarships are renewable for four years if the student maintains a 3.20 yearly GPA and maintains standards of satisfactory academic progress.

URSINUS COLLEGE FINANCIAL AID PROGRAMS

Ursinus College Grants: Grants awarded by the College do not have to be repaid. Recipients must have demonstrated financial need each year, as determined by the results of the FAFSA and the FAF supplement, and are expected to remain in good academic and social standing.

Federal Supplemental Educational Opportunity Grants (SEOG): These grants are Federally funded and must be designated by the College to students with substantial financial need; primarily to those receiving Pell Grant assistance. The average grant is \$500 although higher-need students may receive up to \$2,000. The SEOG Program is subject to change according to government regulations. Those filing the Financial Aid Form Supplement (FAF) and Free Application for Federal Student Aid (FAFSA) with Ursinus will be considered for this program.

Charlotte Newcombe Scholarships: This scholarship fund is supported by the Charlotte Newcombe Foundation in Princeton, N.J. Women, age 25 or above, may apply for this scholarship if one half of the required coursework towards a bachelor's degree is completed and financial need is demonstrated. Those pursuing teaching certificates will also be considered.

W.W. Smith Scholar Grants and Prizes: The W.W. Smith Charitable Trust of Bryn Mawr, Pa., funds a program of \$2,000 Scholar Grants to "needy and worthy, full-time" students. In addition, two top senior Scholar Grant winners receive \$5,000 W.W. Smith Prizes. Selections are made by the Scholarship Committee.

Federal 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 \$3,000 are awarded with the total not to exceed \$15,000 for the four years of undergraduate study. The interest rate is 5 percent. Federal 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 Federal 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 \$1,000. Recipients must be degree candidates and maintain a satisfactory academic average. The loans are at low interest with deferred repayment benefits, similar to the Federal Perkins Loan program.

Student Employment: The College provides students with the opportunity to earn part of their college expenses through campus employment in more than 500 positions on campus. Federal Work-Study (FWS) will be offered to eligible applicants to meet any remaining need after grant, scholarship, and loan assistance has been utilized. Priority in job placement is given to students assigned to FWS. Students not eligible for FWS will be placed on the college payroll if possible. Working just seven hours a week, a student can expect to earn about \$950 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, and maintenance helpers. Students are employed on a contractual basis and should contact the Financial Aid Office upon arriving on campus in the fall. Students are permitted to work a maximum of 20 hours per week.

Off-campus positions are made available by private employers, and are advertised by the Career Planning and Placement Office.

Federal and State Programs

Federal Pell Grant: This is a Federal grant made available to students with exceptional financial need. Application is made by filing the Free Application for Federal Student Aid (FAFSA). Four to six weeks after filing, students receive a Student Aid Report (SAR) with a family contribution indicated. All copies of the SAR should be sent to the Financial Aid Office for verification and determination of the grant amount. The maximum Federal Pell Grant for 1993-94 will be \$2,300.

State Grant Programs: Many states have a separate state grant application or a State Specific Financial Aid Form. Students must contact their state agency to determine what form(s) need to be filed. In Pennsylvania, students must file a PHEAA FAFSA and a PHEAA Aid Information Request (PAIR) by May 1. The maximum Pennsylvania state grant is currently \$2,400, but is subject to change by the Pennsylvania legislature.

Federal Stafford Loans: Freshmen may borrow up to \$2,625, sophomores may borrow up to \$3,500, and juniors and seniors may borrow up to \$5,500 annually for loans made on or after July 1, 1993. The interest rate is variable, based on 91-Day T-Bill plus 3.10 percent, capped at 9 percent (for loans with the first disbursement made to new borrowers on or after Oct. 1, 1992). Repayment of principle and interest 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.

Unsubsidized Federal Stafford Loans: Unsubsidized Stafford Loans are effective for loans made for periods of enrollment beginning on or after Oct. 1, 1992. Same terms and conditions as Stafford Loans, except that the borrower is responsible for interest that accrues while he/she is in school. This program is open to students who may not qualify for subsidized Stafford Loans or may qualify for only partially subsidized Stafford Loans.

Sources of Assistance Not Based on Need

Parent Loan for Undergraduate Students Program (PLUS): This is a Federally supported program of loans to parents of dependent undergraduate students. The maximum amount a parent may borrow for one student in an academic year is the cost of attendance less any financial aid (for loans made on or after July 1, 1993). *Please note that repayment is required to begin within 60 days after the loan disbursement, unless otherwise indicated by the lender.* The annual interest rate is variable, based on 52-week T-Bill plus 3.10 percent, capped at 10 percent (for loans with the first disbursement made on or after Oct. 1, 1992). Parents who have no adverse credit history are eligible for PLUS loans. Loan applications are available at local banks and other lending institutions.

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.

Satisfactory Progress

Colleges and universities are required to establish minimum standards of satisfactory academic progress for students receiving financial aid. Ursinus College has established these standards:

All students enrolled at Ursinus College are subject to the academic standards of the College. **Qualitatively**, the Committee on Academic Standing receives the record each semester of every student with an average below 2.00. Corrective action is recommended in each case and progress is closely monitored. If the Committee sees no immediate and significant improvement, the student is determined to have failed to make satisfactory academic progress and is dismissed from the College by the faculty. All financial aid the student is receiving is terminated.

However, if a student completing the sophomore or junior year has below the required yearly grade average and is permitted to remain at Ursinus, his or her Ursinus grant may 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.

Students receiving financial aid must also meet the following **quantitative** requirements:

A **full-time student** (12-18 credits per semester) must successfully complete 24 semester hours of academic work in the two preceding semesters (summer academic work, where applicable, may be included) in order to be eligible to continue receiving Federal, state, and institutional financial assistance.

A **three-quarter time student** (9-11 credits per semester) must successfully complete 18 semester hours of academic work in the two preceding semesters (summer academic work, where applicable, may be included) in order to be eligible to continue receiving Federal, state, and institutional financial aid.

A **half-time student** (6-8 credits per semester) must successfully complete 12 semester hours of academic work in the two preceding semesters (summer academic work, where applicable,

may be included) in order to be eligible to continue receiving Federal, state, and institutional financial aid.

In each classification, course incompletions, course withdrawals, and non-credit remedial courses are not counted. If a student must repeat a course for major or degree requirements, it may be counted toward the annual required credits and grade average.

A full-time student is expected to complete all degree requirements within a maximum of 10 semesters and summer school (5 years).

Satisfactory Academic Progress Chart

Academic Years Completed -	1	2	3	4	5	6	7	8	9	10	SS
Number of Credits Successfully Completed -											
Full-time	24	48	72	96	120	-	-	-	-	-	128
3/4 Time	18	36	54	72	90	108	126	-	-	-	128
Half-time	12	24	36	48	60	72	84	96	108	120	128

Special Note:

The requirement for a bachelor's degree is 128 credits. To graduate in four years, a student must enroll for a minimum of 16 credits per semester. Enrolling for 12 credits (minimum for full-time status) extends graduation one full calendar year. Some financial aid programs have eight (8) semester limits, making financing of the fifth year possibly quite difficult.

Any student receiving financial aid who does not meet minimum satisfactory academic progress will be notified in writing by the Financial Aid Office.

If financial aid is denied for reason of not meeting the College's standards of satisfactory academic progress, the student does have the right to appeal, in writing, first to the Director of Financial Aid and secondly to the Scholarship Committee. If the appeal is denied, the student is considered for financial aid only when he or she completes the credits needed for making normal satisfactory academic progress for all the semesters that the student had been receiving financial aid.

This evaluation of a student's academic standing and progress to determine Federal, state, and institutional financial aid eligibility is made once a year or after two semesters of academic work.

Students failing to progress on schedule at the end of each initial

semester are placed on probation in order to provide them an early warning.

Both deficiencies in grades or earned credits may be made up by taking summer school classes at Ursinus or courses approved by the Dean's Office 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, 19 majors are offered in 15 departments: anthropology and sociology; biology; chemistry; classics; communication arts; English; economics and business administration; exercise and sport science; history; mathematics and computer science; modern languages; philosophy and religion; physics; politics; and psychology. An interdisciplinary major in international relations is also offered.

Freshman Advising Program

The Freshman Advising Program is designed to assist new students in adjusting to the educational challenges of the college experience. New students meet on a regular basis with their freshman advisers throughout the first year and consult with them about selection of courses, study skills, and personal and career goals.

Choice of Studies

At matriculation, students designate possible areas of academic interest. In the second semester, freshmen may declare a major field to study in depth. Students who have not decided on a major by the end of the second or third semester will retain their freshman advisers. In the fourth semester, students must designate a major field. The chairpersons of the students' major departments will assign their academic advisers. 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 registration forms 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.

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 course may be added after the second week of classes.

Courses dropped after the second week of classes but before the midpoint of the course will be designated by a W on the student's record. Students who withdraw after the midpoint 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 first three days of the semester.

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, but not grades, for approved courses taken elsewhere will be transferred upon successful completion of the course with a grade of C (2.00) 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

Students who matriculated prior to June 1990 must follow requirements in effect when they matriculated.

The requirements for the degree of Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) for students who matriculated in or after June 1990 are:

- (1) the completion of 128 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, a student must have successfully completed a minimum of 64 semester hours of credit at Ursinus. Half of the semester hours of credits required in the major department must be taken at Ursinus; exceptions may be granted by the dean of the College. A diploma from the College requires that a student spend the two semesters of the senior year as a full-time student (this regulation does not apply to students receiving a degree from the Evening Division).

A full-time student may not take fewer than 12 semester hours per semester. The normal load for a term is 16-18 credits. It is recommended that students normally take no more than 16 credits per semester. Students may register for up to 18 credits with the approval of their advisers. They may not register for more than 18 credits in any semester without special permission from the dean of the College. Students carrying fewer than 12 hours are not permitted to remain or to 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 judgment 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 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 midpoint 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 midpoint 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. A plan and schedule for completing the remaining work, agreeable to student and professor, must accompany the request for an I. If the mark of I is not removed within one month after the end of the semester in which the I was given, the grade F will be assigned for the course.

Academic Probation

Any students 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 extracurricular 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).

Dismissal

Students 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 64 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 Division 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.

Repeating courses

Students may retake any course, but they shall receive credit 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.

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 (3.00) 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. Three- and four-semester-hour courses meet five days a week for three or four weeks. For further information, contact the dean of continuing education.

In the Evening Division, three- and four-semester-hour courses meet two evenings a week for seven weeks. Two courses may be carried simultaneously. Students may earn a maximum of 12 credits in the summer semester if they combine classes from the

day and evening programs. For further information, contact the Office of Continuing Education.

Students wishing to take summer school at other colleges must obtain approval in advance from their adviser, from the chairperson of their department if they wish to take a required course, 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 (2.00) 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 16 credits per term will be given for studies pursued abroad. An examination covering the year's work may be required by the departmental chairperson 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 and the Summer Study in Mexico program, pages 93 and 136.

Degrees

Ursinus College confers five degrees in course: Associate in Business Administration (obtainable through Evening Division only), Associate in Arts (Evening Division only), Bachelor of Arts, Bachelor of Science, and Bachelor of Business Administration (Evening Division only). For specific requirements of the curricula leading to each of these degrees, see departmental requirements and the catalog of the Evening Division. Degrees are conferred

only at convocations and *candidates must present themselves in person.*

A student in good standing who has earned a minimum of 96 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 degrees 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.

Second Bachelor's Degrees

We usually recommend against students working toward a second bachelor's degree. For those who do desire a second degree, the following applies:

Students who hold a bachelor's degree from another institution may be admitted to degree candidacy at Ursinus as transfer students. The student must satisfy all degree requirements at Ursinus, including completion of a minimum of sixty-four (64) semester hours work at Ursinus.

Students who hold a bachelor's degree from Ursinus will not be awarded a second degree of the same type (B.A., B.S., or B.B.A.). They may be admitted to candidacy in a second degree area. The student must satisfy all requirements and must complete at least thirty-two (32) additional semester hours beyond what was required for the first degree.

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 3.85 or above, *Magna Cum Laude*, 3.67 but less than 3.85; and *Cum Laude*, 3.5 but less than 3.67, 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 3.33 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

Phi Beta Kappa is a national academic honor society founded at the College of William and Mary in Williamsburg, Virginia, on Dec. 5, 1776. The stated purpose of Phi Beta Kappa is to "recognize and encourage scholarship, friendship, and cultural interests." The Ursinus College chapter, Tau of Pennsylvania, was approved on Oct. 19, 1991. Composed of faculty members holding Phi Beta Kappa keys, the chapter confers membership on the basis of "high scholarship, liberal culture, and good character." Election to Phi Beta Kappa is considered the highest academic honor for undergraduate students.

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 Jan. 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.

Cub and Key Society: The Cub and Key Society was founded in 1939 at Ursinus College to recognize the male leaders of the campus who have distinguished themselves through high scholastic standing, participation in extracurricular activities, and service to the College community. Election to the society is limited to second-semester juniors.

Whitian Society: The Whitian Society was founded in 1939 at Ursinus College by Dr. Elizabeth B. White, professor of history and dean of women. The society recognizes the achievements of women who have distinguished themselves through outstanding academic performance, in addition to leadership and service to the College. Election to the society is limited to second-semester juniors.

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; *Kappa Mu Epsilon*, the national mathematics honor society; *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; and *Sigma Tau Delta*, the national English honor society.

The Ursinus Plan for Liberal Studies

The Educational Mission of Ursinus College

The mission of Ursinus College is to enable students to become independent, responsible and thoughtful individuals through a program of liberal education. That education prepares them to live creatively and usefully and to provide leadership for their society in an interdependent world.

Liberal education is provided through an academic program that empowers the intellect, awakens moral sensitivity, and challenges students to improve society. Students gain intellectual curiosity, the capacity to think analytically, critically, and creatively, and the skill to express thoughts with logic, clarity, and grace. Further, they develop a deepened sense of human history and an understanding of who they are as persons, what they ought to do as citizens, and how they best can appreciate the diversity and ambiguity of contemporary experience.

The Liberal Studies Curriculum

The liberal studies curriculum implemented in 1990-91 is grounded in the belief that equipping students to think clearly, to analyze, to reach logical conclusions, to communicate effectively, and to have a broad understanding of the world is the best education for the changing world of the 21st century.

The curriculum is grounded on certain assumptions we hold about humankind. Individual human beings have intrinsic value. Individuals, however, are not totally independent agents; they almost always live in community with other human beings. The enduring purpose of liberal studies is to liberate the individual mind for the benefit of both the individual and the community.

Liberal education attempts to provide students with knowledge and skills that will serve them for a life of leadership, service, and cultural enrichment. It requires a breadth of educational experiences, a disciplined study in depth, and an emphasis on developing intellectual and personal independence. Liberal education is more than a set of courses; it requires students to integrate insights of various academic disciplines, and to participate actively in the learning process.

Liberal education takes place best among students of diverse backgrounds actively searching for meaning and purpose in their lives. Students should learn to appreciate the diversity and ambiguity of their world. Thus, the College seeks to include issues of race, class, and gender across the curriculum.

Curricular Goals and Requirements

1. Introduction to the intellectual experience

The Liberal Studies Seminar is designed to introduce first-year students to the intellectual life of the College and to address particular topics or issues growing out of the liberal arts curriculum.

Goal: Intensive inquiry

First-year students should engage in an intensive inquiry of a topic which introduces them to the thought processes appropriate to a variety of disciplines.

Requirement:

Liberal Studies 100: Liberal Studies Seminar

2. Effective Communication

Strong basic communication skills that enable students to form and to express their thoughts with clarity, grace, and logic constitute the foundation of liberal learning. Without the ability to communicate effectively, human communities are impoverished. With it, the individual is empowered and the community is enriched. Communication skills cannot be mastered in a single course; they must be reinforced and developed in experiences across the curriculum. In order to assure that students begin to develop appropriate communication skills, the following goals and requirements have been created.

Goal: Writing

In the United States, all educated men and women should have the ability to express their thoughts effectively in written English. This most fundamental skill cannot be mastered in a basic skills course or courses, but must be reinforced constantly in writing experiences across the curriculum.

Requirements:

- (a) English 100, and
- (b) at least one writing-intensive (W) course in the department of the student's major.

Goal: Speaking

The ability to communicate effectively cannot be limited to written communication, but includes a command of spoken English. As with written expression, experiences in oral communication should be numerous and diverse.

Requirements:

- (a) Communication Arts 100, or a competency-based exemption administered by the communication arts department, and
- (b) an oral presentation within the major, either as part of a required course or in some other form to be determined by the individual major department.

Goal: Foreign language

Study of a language other than one's own sharpens intellectual discipline, exposes the student to different cultures, values, and thought processes, and provides access to the knowledge, insights, and literature of other peoples.

Requirements:

- (a) two semesters of study of a foreign language (modern or classical), excluding 100, or
- (b) ESOL 100, if students are eligible for this course.

Goal: Quantitative data

Students should learn to interpret numerical data because much of modern society communicates through quantitative forms.

Requirement:

(a) Mathematics 241, or
(b) a quantitative (Q) course designed to provide students with experiences in the use of quantitative data.

3. Fitness and wellness

Individuals function most effectively when physically fit and lead more satisfying lives when they enjoy total wellness.

Goal: Lifetime health

Through greater knowledge of how individuals can lead healthier lives, and through the acquisition of skills to maintain physical fitness, individuals are equipped for lifetime health.

Requirements:

(a) ESS 100; and
one credit of ESS activities courses; or
(b) a major in ESS.

4. Conceptual communities

Knowledge in the modern world has been fragmented. Those who seek knowledge pursue their search through modes of inquiries—methodologies—and groupings of subject matter for study—disciplines—as means of better comprehending a portion of the universe. Such groupings can be characterized as conceptual communities. An educational goal of Ursinus is to engage students with faculty members in rigorous intellectual adventures within several conceptual communities.

Goal: Awareness of historical consciousness and the individual

Developing historical consciousness, increasing one's understanding of value systems, and defining individual identity may be achieved by study in the Western and non-Western context of art, literature, history, philosophy, religion and science over time and space.

Requirements:

(a) History 101 and 102, or Philosophy 101 and 102, or I.D.S. 101 and 102.
(b) one 3- or 4-credit course from: art; Communication Arts 111, 211, 301; English 205, 206, 211, 302; music; Spanish 351; or four credits from Music 001-038.

Goal: Awareness of society and the individual

An understanding of the complexity of the human condition may be achieved by study of social organizations, and the interrelationship between society and the individual.

Requirements:

(a) Two of the following: Anthropology 100, Economics 100, Politics 100, Psychology 100, Sociology 100.

Goal: Awareness of science and society

An understanding of the fundamental impact of science on the modern world, and the issues of science as they influence the individual and society, may be achieved by study in the natural sciences and mathematics.

Requirements:

(a) One of the following mathematics courses: 100, 105, 108, 111, 112, 211, 241.
(b) Two of the following: Biology 100Q, 111Q, 112Q, 200a, 200b; Chemistry 100Q, 111 and 111a, 112 and 112a, 200; Geology 100, 200; Physics 100Q, 111, 112, 200a, 200b.

5. Study in depth

Through a study in depth, students should learn the modes of inquiry of an academic discipline, better understand the complex structure of knowledge, develop the ability to make informed judgments among conflicting methods of inquiry and interpretations, and acquire the ability to make connections among different disciplines.

Goal: Intensive study in an academic discipline

Study in depth is achieved in the disciplinary and interdisciplinary majors, and student-initiated majors.

The following majors have been approved by the faculty:

Anthropology and Sociology
Biology
Chemistry
Classics
Communication Arts
Computer Science/Mathematics
Economics & Business Administration
English
Exercise and Sports
 Science
French
German
History
International Relations
Mathematics
Philosophy & Religion
Physics
Politics
Psychology
Spanish

Requirements:

(a) All students must complete a concentration in an approved major. Course requirements are specified by the department or departments for each major.

(b) Majors include at least 32 credits in the major department or discipline, at least one writing-intensive (W) course, an oral presentation, and a capstone experience involving students in focused inquiry in pursuit of new knowledge and new ways of understanding.

Please refer to appropriate departments under Courses of Instruction for prescribed requirements in each major program.

6. Explorations

Because liberal education, at its core, is a broadening experience, the curriculum allows students the opportunity for exploration and reflection. Students may wish to structure their exploration in areas outside their study in depth, in which case they may pursue a minor concentration, or they may wish to enrich their experience by selecting a variety of courses.

Goal: Enrichment through electives

Students have the opportunity to enrich their education by exploring disciplines beyond the area of their major.

Requirement:

Students must complete at least 128 credits for graduation. Beyond the specific College requirements and the requirements of their major, students have the opportunity to broaden their intellectual horizons by taking courses of greatest interest to them. They may wish to use their electives to better prepare for vocational or career goals. Pursuing teaching certification is one such option.

Goal: The minor concentration

Students have the opportunity to develop a secondary academic specialty, although a minor concentration is not required.

The following minor concentrations have been approved by the faculty:

Accounting	Greek
Anthropology	Health
Art	History
Astrophysics	Human Behavioral
Athletic	Development
Training	Latin
Biology	Latin American
Business	Studies
Administration	Mathematics
Chemistry	Music
Coaching	Neuroscience
Communication	Pennsylvania
Arts	German Studies
Computer	Philosophy
Science	Physics
Creative	Politics
Writing	Psychology
East Asian	Religion
Studies	Secondary
Economics	Education
English	Sociology
Finance	Spanish
French	Statistics
German	Wellness/Fitness
	Women's Studies

Requirements:

Students may elect a minor approved by the faculty, whether departmental or interdisciplinary. Students who have interests spanning more than one department may design individual minors in consultation with the chairpersons of the involved departments. Please refer to appropriate departments under Courses of Instruction for prescribed requirements in each minor program.

College Scholars' Program

Students may pursue guided interdisciplinary independent research in the College Scholars' Program (see Interdivisional Studies).

Candidates must prepare a prospectus outlining the proposed research project. Projects must be clearly interdisciplinary 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.

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 3.0 and an average of 3.3 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 3.3 and an average of 3.3 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 chairperson 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 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 (3.0 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, whose approval is needed.

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

Internships

In most departments, students may pursue off-campus internships. These are academic/work experiences 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, but specific details must be defined in consultation with the internship adviser. Internships carry three or four credits,

depending on the department. 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 student. 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 or chairperson in the appropriate departments.

Washington Semester

Ursinus 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 American Politics Semester, the Economic Policy Semester, the Justice Semester, the Foreign Policy Semester, the Journalism Semester, and the Art and Architecture 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 may complete a major research project on a current issue or policy problem. Candidates for selection should have a firm grounding in the area they wish to study.

Interested students should contact Dr. Fitzpatrick (politics).

Howard Semester Program

This program allows Ursinus students to attend Howard University in Washington, D.C., under an exchange agreement between the two institutions. Students wishing to participate will normally do so for one semester in their junior year. Students will pay Howard's tuition and fees.

Interested students should contact Mrs. Jenneen Flamer (admissions).

The Philadelphia Center

The Philadelphia Center 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.

Interested students should contact Dr. Fitzpatrick (politics).

Ursinus/Universidad de las Americas, Puebla Program

This program is a one-for-one student exchange program with the Universidad de las Americas in Puebla, Mexico. Students may spend the fall or spring semester or a complete academic year at UDLA at no additional costs except transportation. Ursinus students at UDLA will receive instruction in Spanish if their level of proficiency is adequate. If not, they will be expected to enroll in Spanish language classes while taking classes where English is the language of instruction. The program is open to majors in any subject. Students may transfer up to 16 credits per semester.

Interested students should contact Dr. Eaton (modern languages).

Ursinus/Tohoku Gakuin University Program

Ursinus College has held a long-standing tradition of exchange programs with Tohoku Gakuin, its sister university in Sendai, Japan. The student exchange program, which began in the fall of 1991, provides Ursinus students with the opportunity to spend the

fall semester at Tohoku Gakuin at no additional cost except transportation. Classes are conducted in English except for Japanese language classes. The program is open to majors in any subject, but students may transfer up to 16 credits. Admission is competitive and students must have completed some Japanese language courses.

Interested students should contact Ms. Chika Inoue (modern languages).

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. Each course carries three credits. Ursinus College is a member of the National Association of Self-Instructional Language Programs.

Interested students who successfully studied another foreign language should contact Dr. Espadas (modern languages).

Summer Study Abroad

Ursinus offers summer programs in Japan and Mexico. The program in Japan, which runs from mid-May to mid-June, is offered in collaboration with Tohoku Gakuin University in Sendai, Japan. Students live with families while studying at the university and have an opportunity to visit Hiroshima and Tokyo. Interested students should contact Dr. Clark (history department). The program in Mexico takes place in August and includes a homestay in Cuernavaca and travel to Puebla, Guadalajara, and Mexico City. Interested students should consult with Dr. Shirley Eaton (department of modern languages). Both programs are led by Ursinus faculty.

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 prerequisite 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. 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. Courses whose numbers are followed by a "W" are writing-intensive courses. Courses whose numbers are followed by a "Q" are those which involve quantitative analysis.

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

Associate Professor Gallagher (*Chairperson*); *Assistant Professor* Oboler.

Anthropology and Sociology are related disciplines. Both are interested in the social life of groups. Many of the differences that exist between these two disciplines are the result of the original focus of anthropology on non-Western, generally small societies and the primary emphasis of sociology on our own society, which is large and steeped in Western European tradition.

Anthropology's concentration on small, non-Western societies encouraged a reliance on participant observation as a research tool, while sociology's interest in our own society required a statistical approach to collecting data. Today there are scholars in both disciplines using a wide variety of research tools resulting in

an overlapping of the methods of these two disciplines. Because of the intrinsic relationship between anthropology and sociology, many of our courses will attempt to integrate the material from these two disciplines. We believe that our integration of the disciplines will permit students to understand human behavior better, because they will see the variety of solutions that different societies have developed to resolve human problems, rather than simply analyze our own society.

Requirements for Majors

All students majoring in anthropology and sociology must take Anthropology 100 or Sociology 100; Anthropology/Sociology 300 (Methods); Anthropology/Sociology 400W (History and Theories); Anthropology/Sociology 460 (Seminar); four additional courses, at least two of which must be at the 200 level or above; and choose an emphasis in either anthropology or sociology. In addition, all majors are required to take Mathematics 241 (Statistics I).

I. Anthropology Emphasis

Students choosing the anthropology emphasis must take a minimum of 32 semester hours in anthropology and sociology, including either two ethnography courses (chosen from Anthropology 221, 232, 242 and Sociology 155,) or one ethnography course and Anthropology 390, research, with a focus on physical anthropology and prehistoric archaeology. English 214, linguistics and modern grammar, may be taken by students with an anthropology emphasis as credit towards the major. In addition, it is recommended that anthropology majors fulfill their science requirement in biology, and that they 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 32 semester hours in anthropology and sociology. Psychology 440, Social Psychology, may be taken by students with a sociology emphasis as credit towards the major. In addition, four credit hours in psychology are required. 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, philosophy, and literature electives are encouraged.

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

Requirements for Minors

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

I. Anthropology Minor

A minor in anthropology requires that students take a minimum of 16 semester hours in anthropology. These courses must include Anthropology 100 (Sociology 100 may be substituted) and one of the ethnography courses (Anthropology 221, 232, 242 or Sociology 155,) and at least one of the two remaining required courses must be at the 200 level or above. [Note: With the possible exception of Sociology 100, courses for the minor must be selected either from the list of anthropology courses or the list of integrated anthropology/ sociology courses. They may not include courses from the list of sociology courses.]

II. Sociology Minor

A minor in sociology requires that students take a minimum of 16 semester hours in sociology. These courses must include Sociology 100 (Anthropology 100 may be substituted) and at least two of the last three courses must be taken at the 200 level or above.

[Note: With the possible exception of Anthropology 100, courses for the minor must be selected either from the list of sociology courses or the list of integrated anthropology/sociology courses. They may not include courses from the list of anthropology courses.]

ANTHROPOLOGY AND SOCIOLOGY

Because of the close relationship between anthropology and sociology, and the large amount of substantive overlap, the department has decided to avoid redundancy by offering topically organized courses including materials from both disciplines.

ANSO-226. Marriage, the Family and Kinship
Dr. Gallagher

This is an integrated course which looks at marriage, the family and kinship as vital components of social life in all societies. Marriage, the family and kinship are fundamental aspects of social life in non-Western societies (both small and large) as well as in our own society. The goal of this course is to look at marriage customs, mate selection, divorce, child bearing, parenting, gender and sex roles, and the like, from a global perspective so that students can better understand the range of possibilities that exists in organizing human society, and in order to better understand these institutions in our own society.

Prerequisites: Any 100-level course in anthropology and sociology or written permission of the instructor. Three hours per week. *Four semester hours.*

***ANSO-235. Religion as a Social System**
Dr. Gallagher

Religion is a significant social force in most societies. In this course we will analyze the role of religion in reinforcing beliefs, in contributing to social stability, and in advocating change. We will analyze religion in small, non-Western societies, in large non-Western societies, as well as in our own society. Prerequisite: Any 100-level course in anthropology and sociology or written permission of the instructor. Three hours per week. *Four semester hours.*

***ANSO-262. Gender, Culture, and Society**
Dr. Oboler

The structure of sex and gender roles has important implications for the social system as a whole. After discussion of the nature of sex differences and the origins of gender roles, the roles of women and men and relations between the sexes are reviewed for a variety of world cultures. Factors which may help explain cross-cultural differences and regularities in sex/gender roles are examined. The focus then shifts to the modern American sex/gender role system: socialization, economic and family roles, sexual inequality, and gender-based public policy issues. Prerequisite: Any 100-level course in anthropology and sociology or

written permission of the instructor. Three hours per week. *Four semester hours.*

ANSO-265. Social Aspects of Aging
Dr. Oboler

The cultural definition of the life cycle, social aspects of aging, and social problems that primarily affect the later years are major course topics. After considering historical and cross-cultural variations in age-roles, modern American society is analyzed in depth. Issues addressed include biological and psychological processes of aging, work and retirement, family and friendship links, social inequality and ageism, roles in political and religious institutions, economic problems, housing, transportation and services for the elderly, health, illness and death. International perspectives on aging and the implications of the changing age structure of the population for the larger society are also discussed. Prerequisite: Any 100-level course in anthropology and sociology, or written permission of the instructor. Three hours per week. *Four semester hours.*

***ANSO-300. Methods in Anthropology and Sociology**
Dr. Gallagher and Dr. Oboler

An introduction to data collection, analysis and interpretation in anthropology and sociology. Students will be exposed to a wide variety of data collection techniques including participant observation, interviews, questionnaires, existing source studies, and the like. Students will also learn how to analyze and interpret the data with the aid of statistics. Ultimately, we will examine the relationship between research and theory. Prerequisites: Any 100-level course in anthropology and sociology, at least one 200-level course in anthropology and sociology, and Mathematics 241, or written permission of the instructor. Three hours per week. *Four semester hours.*

ANSO-381. Anthropology and Sociology Internship
Staff

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact any member of the department for further

**This course is not offered in 1993-1994.*

information. Prerequisites: A major in anthropology and sociology, junior standing, at least 12 credits in anthropology/sociology, and approval of the faculty internship adviser. 12 to 16 hours per week. *Four semester hours.*

ANSO-400W. History and Theories of Anthropology and Sociology
Dr. Gallagher and Dr. Oboler

A study of anthropology and sociology within the framework of Western thought. An analysis of the development of anthropological and sociological theory from the 19th century until today. Prerequisites: Anthropology 100 or Sociology 100, and Anthropology/Sociology 300. Three hours per week. *Four semester hours.*

ANSO-460. Seminar in Anthropology and Sociology
Staff

Seminar is the capstone course in the department of anthropology and sociology. As such, it will require that students choose a significant problem that is faced by our society, and using data from anthropology and sociology, as well as information from related disciplines, take an in-depth look at some significant issue. Students will also be required to report their findings in a major paper, and to report their results orally to the other members of the seminar. The topic of the seminar will change each time. Prerequisites: Any 100-level course in anthropology and sociology, Anthropology/Sociology 300, and Anthropology/Sociology 400. Three hours per week. *Four semester hours.*

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.

ANTH-100. Introduction to Sociocultural Anthropology
Dr. Gallagher

Sociocultural anthropology is one of four subfields in anthropology. This course will emphasize sociocultural anthropology but will also briefly look at the other subfields, physical, prehistoric archaeology, and linguistics. Our main focus will be placed on family patterns, kinship relationships, political organization, economic systems, religion, the arts, and social change. Prerequisites: None. Four hours per week. *Four semester hours.*

***ANTH-162. Peoples and Their Environments**
Dr. Oboler

Human cultural patterns and social institutions are adaptations to particular physical and social environments. Peoples and Their Environments is concerned with

the relationship between environment and subsistence systems on the one hand and social/political institutions and belief systems on the other. In this course, we will focus on case studies taken from a wide variety of traditional world cultures. Prerequisite: None. Three hours per week. *Four semester hours.*

ANTH-201. Topics in Ethnography
Dr. Gallagher

Ethnography is at the heart of cultural anthropology. All data derives from living with people and collecting information about their culture directly. This course will vary depending upon the needs of the students. Students will be able to emphasize an area of the world such as Native Peoples of North America, Peoples of Latin America, Peoples of the Pacific and Pacific

**This course is not offered in 1993-1994.*

Rim, or a more general course on Peoples of the World. Every student of anthropology should learn about ethnographic analysis, and this course will focus on the general benefits of ethnography while using data that is chosen by the students. The number of cultures, the depth of analysis of each and the grading procedure will be determined at the beginning of the course. Prerequisite: Any 100-level course in anthropology or anthropology/sociology. Three hours per week. *Four semester hours.*

ANTH-242. Peoples of Africa Dr. Oboler
The African continent south of the Sahara is a complex array of cultures. This course will introduce students to sub-Saharan Africa, by emphasizing both the tremendous diversity of African cultures and the unifying themes that distinguish Africa as a cultural area. Topics include history of human settlement and population migrations; social, political, and economic organization; traditional and contemporary religion and belief systems; the impact of European colonization; and contemporary social change. The special case of South Africa receives in-depth attention at the end. Prerequisite: Any 100-level course in anthropology or anthropology/sociology. Three hours per week. *Four semester hours.*

ANTH-351. Topics in Anthropology Staff
An occasional course which will focus on special topics in anthropology. This course is offered as needed. Prerequisite: Any 100-level course in anthropology and sociology or written permission of the instructor. Three hours per week. *Four semester hours.*

ANTH-371. Readings in Anthropology I Staff
Readings in anthropology is a directed reading course in which a student can further develop an interest he or she began in a course, or can explore an interest in the field for which we do not provide a course. In order to register for readings, a student must have a clear goal, must

present a bibliography to the faculty member who will be supervising the readings course, and the work will be demonstrated. Prerequisites: A student must be a major in anthropology and sociology, must have attained at least junior status, and have completed at least five courses toward the major. Six to eight hours of reading per week. *Two semester hours.*

ANTH-372. Readings in Anthropology II Staff
A continuation of Anthropology 371. Prerequisites: A student must be a major in anthropology and sociology, must have attained at least junior status, have completed at least five courses toward the major, and have completed Anthropology 371. Six to eight hours of reading per week. *Two semester hours.*

ANTH-390. Research Staff
Research involves directed readings and research on an anthropological 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: Anthropology 100, two 200-level anthropology courses, and written permission of the instructor. *Four semester hours.*

ANTH-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. Prerequisites: A minimum of 8 semester hours of 300- or 400-level courses and the permission of the department chair. *Four semester hours.*

ANTH-492. Research/Independent Work Staff
A continuation of Anthropology 491. Prerequisites: Anthropology 491 and permission of the department chair. *Four semester hours.*

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.

SOC-100. Introduction to Sociology**Dr. Oboler**

Designed to introduce students to the discipline of sociology, this course emphasizes basic sociological concepts and their applications to various real-life social situations. Topics discussed include society, culture, social groups, interaction, deviance, social stratification, gender roles, race relations, population, urbanization, social change, and social institutions, particularly religion and the family. Four hours per week. *Four semester hours.*

SOC-155. American Ethnic Groups**Dr. Oboler**

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. Prerequisites: None. Three hours per week. *Four semester hours.*

SOC-175. Social Problems **Dr. Gallagher**

Many societal problems have broad historical and/or social implications. In this course, we will analyze a number of these problems including poverty, racial and ethnic discrimination, sexual discrimination, illness and medical care, the changing family, environmental crises, abortion, terrorism, and war. Prerequisite: None. Three hours per week. *Four semester hours.*

SOC-195. Sociology of Medicine*Dr. Gallagher**

An exploration of various aspects of the health-care system. We will focus on views of illness and disability, patients, doctors, hospitals, and the interaction between these elements as they are influenced by and influence society. Prerequisite: None. Three hours per week. *Four semester hours.*

SOC-345. Social Stratification**Dr. Oboler**

An analysis of the bases and perpetuation of social inequalities, including class, race, gender and other forms of inequality. Theories of causes of stratification and problems of measuring different levels of wealth, power and prestige are examined. Consideration of how social inequality is structured in non-industrial societies precedes emphasis on the nature of social inequality in the United States. Cross-national comparisons of social stratification in modern industrial societies are also made. Prerequisite: Any 100-level course in anthropology and sociology or written permission of the instructor. Three hours per week. *Four semester hours.*

SOC-360. Topics in Sociology **Staff**

An occasional course which will focus on special topics in sociology. This course is offered as needed. Prerequisites: Any 100-level course in anthropology and sociology, and at least one 200-level sociology course. Three hours per week. *Four semester hours.*

SOC-375. Readings in Sociology I **Staff**

Readings in sociology is a directed reading course in which a student can further develop an interest he or she began in a course, or can explore an interest in a field in which we do not provide a course. In order to register for readings, a student must have a clear goal, must present a bibliography to the faculty member who will be supervising the readings course, and the work will be demonstrated. Prerequisites: A student must be a major in anthropology and sociology, must have attained at least junior status, and have completed at least five courses toward the major. Six to eight hours of reading per week. *Two semester hours.*

SOC-376. Readings in Sociology II **Staff**

A continuation of Sociology 375. Prerequisites: A student must be a major in anthropology and sociology, must have

**This course is not offered in 1993-1994.*

attained at least junior status, have completed at least five courses toward the major, and have completed Sociology 375. Six to eight hours of reading per week. *Two semester hours.*

SOC-391. 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. Prerequisite: Any 100-level course in anthropology and

sociology or written permission of the instructor. *Four semester hours.*

SOC-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. Prerequisites: A minimum of 8 semester hours of 300- or 400-level courses and the permission of the department chair. *Four semester hours.*

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

A continuation of Sociology 491. Prerequisites: Sociology 491 and permission of the department chair. *Four semester hours.*

APPLIED MATHEMATICS/ECONOMICS

See Combined Majors

ART

Professor Visser; Associate Professor Xaras; Adjunct Professor Barnes.

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 are offered in both art history and in studio art.

Minor in Art

A minor concentration in art consists of 20 credits in art.

ART-100. Introduction to Art **Staff**
The course provides an introduction to the principal elements of the visual arts, including architecture. The purpose of the course is to provide a foundation for an understanding of the visual arts. The approach will be topical, drawing from the spectrum of Western and non-Western art. Intended for freshmen and sophomores. Three hours per week. *Three semester hours.*

ART-201. Introduction to Studio Art I **Mr. Xaras**
The course introduces students to the two-dimensional media, including principles of line, shape, color and composition and experience in drawing and painting. Students are expected to develop a portfolio of work outside the class meetings. Enrollment limit of 18. Intended for freshmen and sophomores. Three hours per week plus extensive individual work. *Four semester hours.*

ART-202. Introduction to Studio Art II**Mr. Xaras**

This course is a continuation of Studio Art I, in which students develop their creative ability in two-dimensional media. Students are expected to continue developing their talents and techniques outside class. Enrollment limit of 18. Prerequisite: Art 201, or permission of instructor based on portfolio. Three hours per week plus extensive individual work. *Four semester hours.*

ART-203. Introduction to Drawing and Painting**Mr. Xaras**

This course offers an opportunity to develop creative ability using two-dimensional media. Open to all students. This course will not be offered after 1992-93. Enrollment limit of 18. Three hours per week. *Three semester hours.*

ART-301. Drawing**Mr. Xaras**

Sustained studio work exploring traditional and modern procedural and conceptual expression using pencil and charcoal. Students must develop their techniques in significant independent work beyond the contact hours. Prerequisite: Art 202 or permission of instructor based on portfolio. Enrollment limit of 18. Three hours per week. *Four semester hours.*

ART-302. Painting**Mr. Xaras**

Sustained studio work exploring traditional and modern procedural and conceptual expression in various painting media. Students must develop their techniques in significant independent work beyond the contact hours. Prerequisite: Art 202 or permission of instructor based on portfolio. Enrollment limit of 18. Three hours per week. *Four semester hours.*

ART-311. History of Art I: Ancient Through Renaissance**Dr. Visser**

An introduction to the history of architecture, sculpture, and painting through the Renaissance, presented by

means of illustrated lectures and museum trips. Three hours per week. *Four semester hours.*

ART-312. History of Art II: Renaissance to Impressionism**Dr. Visser**

An introduction to the history of Western architecture, sculpture and painting from the Renaissance to French Impressionism. Three hours per week. *Four semester hours.*

ART-313. History of Art III: Post-Impressionism*Ms. Barnes**

An introduction to the history of Western art from the nineteenth century to the present. Three hours per week. *Four semester hours.*

ART-401. Special Projects in Fine Art Staff

Advanced independent work on a creative project approved and supervised by a faculty adviser. Prerequisite: A juried portfolio or other creative works. *Four semester hours.*

ART-414W. Seminar in the History of Art Staff

In the course, students will develop research criteria and techniques, using museum and library resources, in topics in a specific era of art history. Prerequisite: Art 311, 312, or 313, or permission of instructor. Three hours per week. *Four semester hours.*

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

This course is open to candidates for departmental honors and to other students, with the permission of the instructor. *Four semester hours.*

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

A continuation of Art 491. Prerequisite: Art 491. *Four semester hours.*

*This course is not offered in 1993-1994.

BIOLOGY

Professors Allen, Shinehouse, Sidie, Small (*Chairperson*); *Associate Professor* Fields; *Assistant Professors* E. Dawley, R. Dawley, Hughes; *Adjunct Professor* Goddard.

The underlying philosophy of the departmental curriculum is to provide a balanced and current biological education within the broader context of the liberal arts. The curriculum has been designed to keep pace with new developments in the field and to afford students as broad a base as possible for understanding the principles governing life processes.

Coursework provides a firm foundation of knowledge in the various sub-disciplines, fosters the scientific attitude, and familiarizes students with current research methods. A capstone course, coupled with oral and written experiences within the department, helps to develop and reinforce the ability to think clearly, critically and independently. In the junior and senior years, students have the opportunity to pursue an independent project, which may include research with a faculty mentor.

Successful completion of the curriculum prepares students for graduate work, for employment in a biologically oriented profession, 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.

Requirements for Majors

To fulfill the requirements of the major, all students must complete 36 semester hours of biology as outlined in the departmental core and the ancillary requirements listed below.

- I. *Required Courses:* Biology 111Q, 112Q and one of the following capstone courses: Biology 470W, 480W, 481W, 482W, 491W, 492W.
- II. *Distribution requirements:* At least two courses must be completed in each of the following divisions:
 - A. Cell Biology and Physiology: Biology 225, 226, 332, 335, 345, 346, 426, 431, 436.
 - B. Organism and Population Biology: Biology 222, 232, 311, 318, 330, 333, 334, 372, 415, 424.
- III. *Electives:* Chosen in accordance with the major area of interest and bringing the total to a minimum of 36 credit hours in biology.

NOTE: A maximum of 10 credit hours of research may be applied to the major.

IV. Required of all majors:

- A. Chemistry: 111, 111a, 112, 112a.
- B. Mathematics/Computer Science: Any two of the following – Math 111, 112, 241, 242, 271.

V. Recommended to all majors:

- A. One year of physics
- B. One year of organic chemistry

Requirements for Minors

A minor concentration in biology consists of Biology 111Q, 112Q and at least 12 additional elective credits in biology, exclusive of internships or research.

Special Career Interests

- I. Students seeking admission to graduate programs in biologically related fields should note the following:
 - 1. A year of organic chemistry is strongly recommended.
 - 2. At least one additional course in chemistry is recommended.
 - 3. Mathematics/Computer Science 241, 242 and 271 are recommended.
 - 4. Additional coursework in mathematics/computer science is recommended.
- II. Prospective secondary school teachers whose interest is biology and who wish to be certified in biological science should note the following:
 - 1. Physics 100 is required; a year of physics is recommended.
 - 2. Geology 100 is recommended.
 - 3. Simultaneous certification in general science is highly recommended.
 - 4. It is highly recommended that prospective teachers serve at least one semester as departmental assistants.
 - 5. The curriculum beyond the first year must be arranged in consultation with the chairman of the department of education or with the departmental teacher education adviser.

6. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs*.
- III. Students seeking admission to schools of medicine, dentistry, veterinary medicine, optometry and podiatry should note the following:
1. One year of organic chemistry and one year of general physics for science majors are required by all of the above schools.
 2. Many schools also require one full year of English and some specify one or two semesters of calculus.
 3. Students and their advisers should consult the premedical handbook or one of the premedical advisers for requirements of specific schools.
- IV. Students seeking admission to other health science programs, such as physical therapy, should consult the departmental allied health adviser.
- V. Students who seek employment in a biologically oriented profession should note the following:
1. Mathematics 241, 242, and 271 are strongly recommended.
 2. Economics and Business Administration 100 and 105 are recommended.
 3. Additional coursework in communication arts is recommended.
 4. Additional coursework in English composition is recommended.

BIO-100Q. Introduction to Biology Fields
 A study, designed for the non-science major, of selected fundamental principles of the science of biology. Societal issues and current biological problems will be stressed. Two hours of lecture; two hours of laboratory and/or discussion. *Three semester hours.*

NOTE: Students who have received credit for either Biology 111Q or 112Q may not enroll in Biology 100Q.

BIO-111Q. Principles of Biology: Organisms and Populations
Drs. Dawley and Goddard
 An introduction to the principal concepts underlying ecology, evolution, organismal diversity, and organismal structure and

function. Field and laboratory exercises emphasize independent investigation. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-112Q. Principles of Biology: Cells and Genes

Dr. Hughes and Staff

An introduction to the molecular basis of life and its perpetuation. Topics include elementary biochemistry, cellular organization and function, bioenergetics and genetics. Laboratory experiments cover aspects of molecular, cellular, and genetic biology. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

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

BIO-200a. Human Heredity Dr. Fields

A study, for non-science majors, of human genetics with emphasis on classical inheritance and the human application of molecular genetics. Social implications and current biological problems will be addressed. Prerequisite: Bio. 100Q or 112Q. Two hours of lecture; two hours of laboratory and/or discussion. *Three semester hours.*

NOTE: Biology 100Q and 200 may not be used for elective credits in biology for biology majors or minors.

BIO-200b. Environmental Science Staff

An introduction, for non-science majors, to the biological basis of environmental issues. Includes a study of ecosystems, populations, resources, energy, hunger, pollution, weather/climate, endangered species and land use. Prerequisite: Any 100-level course in biology, chemistry, geology, or physics. Two hours of lecture; two hours of laboratory and/or discussion. *Three semester hours.*

NOTE: Biology 100Q and 200 may not be used for elective credits in biology for biology majors or minors.

BIO-205. Experimental Methods

Dr. Sidie

A course in the application of experimental techniques in biology. Topics include experimental design, biostatistics, computer applications in biology, scientific literature, and biological instrumentation. Prerequisites: Biology 111Q, 112Q. Three hours of lecture, two hours of laboratory per week. *Four semester hours.*

BIO-222 Vertebrate Biology Dr. Allen

A study of the fossil history and modern diversity, life styles and adaptations of modern vertebrate animals and their

interactions with one another and with the environment. Prerequisites: Biology 111Q and 112Q or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

BIO-225. Cell Biology Staff

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. Prerequisites: Biology 100Q, 112Q or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

BIO-225a. Cell Biology Laboratory

Staff

Laboratory work related to cell biology with emphasis on physiological techniques, including isolating procedures, spectrophotometry and chromatography. Pre- or corequisite: Biology 225. Three hours per week. *One semester hour.*

BIO-226. Genetics Dr. Goddard

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. Prerequisites: Biology 111Q and 112Q, or permission of the instructor. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

BIO-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. Prerequisites: Biology 111Q and 112Q or 200; or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

BIO-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. Pre- or corequisite:

BIOLOGY

Biology 232. Two hours of laboratory per week. *One semester hour.*

BIO-311. Vertebrate Anatomy Dr. Allen

A comparative study of body structures, their functions and their evolution in the major groups of vertebrate animals. Laboratory study of representative vertebrates. Prerequisite: Biology 111Q and 112Q or permission of the instructor. Three hours of lecture; four hours of laboratory per week. *Four semester hours.*

BIO-315. Biochemistry Staff

The study of the properties, structure, synthesis and metabolism of carbohydrates, proteins, lipids, and nucleic acids. Biological oxidations, enzyme catalysis, and the chemistry of selected physiological processes are also included. Prerequisites: Biology 112Q and Chemistry 208. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-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 100Q or 112Q or permission of the instructor. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

BIO-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.*

BIO-330. Marine Biology Dr. Sidie

A field-oriented study of the important marine habitats, including pelagic and benthic zones, and intertidal communities. Topics include physical and chemical oceanography, marine plants, zooplankton, nekton, marine animals, and the marine ecosystem. Prerequisite: Biology 100Q and 200, or Biology 111Q and 112Q, or permission of the instructor. Lecture and

field investigations. (Course conducted in part at a marine field station.) *Four semester hours.*

BIO-332. Histology Mrs. Shinehouse

A study of the structure of vertebrate tissues and their integration into organs and organ systems. An introduction to histological technique. Prerequisites: Biology 111Q and 112Q or permission of the instructor. Two hours of lecture; five hours of laboratory per week. *Four semester hours.*

BIO-333. Plant Diversity Dr. Fields

A phylogenetic survey of the major non-vascular plant groups with an accompanying comparison to the flowering plants. The course will include identification, morphology, ecology and isolation and culture techniques. Prerequisites: Biology 111Q and 112Q. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

BIO-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. Prerequisites: Biology 111Q and 112Q. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

BIO-335. 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 111Q and 112Q; Chemistry 208. Two hours of lecture; three hours of laboratory per week. *Three semester hours.*

BIO-345. Microbiology Dr. Hughes

The structure, physiology, genetics, diversity, and ecology of micro-organisms. Topics in medical microbiology will be discussed to illustrate basic principles of pathology, virology, immunology, and epidemiology. The laboratory will cover techniques of bacterial propagation,

purification, identification, and genetic experimentation. Prerequisites: Biology 111Q and 112Q. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-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. Prerequisites: Biology 111Q and 112Q. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-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.*

BIO-372. Mammalogy Dr. E. Dawley

A study of vertebrate biology using the mammalian class as the case study. The course includes evolutionary history, phylogeny, diversity, structure and function, behavior and ecological aspects of mammals. Prerequisites: Biology 111Q and 112Q or permission of the instructor. Three hours of lecture; three hours of laboratory and field investigations per week. *Four semester hours.*

BIO-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. Credit toward requirements of the biology major will not be granted for both Biology 381 and Biology 480W. Prerequisites: Junior standing, nine credits in biology, and approval of a faculty internship adviser. Eleven to fourteen hours per week. *Four semester hours.*

BIO-390. Directed Study Staff

An introduction to the nature of biological research which can take the form of a library review paper or directed research in

an ongoing research project. Prerequisites: Biology 111Q, 112Q and permission of staff supervisor. *One semester hour.*

BIO-391. Directed Research Staff

Laboratory and/or field experiences under the direction of a faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. Prerequisites: Biology 111Q, 112Q and permission of a participating staff member. Three hours of laboratory per week. *One semester hour.*

BIO-392. Directed Research Staff

Content as in Biology 391, but offered in the spring term. Prerequisites: Biology 111Q, 112Q and permission of a participating staff member. Three hours of laboratory per week. *One semester hour.*

BIO-415. Ecology Dr. Small

Studies of the interrelationships between organisms and their environments 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. Prerequisites: Biology 111Q and 112Q or permission of the instructor. Three hours of lecture, three hours of laboratory per week. *Four semester hours.*

BIO-424. Evolution Dr. R. Dawley

A study of the processes of evolution, including population genetics, molecular evolution, the formation of new species, and evolutionary patterns of higher taxa through geologic time. The course will examine in detail the Neo-Darwinian theory of adaptation and natural selection as well as competing scientific explanations of evolutionary change. Prerequisites: Biology 111Q and 112Q or permission of the instructor. Three hours of lecture. *Three semester hours.*

BIOLOGY

BIO-424a. Evolution Laboratory

Dr. R. Dawley

Laboratory investigations of evolutionary processes, including karyology, protein electrophoresis, and DNA content analysis. Three hours of laboratory per week. *One semester hour.*

BIO-426. Molecular Biology Dr. Hughes

A survey of gene structure, transcription, translation, regulation, and replication, as well as the theory underlying laboratory techniques used in their study. Laboratory experiments will include DNA and protein isolation, enzymatic manipulations, electrophoresis, and nucleic acid hybridization in an attempt to clone and analyze a bacterial gene. Prerequisites: Biology 111Q and 112Q, Chemistry 207 and 208; or permission of the instructor. Biology 226 is recommended. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-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: Biology 111Q and 112Q or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-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 226. Three hours of lecture; four hours of laboratory per week. *Four semester hours.*

BIO-470W. Senior Seminar Staff

An in-depth investigation of a biological topic of current interest. Its study will involve discussions and reports based on current primary and review literature and will culminate in an independent library research project and its oral presentation. This course fulfills the capstone, oral and

writing requirements within the major. Prerequisites: English 100, CA 100, senior standing, permission of the instructor. Course offered both semesters. *Three semester hours.*

BIO-480W. Off-Campus Research Staff

An approved, off-campus field or laboratory research experience supervised by a faculty internship adviser and an on-site supervisor. Approved projects result in the library-assisted preparation of a final written thesis and an oral presentation of its results before a faculty/student colloquium. This course fulfills the capstone, oral, and writing requirements within the major. Credit toward requirements of the biology major will not be granted for both Biology 381 and Biology 480W. Pre- or corequisites: CA 100, English 100, junior or senior standing, and written consent of a faculty adviser. Eleven to fourteen hours per week. *Four semester hours.*

BIO-481W. Independent Research Staff

Laboratory or field investigation of some biological phenomenon. This original work includes library-assisted preparation of a final written thesis and the oral presentation of its results before a faculty/student colloquium. This course fulfills the capstone, oral and writing requirements within the major. Pre- or corequisites: English 100, CA 100, junior or senior standing, written consent of a staff member who will serve as research adviser. *Four semester hours.*

BIO-482W. Independent Research Staff

Content as in Biology 481W, but offered in the spring term. This course fulfills the capstone, oral and writing requirements within the major. Pre- or corequisites: English 100, CA 100, junior or senior standing, written consent of a staff member who will serve as research adviser. *Four semester hours.*

BIO-491W. Honors Research Staff

Content as in Biology 481W, but open only to candidates for departmental honors. This course fulfills the capstone, oral and writing requirements within the major. Prerequisites: English 100, CA 100, junior

or senior standing, written consent of a staff member who will serve as research adviser. *Four semester hours.*

BIO-492W. Honors Research Staff
Content as in Biology 481W, but offered in the spring term and open only to candidates for departmental honors. This course fulfills

the capstone, oral and writing requirements within the major. Prerequisites: English 100, CA 100, junior or senior standing, written consent of a staff member who will serve as research adviser. *Four semester hours.*

BUSINESS ADMINISTRATION

See Economics and Business Administration

CHEMISTRY

Professors Hess, Schultz, Tortorelli (Chairperson); Associate Professor Barth; Assistant Professors LoBue, Price; 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 111/111a; 112/112a; 204; 207/207a; 208/208a; 306/306a or 311/311a; 309/309a; 310; and either 491 and 492W, or one additional lecture course, one additional laboratory course, and 400W.

Other courses necessary to complete the departmental requirements of this program are Math 111, 112 and Physics 111, 112.

Track 2. American Chemical Society Certified Major

The American Chemical Society has adopted a set of standards for undergraduate training in chemistry. Students seeking certification must complete the following courses: Chemistry 111/111a; 112/112a; 204; 207/207a; 208/208a; 306/306a or 311/311a; 309/309a; 310/310a; 401/401a; and either 381 and 400W, or 390 and 400W, or 400W and 491, or 491 and 492W.

Other courses necessary to complete the departmental requirements of this program are Math 111, 112 and Physics 111, 112.

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

This course of study is designed for students planning admission to graduate programs in biochemistry, toxicology, pharmacology, etc., and 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 111/111a; 112/112a; 204; 207/207a; 208/208a; 306/306a or 311/311a; 309/309a; 310; and either 400W, or 491 and 492W.

Other courses necessary to complete the departmental requirements of this program are Biology 111, 112, 315; Math 111, 112; and Physics 111, 112.

Track 4. Specialization in Chemistry for Science Teaching

This program satisfies the requirements for secondary school certification in chemistry as established by the Commonwealth of Pennsylvania. Students seeking certification should enroll in the following: Chemistry 111/111a; 112/112a; 204; 207/207a; 208/208a; 306/306a or 311/311a; 309/309a; and 400W.

Other courses necessary are Biology 111; Math 111, 112; 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 2.00 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*.

Requirements for Minors

A minor concentration in chemistry consists of Chemistry 111/111a; 112/112a; 207/207a; 208/208a; 306/306a or 311/311a; and one course at the 300 level.

CHEM-100Q. The Science of Chemistry Staff

A study of the essential nature of chemistry, emphasizing basic chemical principles and applications. Topics may include atomic structure, bonding, the production and utilization of energy, and oxidation-reduction. Societal and historical perspectives are introduced by way of assignments from the popular literature. Assumes knowledge of algebra, but not chemistry. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

NOTE: A student who has received credit for Chemistry 111 may not enroll in Chemistry 100Q. This course does not count as elective credit in chemistry.

CHEM-111. Principles of Chemistry Dr. Schultz

A study of the fundamental theories and laws of chemistry. Topics include molecular structure, bonding theories, states of matter, solution properties, and thermodynamics. This course includes work in the mathematical solution of chemical problems. This course must be taken concurrently with Chemistry 111a.* Three hours of lecture per week plus one hour of recitation per week at the discretion of the instructor. *Three semester hours.*

CHEM-111aQ. Principles of Chemistry Lab Dr. Price, Staff

Laboratory work related to Chemistry 111. Experimental work includes the preparation and reaction of gases, the verification of the stoichiometric relationship between reactants and products, and titrations involving neutralization and redox reactions. This course must be taken concurrently with Chemistry 111.* Three hours per week. *One semester hour.*

CHEM-112. Inorganic Chemistry Dr. Price

A study of the physical and chemical properties of inorganic materials. Topics include chemical equilibria, pH, electrochemistry, nuclear chemistry, and kinetics. This course must be taken concurrently with Chemistry 112a.* Prerequisite: Chemistry 111. Three hours of lecture per week plus one hour of recitation per week at the discretion of the instructor. *Three semester hours.*

CHEM-112a. Inorganic Chemistry Lab Dr. Schultz, Staff

Laboratory work related to Chemistry 112. Experimental work includes chemical equilibrium, pH, quantitative colorimetric analysis, and qualitative analysis of common cations and anions. This course must be taken concurrently with Chemistry 112.* Prerequisite: Chemistry 111a. Three hours per week. *One semester hour.*

*A student who repeats this course need not also repeat its companion lecture or lab.

CHEMISTRY

CHEM-200. Topics in Chemistry Staff

A course that examines the impact of chemistry on society. Topics such as plastics, drugs, pollution, food chemistry, and forensic science are considered. Prerequisite: Chemistry 100 or 111. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

NOTE: A student who has received credit for Chemistry 112 may not enroll in Chemistry 200. This course does not count as elective credit in chemistry.

CHEM-204. Chemical Information Science Dr. Hess

The use of major literature sources in the field of chemistry and introduction to on-line information systems. Prerequisite: Chemistry 207. Two hours per week. *Two semester hours.*

CHEM-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. This course must be taken concurrently with Chemistry 207a.* Prerequisite: Chemistry 112. Three hours per week. *Three semester hours.*

CHEM-207a. Laboratory in Organic Chemistry Dr. Tortorelli

Laboratory work related to Chemistry 207: chromatography, distillation, extraction, infrared spectroscopy, and recrystallization. Experimental work includes measurement of physical properties, study of reaction kinetics, and synthesis. This course must be taken concurrently with Chemistry 207. Prerequisite: Chemistry 112a. Three hours per week. *One semester hour.*

CHEM-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 group, and polymerization. This course must be taken concurrently with Chemistry 208a.* Prerequisite: Chemistry 207. Three hours per week. *Three semester hours.*

CHEM-208a. Laboratory in Organic Chemistry Dr. Tortorelli

Laboratory work related to Chemistry 208; a continuation of 207a. This course must be taken concurrently with Chemistry 208.* Prerequisite: Chemistry 207a. Three hours per week. *One semester hour.*

CHEM-306. Instrumental Analysis Staff

A study of the theory and application of modern instrumental analysis. Topics may include electrochemistry, spectroscopy, and chromatography. Prerequisites: Chemistry 208 and Physics 112. Three hours per week. *Three semester hours.*

CHEM-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.*

CHEM-309. Physical Chemistry Dr. LoBue

An introduction to chemical thermodynamics and kinetics. Prerequisites: Chemistry 112, Math 112, and Physics 112. Three hours per week. *Three semester hours.*

CHEM-309a. Laboratory in Physical Chemistry Dr. LoBue

Laboratory work related to Chemistry 309. Prerequisite: Chemistry 304 (or concurrently). Three hours per week. *One semester hour.*

CHEM-310. Physical Chemistry Dr. LoBue

An introduction to the study of molecular structure and statistical thermodynamics. Prerequisite: Chemistry 309. Three hours per week. *Three semester hours.*

*A student who repeats this course need not also repeat its companion lecture or lab.

CHEM-310a. Laboratory in Physical Chemistry **Dr. LoBue**

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

CHEM-311. Spectrometric Methods **Dr. Tortorelli**

The theory and application of modern spectrometric methods of chemical analysis. Prerequisite: Chemistry 208. Three hours per week. *Three semester hours.*

CHEM-311a. Laboratory in Spectrometric Methods **Staff**

Identification of chemical compounds using complementary spectrometric methods. Prerequisite: Chemistry 311 (or concurrently). Three hours per week. *One semester hour.*

CHEM-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.*

CHEM-381. Internship **Dr. Tortorelli, 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 208, 208a. *Three semester hours.*

CHEM-390. Summer Research in Chemistry **Dr. Hess, Dr. Middleton**

Intensive investigation in an area of chemistry with a minimum of 240 hours of full-time laboratory and library work. Prerequisites: Chemistry 208, 208a, and written permission of the instructor. *Three semester hours.*

CHEM-391. Introduction to Research **Staff**

Laboratory and library work under the direction of a faculty member and designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Prerequisites: Chemistry 208 and 208a, and permission of a participating staff member. Three hours of laboratory per week. *One semester hour.*

CHEM-392. Introduction to Research **Staff**

Content as in Chemistry 391. Prerequisites: Chemistry 208 and 208a, and permission of a participating staff member. Three hours of laboratory per week. *One semester hour.*

CHEM-400W. Seminar **Staff**

The composition and presentation of a seminar and a review paper on a topic of interest to the chemical community. Emphasis is placed on acquiring skills needed for oral and written presentation of scientific material. Prerequisites: Chemistry 204, 208, and 309 (or concurrently); Communication Arts 100; English 100. Three hours per week. *Three semester hours.*

CHEM-401. Advanced Inorganic Chemistry **Dr. Price**

A study of bonding theories, group theory, structure, stereochemistry, and reactivity of main group and transition metal compounds. Other topics discussed are bioinorganic chemistry, catalysis, and superconductivity. Prerequisite: Chemistry 309 (or concurrently). Three hours per week. *Three semester hours.*

CHEM-401a. Laboratory in Advanced Inorganic Chemistry **Dr. Price**

Synthesis and characterization of inorganic and organometallic compounds using advanced techniques. Prerequisite: Chemistry 401 (or concurrently). Three hours per week. *One semester hour.*

***CHEM-412. Polymer Chemistry** **Dr. Schultz**

A study of the synthesis, structure, and properties of polymers. Topics include polymerization methods and kinetics,

*This course is not offered in 1993-1994.

determination of molecular weight and its distribution, and mechanical properties.
Prerequisites: Chemistry 208 and 309. Three hours per week. *Three semester hours.*

CHEM-491. Research/Independent Work
Dr. Middleton, Staff

Independent laboratory and library investigation in an area of chemistry, with oral progress reports to the department faculty and a written research report. Written consent of the research adviser and the department, at the time of registration, is required. Prerequisites or concurrently: Chemistry 204, 208, 208a, and 306a or 309a or 311a. Nine hours of laboratory and one hour of lecture per week. *Four semester hours.*

CHEM-492W. Research/Independent Work

Dr. Middleton, Staff

A continuation of Chemistry 491, with a final seminar and thesis describing research work. Emphasis is placed on oral and written presentation of scientific research, as well as advanced laboratory techniques. Prerequisites: Chemistry 491, Communication Arts 100, English 100. Nine hours of laboratory and one hour of lecture per week. *Four semester hours.*

Departmental Honors in Chemistry

Students successfully completing Chemistry 491, 492W 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.

CLASSICS

Professor Wickersham (Chairperson); Lecturer Slagter.

Courses in the department of classics are intended to develop reading ability in ancient Greek and Latin, and to introduce the student to the major forms and themes of classical literature and culture. They enhance general linguistic facility and give the student direct access to the original documents and foundations of Western civilization.

Requirements for Majors

General Coursework. Majors must take at least 16 semester hours in Greek, and 16 semester hours in Latin above Latin 100. Majors must include among their electives eight semester hours in some other language and also elect at least 12 semester hours from the following major-related courses: Classics 321, 326; English 214; Anthropology 100; History 101, 102, 251; Art 311-313; Philosophy 101, 102, 103, 301; Interdivisional Studies 101, 102. Other courses not mentioned may be counted as major-related with the approval of the department.

Oral Presentation. This requirement may be satisfied by a special assignment in any ordinary course in the department at the 300 or 400 level. When registering, the candidate shall announce his or her intention to fulfill this requirement in said course; this intention shall be recorded by a letter written by the candidate and placed in the candidate's file. The candidate shall consult with

the instructor and arrange that one class-hour in the 12th week of the course be devoted to the oral presentation and discussion thereof. The presentation must be no less than 15 and no more than 20 minutes in length. The instructor shall evaluate the presentation with attention to content and delivery. The evaluation shall show whether or not the candidate has satisfied the requirement; the instructor shall record the result by writing a letter to be placed in the candidate's file, with a copy thereof to be given to the candidate.

Writing-Intensive Course. This requirement may be satisfied by the following courses: Greek 401W, 491W; Latin 401W, 491W. The 491W courses will be for those majors who have registered for departmental honors, and they will feature the development of secondary bibliography on the subject of the thesis. All of these writing-intensive courses will begin with a study of the invention and evolution of prose-style in antiquity, with modern parallels. They will then study examples of the forms of writing modernly practiced in classical studies: translations, brief reviews, longer reviews/discussions, short essays, commentaries, books. Attention in class will be directed towards the structure, cogency, and style of the specimens. Candidates will write original examples in these forms, the amount of formal writing to be no less than 10 pages in the final version. There will also be informal writing in the form of a journal, kept in a composition book to be filled up with daily entries, as well as in-class exercises. The formal writing will be shared with the class, and some of the informal writing as well. English 100 is prerequisite.

Capstone Experience. This requirement may be fulfilled by the seminar courses for the Spring semester of the senior year: Greek 402, 492; Latin 402, 492. The 492 courses will be for those majors who are writing an honors thesis, 402 for others. In either case the candidate will be required to execute a substantial project which must combine a topic in Greek or Roman antiquity with the concerns of at least one other department of the College. Examples: ancient historiography, ancient science (biology, astronomy, physics, chemistry), current literary theory and ancient literature, classical archaeology, comparative linguistics. This approach creates a special subject in the major while also integrating the major with the rest of liberal education.

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 booklet, *Ursinus College Teacher Education Programs*.

Requirements for Minors

A minor concentration in Greek consists of 16 credits in Greek and four credits in classics-in-translation (Classics 321, 326).

A minor concentration in Latin consists of 16 credits in Latin, and four credits in classics-in-translation (Classics 321, 326).

CLASSICS

Ancient texts used in the following two courses are in English translation.

CLAS-321. Topics in Classics**Dr. Wickersham**

A thorough study of one area of ancient Greek or Roman experience, thought, and literature. Reading in translation of comedy or epic or tragedy. Prerequisites: English 100; Liberal Studies 100. Three hours per week. *Four semester hours.*

from Homer to the present. Four hours per week. *Four semester hours.*

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

CLAS-326. Mythology*Dr. Wickersham**

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. Prerequisites: English 100; Liberal Studies 100. Three hours per week. *Four semester hours.*

GRK-311. 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 202 or equivalent. Three hours per week. *Four semester hours.*

GRK-313. Historical Writers**Dr. Wickersham**

Large excerpts from Herodotus' *Persian Wars*, Thucydides' *Peloponnesian War*, or Xenophon's *Greek History*. Three hours per week. *Four semester hours.*

GREEK**GRK-100. Introduction to Greek****Dr. Wickersham**

Systematic study of the fundamentals of ancient Greek vocabulary and grammar. Practice in reading and composition. Five hours per week. *Four semester hours.*

GRK-314. Drama **Dr. Wickersham**

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

GRK-201. Athens in the Late Fifth Century**Dr. Wickersham**

In the twilight of the Golden Age, political and intellectual changes bring stress. A variety of readings related to the search for justice and the affair of Socrates. Four hours per week. *Four semester hours.*

GRK-315. New Testament**Dr. Wickersham**

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

GRK-202. Hellenic Panorama**Dr. Wickersham**

Greek has the longest recorded history of any living language. This course presents a variety of readings spanning the millennia

GRK-317. Selected Topics**Dr. Wickersham**

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

**This course is not offered in 1993-1994.*

GRK-318. Selected Topics**Dr. Wickersham**Three hours per week. *Four semester hours.***GRK-401W. Seminar Dr. Wickersham**Seminars of varying content, concentrating on a topic, author or genre, combined with study and practice in writing. Prerequisite: English 100. Three hours per week. *Four semester hours.***GRK-402. Seminar Dr. Wickersham**Seminars of varying content, concentrating on a topic, author, or genre. Three hours per week. *Four semester hours.***GRK-491W. 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. Concentration in the topic of the honors thesis, with study and practice of writing. Prerequisite: English 100. *Four semester hours.***GRK-492. Research/Independent Work****Dr. Wickersham**A continuation of Greek 491. Prerequisite: Greek 491. *Four semester hours.***LATIN****LAT-100. Introduction to Latin****Dr. Wickersham**Systematic study of the fundamentals of classical Latin vocabulary and grammar. Practice in reading and composition. Five hours per week. *Four semester hours.***LAT-201. From Aeneas to Hannibal****Dr. Wickersham**Readings present legends and history of Roman origins from the Trojan War through the first war with Carthage. Four hours per week. *Four semester hours.***LAT-202. Rome: Triumph and Tragedy****Dr. Wickersham**Readings from Livy, Sallust, Eutropius, Cicero: Rome gains the world while endangering its own soul. Four hours per week. *Four semester hours.*

The sequence Latin 100, 201, 202 is recommended for fulfilling the foreign language requirement.

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

LAT-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. *Four semester hours.***LAT-303. Historical Writers****Dr. Wickersham**Caesar, Suetonius, or Tacitus. Three hours per week. *Four semester hours.***LAT-304. The Roman Revolution****Dr. Wickersham**Speeches and letters of Cicero, and other contemporary documents. Three hours per week. *Four semester hours.***LAT-305. Vergil's Aeneid****Dr. Wickersham**Study of the epic that defined Roman destiny and made empire acceptable to Europe. Three hours per week. *Four semester hours.***LAT-307. Selected Topics****Dr. Wickersham**Content variable, concentration on author, period, genre and the like. Three hours per week. *Four semester hours.***LAT-308. Selected Topics****Dr. Wickersham**Three hours per week. *Four semester hours.***LAT-401W. Seminar Dr. Wickersham**Seminars of changing content, for study of special topics, authors, genres combined with study and practice in writing. Prerequisite: English 100. Three hours per week. *Four semester hours.***LAT-402. Seminar Dr. Wickersham**Seminars of changing content, for study of special topics, authors, genres. Three hours per week. *Four semester hours.*

LAT-491W. Research-Independent Work
Dr. Wickersham

This course is open to candidates for departmental honors and to other students with the permission of the department chairperson. Concentration in the topic of the honors thesis, with study and practice of

writing. Prerequisite: English 100. *Four semester hours.*

LAT-492. Research-Independent Work
Dr. Wickersham

A continuation of Latin 491. Prerequisite: Latin 491. *Four semester hours.*

COMMUNICATION ARTS

Professors Henry (Chairperson), Miller; Assistant Professors Czubaroff, Van Dusen; Lecturers Agostinelli, Hughes, Strunk.

The communication arts department aims to increase students' understanding and practice of communication through the study of the concepts and processes which govern dramatic, interpersonal/organizational, and mass media/public communications. Communication study helps to prepare students for careers in the arts (theater), business (administration, advertising, management, mass media, public relations); the professions (education, journalism, law); and social services. Students may elect a major or minor in communication arts, or a minor in theater arts.

Requirements for Majors

A major in communication arts consists of 36 semester hours of credit, including Communication Arts 203, 219, 270W; one 400-level seminar or honors project; and three courses at the 300 level or above. Communication Arts 100 is not considered part of the major. English 208 or 214 may also be included in the major; CA 111, while not required for the major, may be elected to fulfill the College fine arts requirement. A major research project or paper (normally completed in Communication Arts 444W, 445W, 446W, 447W, or 491 and 492) must be approved by the communication arts faculty before graduation. Students are encouraged to complete a minor in another department.

Areas of Emphasis: While the communication arts department is committed to giving students a broad, rather than a specialized, training in communication studies, those students who wish to emphasize the study of interpersonal/organizational, mass media/public communication, or theater arts may select courses according to the following emphases:

- I. Interpersonal/Organizational
 CA 325, 351, 352, 447W.

II. Mass Media/Public Communication

CA 207, 210, 309, 310, 345, 358, 362, 444W, 445W.

III. Theater Arts

CA 111, 211, 222, 301, 311, 446W.

Requirements for Minors

A minor in communication arts supports students in their major areas of study. A minor concentration consists of a minimum of 20 hours of credit (excluding CA 100), including Communication Arts 203, 219, and eight hours at the 300 level or above.

A minor concentration in theater arts consists of a minimum of 20 hours of credit, including CA 111, 219, 301, 311, and at least one of the following: CA 211, 222, 446W. Participation in proTheatre productions for a minimum of two semesters is also required.

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

CA-100. Public Speaking

The composition and presentation of speeches that inform and persuade, with group analysis and criticism. Three hours per week. *Three semester hours*. Enrollment limited to 20 students per section.

Staff

are examined with regard to organization, content, control, economics, and effects on their audiences. Three hours per week. *Four semester hours*.

CA-111. Introduction to Theater

A study of the art of the theater which explores literary genres; contributions of directors, actors, designers; the nature of the audience; and varieties of theater space. Students will participate as spectators, creators, and performers. Four hours per week. *Four semester hours*.

Dr. Henry**CA-207. Introduction to Journalism**

An introduction to methods of factual reporting, reviewing and interviewing, and editing of journalistic material. The course also includes an examination of current libel and slander laws. Work on college publications is encouraged. Enrollment is limited to 12 students per section. Prerequisites: English 100 and Communication Arts 203 or permission of instructor. Three hours per week. *Four semester hours*.

Ms. Agostinelli**CA-203. Mass Media and Society**

An introductory historical and critical survey of the mass media industries in the United States. Print, television, radio, film, and new telecommunication technologies

Dr. Miller

CA-210. Television I: Studio Production
Dr. Miller

An overview of the principles and techniques of studio television production. Emphasis is placed upon an understanding of the operation and functioning of television equipment, preproduction planning, scripting for television, and directorial techniques. Enrollment limited to 15 students. Prerequisites: CA 100, 203. Four hours per week. *Four semester hours.*

CA-211. Shakespeare on Stage
Dr. DeCatur, Dr. Henry

A comparative study of productions and interpretations of a selection of Shakespeare's comedies, histories, tragedies and romances (the same course as English 211). Prerequisite: English 100. Three hours per week. *Four semester hours.*

CA-219. Interpersonal Communication
Ms. Van Dusen

A study of the ways people generate meaning in dyadic relationships. Special attention is given to symbolic codes, listening, and relational conflicts as well as to intercultural and gender differences in communication. Prerequisite: CA 100. Four hours per week. *Four semester hours.*

CA-222. Oral Interpretation **Mr. Strunk**

An introduction to literature through the mode of performance. Students examine verbal and nonverbal behavior, the relationship of interpreter and audience, and perform and analyze selections of prose, poetry, and drama. Prerequisites: CA 100, 111. Four hours per week. *Four semester hours.*

CA-270W. Communication Theory and Research **Dr. Czubaroff**

An introduction to conceptual and research issues in the field of communication. Fundamental models, theories, and methods of communication are covered, as well as writing conventions common to the field. Prerequisites: CA 203, 219 (one of which may be taken concurrently). Three hours per week. *Four semester hours.*

300- and 400-level courses are offered in rotation.

CA-301. Theater Workshop **Dr. Henry**
An introduction to basic acting techniques and elementary stagecraft. Students participate in acting exercises, improvisation, and scene study, and gain practical experience in campus productions. Prerequisites: CA 100, 111, and 211 or 222; or permission of instructor. Four hours per week. *Four semester hours.*

CA-309. Television II: Electronic Field Production and Editing
Dr. Miller

The techniques of single-camera electronic field production. The course emphasizes pre-production planning and single-camera script development, writing for broadcast, and post-production electronic video editing and audio mixing. Enrollment limited to 15. Prerequisite: CA 210. Three hours of lecture, two hours of lab per week. *Four semester hours.*

CA-310. Television III: Advanced Television Production **Dr. Miller**

An advanced television production course for students interested in developing additional expertise in studio and field production as well as in television graphics. Students work intensively on one or more assigned projects which vary each year. Enrollment limited to 15. Prerequisite: CA 309. Three hours of lecture, two hours of lab per week. *Four semester hours.*

CA-311. History of Theater **Dr. Henry**
A survey of the development of theater, its literature, architecture, and artists, from the Greeks to the 20th century. Prerequisites: junior standing, CA 100, 111, 270W, and one of the following: CA 211, 222, 301; or permission of the instructor. Three hours per week. *Four semester hours.*

CA-325. Small Group Communication
Ms. Van Dusen

An examination of the theory and process of communication in goal-oriented groups. Special attention is given to decision-making, problem solving, leadership, and conflict management. An introduction is provided to small group methodologies useful in the evaluation of group process.

Prerequisite: CA 100. Four hours per week. *Four semester hours.*

CA-345. Argumentation Dr. Czubaroff

A study of the basic principles of argumentation and their application in a variety of communication settings. Students analyze extended public arguments, and participate in such argumentation forms as collaborative discussion, advocacy subgroups, and negotiation. Prerequisite: CA 100. Three hours per week. *Four semester hours.*

CA-351. Intercultural Communication
Ms. Van Dusen

An examination of face-to-face communication between people of different cultural backgrounds, including racial, ethnic, and gender groups. Typical encounters are analyzed to identify cultural differences in expectations, practices, and meanings. Topics include cross-cultural comparisons of nonverbal behaviors, power relations, language and perception, and intercultural communication competence. Prerequisite: CA 219. Four hours per week. *Four semester hours.*

CA-352. Organizational Communication
Ms. Van Dusen

An examination of the structure and functions of communication in various organizations, which are studied as human systems and as cultures. Topics include formal and informal channels of communication, power structures, information flow, and organizational effectiveness. Field research is required. Prerequisite: CA 219 or 325. Four hours per week. *Four semester hours.*

CA-358. Persuasive Communication
Dr. Czubaroff

A study of the logical, psychological, and symbolic foundations of persuasive communication. The theoretical study is complemented by an examination of persuasion processes relied upon in advertising, journalism, political communication and religious broadcasting. Prerequisite: CA 203 or permission of instructor. Three hours per week. *Four semester hours.*

CA-362. Issues in Mass Communication
Dr. Miller

A critical analysis of selected issues within the field of mass communications. Course content focuses upon media and politics, media and government regulation and policy, press freedoms, obscenity and censorship, media ownership, the new telecommunication technologies, and other current issues within the field. Prerequisite: CA 203. Three hours per week. *Four semester hours.*

CA-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, three courses at the 200 level (excluding 100) or above in communication arts, and approval of a faculty internship adviser. *Four semester hours.*

CA-411. Projects in Communication Arts
Staff

Advanced individual work on a special project related to an area of mass, human or creative communication. Prerequisites: Eight credits of 300-400 level courses in communication arts, a written project proposal, and permission of the instructor. *Four semester hours.*

CA-412. Projects in Communication Arts
Staff

Advanced individual work on a special project related to an area of mass, human or creative communication. Prerequisites: Eight credits of 300-400 level courses in communication arts, a written project proposal, and permission of the instructor. *Four semester hours.*

**CA-444W. Seminar in Mass
Communication** Dr. Miller

Intensive reading and individual research of a special topic within the area of mass communication. Emphasis is placed on the preparation of a major written and oral presentation of original research. Open to third- and fourth-year students with permission of the instructor. Prerequisites: English 100; CA 100, 203, 219, 270W, and

one of the following: 325, 345, 358, 362.
Three hours per week. *Four semester hours.*

CA-445W. Seminar in Rhetoric

Dr. Czubaroff

Intensive reading and individual research on a contemporary topic within the fields of public and mass communication. Emphasis is placed on the preparation of a major written and oral presentation of the research results. Open to third- and fourth-year students with permission of the instructor. Prerequisites: English 100, CA 100, 203, 219, 270W and one of the following: 345, 358, 362. Three hours per week. *Four semester hours.*

CA-446W. Seminar in Theater

Dr. Henry

Intensive reading and individual research on a historical or critical topic within the field of the theater. Emphasis is placed on the preparation of a major written and oral presentation of the research results. Open to third- and fourth-year students with permission of the instructor. Prerequisites: English 100; CA 100, 111, 211 or 222, 270W, 311. Three hours per week. *Four semester hours.*

CA-447W. Seminar in Human Communication

Ms. Van Dusen

Intensive reading and individual research on a contemporary topic within the fields of interpersonal, small group, intercultural,

and organizational communication.

Emphasis is placed on the preparation of a major written and oral presentation of the research results. Open to third- and fourth-year students with permission of the instructor. Prerequisites: English 100; CA 100, 203, 219, 270W, and one of the following: 325, 351, or 352. Three hours per week. *Four semester hours.*

CA-491. Research/Independent Work

Staff

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

CA-492W. Research/Independent Work

Staff

A continuation of Communication Arts 491. Prerequisite: Communication Arts 491. *Four semester hours.*

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.

COMPUTER SCIENCE

See Mathematics and Computer Science

EAST ASIAN STUDIES

Professor DeCatur; Associate Professor Clark (Coordinator); Assistant Professor Hood; Instructor Dezawa.

Acquaintance with cultures other than our own is an integral part of both a liberal education and preparation for a career in a variety of fields including business, law, teaching or government. The East Asian studies minor, an interdisciplinary program drawing on offerings in many departments but emphasizing history, literature, politics, and language, 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 in Sendai, Japan (see below.)

Requirements for Minors

A minor concentration in East Asian Studies consists of 20 credits from courses dealing with East Asia. Twelve credits must come from History 241, 243; Politics 346, 347; or English 223, 224. The remaining credits must come from the following: Anthropology 232; EAS 299, 314, 401; Japanese 100, 111, 112, 211, 212, 301, 328; History 241, 243; Philosophy and Religion 211; or Politics 346, 347, 353.

EAS-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. Four hours per week. *Four semester hours.*

EAS-314. Japanese Culture and Society

Mr. Dezawa

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

EAS-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. Instruction is in English and is provided by the faculty of Tohoku Gakuin University as well as members of the Ursinus faculty. Offered annually mid-May through June. *Not open to incoming freshmen. Four semester hours.*

ECONOMICS AND BUSINESS ADMINISTRATION

Professors Lentz, Pilgrim; *Associate Professors* Bowers, Harris, O'Neill (*Chairperson*); *Assistant Professors* Economopoulos, Murphy, Saleh.

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 35 semester hours of work in the department including EcBA 100, 242, 251, 252, and either 351W or 352W, and

three additional courses at the 300 level (excluding EcBA 381 and EcBA 399) or above. The courses 351W and 352W are capstone experiences in the major. In addition, majors must take Math 105 or 111 and 241. 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, 316, 319, 328, 463W, 464. Students planning graduate study in economics should also complete both EcBA 351W and 352W as well as Math 111, 112. In addition, Math 211 and 214 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 105, 218, 306, 307, 407 and 437.

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 105, 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*. 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 the interdisciplinary major of international relations. For additional information and course requirements, see the listing in the section on combined majors.

Requirements for Minors

A minor concentration in accounting consists of EcBA 100, 105, 203, 204.

A minor concentration in business administration consists of EcBA 100, 105, 218, 251, 306, 307 and Math 241.

A minor concentration in economics consists of EcBA 100, 251, 252 and two electives chosen from EcBA 221, 308, 309, 313, 314, 316, 319, or 328.

A minor concentration in finance consists of EcBA 100, 105, 251, 252, 306, and 316 and Math 241.

NOTE: Courses in economics, business administration and accounting in the Ursinus College Evening Division may have different prerequisites and coverage from those in the department of economics and business administration. Thus, courses in the Ursinus College Evening Division 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.

ECBA-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. *Four semester hours.*

statements. Topics include asset valuation, current and long-term liabilities, equity accounts, and analysis of cash flows. Prerequisite: EcBA 100. Four hours per week. *Four semester hours.*

ECBA-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. Proficiency in spreadsheet analysis is required.* Prerequisites: EcBA 100, 105. Four hours per week. *Four semester hours.*

ECBA-105. Principles of Accounting

Mrs. Harris, Mr. Bowers

An introductory study of the theory and practice of financial accounting procedures of sole proprietorships and corporations 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

*A noncredit workshop on spreadsheet analysis is offered by the College and may be taken concurrently with the beginning of the course.

ECBA-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 cash flows and other selected topics. Prerequisites: EcBA 100, 105, 203. Four hours per week. *Four semester hours.*

ECBA-218. Management Ms. Murphy

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 of 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. Spreadsheet analyses are used. Proficiency in spreadsheet analysis is required.* Prerequisite: EcBA 100. Three hours per week. *Three semester hours.*

ECBA-221. History of Economic Thought

Dr. Saleh

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.*

ECBA-242. Introduction to Econometrics

Dr. Lentz, Dr. O'Neill

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 105 or 111 must be previously completed or studied concurrently. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

ECBA-251. Intermediate Microeconomic Theory

Dr. Saleh, Dr. O'Neill

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 of lecture; two hour of laboratory per week. *Four semester hours.*

ECBA-252. Intermediate Macroeconomic Theory

Dr. Economopoulos, 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 of lecture; two hours of laboratory per week. *Four semester hours.*

ECBA-301. Accounting for 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, 105, 203, 204. Three hours per week. *Three semester hours.*

ECBA-302. Federal Income Tax Accounting/Tax Planning

Mr. Bowers

Introduction to fundamentals of the Federal income tax. Major emphasis is placed on the income tax as it pertains to individuals. Areas of discussion will include the history of the income tax, gross, deductions to adjusted gross income, itemized and standard deductions, exemptions, tax

*A noncredit workshop on spreadsheet analysis is offered by the College and may be taken concurrently with the beginning of the course.

calculations, and problems in tax planning. Certain topics regarding corporations will also be discussed.

Prerequisites: EcBA 100, 105, 203, 204.

Three hours per week. *Three semester hours.*

ECBA-303. 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, 105, 203, 204, 251. Three hours per week. *Three semester hours.*

ECBA-304. Theory and Practice of Auditing

Mrs. Harris

This course deals with auditing by the independent public accountant; course study includes professional ethics, auditors' 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, and scope of audit reports and qualifications thereof are studied. Prerequisites: EcBA 100, 105, 203, 204; Math 241. Three hours per week. *Three semester hours.*

ECBA-306. Corporation Finance

Dr. Economopoulos, Ms. Murphy

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. Extensive semester project based on financial analysis and forecasting is required. Proficiency in spreadsheet analysis is required.* Prerequisites: EcBA 100, 105, 251, Math 241. Three hours per week. *Four semester hours.*

ECBA-307. Marketing

Ms. Murphy

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. Spreadsheet analyses are used. Proficiency in spreadsheet analysis is required.*

Prerequisites: EcBA 100, 251. Three hours per week. *Three semester hours.*

ECBA-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 discussion analyzing current trade problems, prescriptions and legislation. Offered alternate years. Prerequisites: EcBA 100, 251. Three hours per week. *Three semester hours.*

ECBA-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. Offered alternate years. Prerequisites: EcBA 100, 252. Three hours per week. *Three semester hours.*

ECBA-313. Economics of the Public Sector

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. Offered alternate years. Prerequisites: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

ECBA-314. Economic Development

Dr. Saleh

An examination of the theories of economic growth and development and of the process and problems of economic development in the contemporary world. Offered alternate

*A noncredit workshop on spreadsheet analysis is offered by the College and may be taken concurrently with the beginning of the course.

years. Prerequisites: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

ECBA-316. Economics of Money and Capital Markets

Dr. Economopoulos

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.*

ECBA-319. Labor Economics **Dr. Lentz**

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. Offered alternate years. Prerequisites: EcBA 100, 251, and 252. Three hours per week. *Three semester hours.*

ECBA-328. Comparative Economic Systems

Staff

Analysis of alternative national economic systems in developed and underdeveloped countries in theory and practice. The formulation of economic policies to solve economic problems is discussed and compared. Offered alternate years. Prerequisites: EcBA 100, 251, 252. Three hours per week. *Three semester hours.*

ECBA-351W. Advanced Microeconomic Theory

Dr. Lentz

An advanced study, including a mathematical exposition and readings from current economics journals, of optimization and equilibrium analysis with applications in asset, resource and product markets. A research paper will be required and presented orally. Prerequisites: EcBA 100, 242, 251, 252; Math 105 or 111, and 241, English 100; Comm. Arts 100. Three hours per week. *Four semester hours.*

ECBA-352W. Advanced Macroeconomic Theory **Dr. Economopoulos**

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 and presented orally. Prerequisites: EcBA 100, 242, 251, 252; Math 105 or 111, and 241, English 100; Comm. Arts 100. Three hours per week. *Four semester hours.*

ECBA-381. Internship **Staff**

An off-campus academic/work experience under the supervision of a faculty internship adviser and an on-site supervisor. Contact the chair of the department for further details. Internships in accounting also require EcBA 105, 203 and 204. Prerequisites: Junior standing, 12 credits in economics and business administration, and prior written approval of a faculty internship adviser. Internships in accounting also require EcBA 105, 203 and 204. Eight to 10 hours per week. *Three semester hours.*

ECBA-399. Economics Tutorial **Staff**

Presentation of a research paper where peer evaluation is guaranteed, preferably at an undergraduate or professional conference. The paper must be a revision and extension of a previously graded paper, which has already undergone a series of faculty-supervised drafts. Prerequisites: EcBA 251 or 252, permission of the chairperson, and permission of the instructor who is to serve as the tutor. *One semester hour.*

ECBA-407. International Marketing

Ms. Murphy

The study of the marketing function in the context of world business. An examination of the complexities, problems and opportunities of worldwide 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. Offered alternate years. Prerequisites: EcBA 100, 251, 252, 307 and 308. Three hours per week. *Three semester hours.*

ECBA-437. Strategic Management and Business Policy **Ms. Murphy**

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. Prerequisites: EcBA 100, 105, 218, 251, 252, 306, and 307. Three hours per week. *Three semester hours.*

ECBA-463W. Advanced Econometrics
Dr. O'Neill, Dr. Lentz

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 and presented orally. Prerequisites: English 100; EcBA 100, 242, 251, 252 and either 351W or 352W. Three hours per week. *Four semester hours.*

ECBA-464. Mathematical Economics
Staff

Topics in mathematics of particular importance in economics, with applications. A research paper will be required.

Prerequisites: EcBA 100, 251, 252, and either 351W or 352W; Math 111, 112, 211; or permission of instructor. Four hours per week. *Four semester hours.*

ECBA-491. Research/Independent Work
Staff

Preparation of an independent research paper. Open only to candidates for departmental honors or to fourth-year majors with the permission of the departmental chairperson. *Three semester hours.*

ECBA-492. Research/Independent Work
Staff

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

EDUCATION

Professor O'Brien (Chairperson); Visiting Professor Price; Assistant Professor Gross.

Aims of the Education Department

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 clearly and logically 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	Japanese	Spanish
General Science	Latin	Teaching Intern

In addition to the 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*. 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 coursework, field experiences, and fitness for teaching. Candidates for the Instructional I certificate must also pass the National Teachers' Examination. (See the Ursinus education department for information and registration forms.)

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. Some states have recently instituted their own certification tests; the student interested in teaching outside Pennsylvania should consult with the education department at Ursinus or with the educational agency of the state in which he/she expects to teach.

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, two options are available: 1) a teacher certification program; 2) a minor in secondary education.

Teacher Certification

Required courses: Education 202, 265, 302, 405, 441, 443, and 444; Communication Arts 100. Education 443 will be satisfied for students who major in exercise and sport science by completing ESS-355.

All candidates for teacher certification must complete Communication Arts 100 (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 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 departmental requirements noted elsewhere in this catalog.

Admission to the teacher certification program or to student teaching is not automatic. Formal enrollment in the certification program is required, a step that should occur as early as possible in the student's academic career. (Enrollment forms are available in the Education Department.) Subsequent approval to engage in student teaching is a separate step, criteria for which are described below (EDUC-405).

A minor in secondary education. Required courses: Education 202, 265, 444, and either 434 or 446.

EDUC-202. Introduction to Education

Dr. Gross, 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. Ten hours of field experience are required. Three hours per week. *Three semester hours.*

EDUC-265. Educational Psychology Staff

Educational application of psychological concepts will be addressed. The focus is on the psychological processes involved in learning and behavior management in the classroom, but the course includes a survey of cognitive and social development. Prerequisite: Psychology 100. Three hours per week. *Four semester hours.*

EDUC-302. Education Practicum**Dr. Gross, Dr. Price**

An off-campus academic/work experience in the primary and secondary schools under the supervision of a faculty adviser and an on-site cooperating teacher. This course is designed to complement student teaching and should be taken in the same semester. Prerequisites: Completion of ED 202 and approval of a faculty practicum adviser. Minimum of three hours per week, including on-campus practicum sessions. *Two semester hours.*

EDUC-381. Internship**Dr. Price**

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.*

EDUC-405. Student Teaching**Dr. Gross, Dr. Price, 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. The course is open only to fourth-year students who meet published academic criteria. These criteria include a cumulative average of at least C+ (2.33) by the end of the junior year, as well as those criteria specified by 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, 265, 302, 441, 443, 444, CA 100. *Ten semester hours.*

EDUC-434. Seminar in Secondary**Education****Dr. Gross**

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.*

EDUC-441. General Teaching Methods**Dr. Gross**

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

EDUC-443. Special Teaching Methods**Staff**

This course, which supplements the general methods course (441), 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 Languages [Latin]; (E) English; (L) Languages, Modern [French, German, Japanese, and Spanish]; (M) Mathematics; (S) Science [Biology, Chemistry, General Science, and Physics]; (T) Teaching English as a Second Language (TESL); (X) Social Studies.

Sections are taught by experts in the subject fields from the public schools. Corequisite: Education 441. One hour per week. *One semester hour.*

EDUC-444. Foundations of Education**Dr. Gross, Dr. O'Brien**

A study of the philosophical and historical foundations of education, with reference to current conditions and practices in the public schools. Three hours per week. *Three semester hours.*

EDUC-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.*

EDUC-451. Research **Staff**

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.*

EDUC-452. Research

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

EDUC-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 departmental staff must be presented at the time of registration. *Three semester hours.*

EDUC-492. Research/Independent Work

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

EDUC-493. Supervised Field Experience

Dr. Price

For current teachers and others with relevant degrees and experience who wish initial or additional certification. Faculty will supervise teaching assignments during which the candidate teaches a variety of units or a range of grade levels under the guidance of a classroom teacher. Fall semester. Approval of department staff required. *Three semester hours.*

ENGLISH

Professors DeCatur, Henry, Perreten, Wickersham; *Associate Professors* Lionarons, Schroeder (*Chairperson*); *Assistant Professors* Dole, Kelley, Volkmer; *Lecturer* Agostinelli.

Requirements for Majors

Majors must complete at least nine courses in English beyond English 100, including: 201W; any four of the sequence 215-220, including either 219 or 220; at least two 300-level courses; and a 400-level seminar or an honors paper. Communication Arts 207 may also be included in the major.

Students who are considering graduate study in English are strongly encouraged to take more than the minimum number of courses, including the entire 215-220 sequence.

Students who want to be certified to teach English must fulfill all departmental requirements for an English major. Their courses should include literary genres, themes, chronologies, and major writers. In addition, students working toward certification must select the following courses: English 208 and 214; Communication Arts 100; and IDS 101. They are also strongly urged to complete the entire 215-220 sequence. Candidates for certification must also

participate in student journalism or theater activities. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs*.

Requirements for Minors

A minor concentration in English consists of at least 16 hours in English beyond English 100. At least two of the series 215-220 are strongly recommended.

A minor concentration in creative writing consists of English 302 plus at least three of the following composition courses: 205, 206, 208, Communication Arts 207. Participation in student publications (*The Grizzly* or *The Lantern*) for a minimum of two semesters is also required.

ENGL-100. First-Year Composition Staff
Expository writing workshop, with attention to all the stages of the writing process from generating ideas to refining drafts. Students will write frequent short papers. The course will also introduce students to the proper use of outside sources. Three hours per week. *Four semester hours.*

***ENGL-200. Introduction to Literature** Staff

The course develops skills in reading, understanding, and appreciating literature with the aim of helping students read good literature for lifetime enjoyment. Themes and topics change each year. Not open to junior or senior English majors. English 200 does not count toward an English major or minor. Prerequisite: English 100. Three hours per week. *Three semester hours.*

ENGL-201W. Literary Criticism and its Application
Dr. Kelley, Dr. Lionarons

A workshop in critical writing about literature, organized around the study of traditional and specialized approaches to fiction, drama, and poetry. Prerequisite: English 100 or equivalent. Four hours per week. *Four semester hours.*

ENGL-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: English 100. Three hours per week. *Four semester hours.*

ENGL-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: English 100. Three hours per week. *Four semester hours.*

ENGL-208. Advanced Expository Writing
Dr. Perreten

Practice, on an advanced level, in the writing and critical evaluation of nonfictional prose. Enrollment is limited to 12 students per section. Prerequisite: English 100. Three hours per week. *Four semester hours.*

NOTE: Students who have taken 234 will not receive credit for 208.

ENGL-211. Shakespeare on Stage
Dr. DeCatur, Dr. Henry

A comparative study of productions and interpretations of a selection of Shakespeare's comedies, histories, tragedies,

**This course is not offered in 1993-1994.*

and romances. Prerequisite: English 100.
Three hours per week. *Four semester hours.*

NOTE: English majors will normally take English 309, 310; credit toward the major will be given only for any two of the courses English 309, 310, or 211.

ENGL-214. Linguistics and Modern Grammar Dr. Lionarons

An introduction to synchronic and diachronic linguistics, stressing the ways in which linguistic structures promote effective communication. Recommended for future writers and lawyers as well as English teachers. Prerequisite: English 100. Four hours per week. *Four semester hours.*

ENGL-215. Medieval and Renaissance Literature Dr. DeCatur,
Dr. Lionarons, Dr. Perreten

Includes Chaucer, Spenser, Shakespeare, and others, presented in historical context. Prerequisite: English 100. Four hours per week. *Four semester hours.*

ENGL-216. 17th- and 18th-Century English Literature

Dr. DeCatur, Dr. Lionarons, Dr. Perreten
Includes Milton, Dryden, Swift, Pope, and others, presented in historical context. Prerequisite: English 100. Four hours per week. *Four semester hours.*

NOTE: Students who have taken English 203 will not receive credit for 215 or 216.

ENGL-217. Romantic and Victorian Literature Dr. Dole,
Dr. Perreten

Includes Wordsworth, Keats, Tennyson, and others, presented in historical context. Prerequisite: English 100. Four hours per week. *Four semester hours.*

ENGL-218. 20th-Century English Literature Dr. DeCatur,
Dr. Dole, Dr. Perreten.

Includes Joyce, Woolf, Eliot, and others, presented in historical context. Prerequisite: English 100. Four hours per week. *Four semester hours.*

NOTE: Students who have taken English 204 will not receive credit for 217 or 218.

ENGL-219. American Literature before 1900 Dr. Kelley,
Dr. Schroeder

A survey of American literature from the beginning through Twain and James, with attention to minority and women writers as well as traditional figures. Prerequisite: English 100. Four hours per week. *Four semester hours.*

ENGL-220. 20th-Century American Literature Dr. Kelley,
Dr. Schroeder

A survey of American literature from c. 1900 to the present, with attention to minority and women writers as well as traditional figures. Prerequisite: English 100. Four hours per week. *Four semester hours.*

ENGL-222. African-American Literature Dr. Kelley, Dr. Schroeder

An introduction to the literature written by black American writers and the criticism of that literature in its different stages of development. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

***ENGL-223. Chinese Literature in Translation** Dr. DeCatur

Critical reading of representative works from Chinese literature in modern translations. This survey in a variety of genres begins with literature from the 12th c. B.C. and ends with modern Chinese literature. Three hours per week. *Four semester hours.*

ENGL-224. Japanese Literature in Translation Dr. DeCatur

Critical reading of representative works from Japanese literature in modern translations. This survey in a variety of genres begins with literature from the Ancient Period (*Man'yōshū*) and ends with modern novels and short stories. Three hours per week. *Four semester hours.*

**This course is not offered in 1993-1994.*

ENGL-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: English 205 or 206, or permission of the instructor. Three hours per week. *Four semester hours.*

ENGL-309. Shakespeare and His Contemporaries**Dr. DeCatur, Dr. Henry**

The reading of Shakespeare's principal history plays and comedies and the study of their background with supplemental plays written by his important contemporaries. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

ENGL-310. Shakespeare and His Contemporaries**Dr. DeCatur, Dr. Henry**

The reading of Shakespeare's principal tragedies and romances and the study of their background, with supplemental plays written by his important contemporaries. English 309 is not a prerequisite for 310. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

ENGL-317. Studies in Poetry**Dr. Perreten, Dr. Volkmer**

An in-depth examination of poetry and poetics in English. The course includes reading of primary and secondary sources, critical evaluation of poetry, and imitation of poetic forms. Prerequisite: English 201W. Three hours per week. *Four semester hours.*

ENGL-318. Women's Literature**Dr. Dole, Dr. Lionarons, Dr. Schroeder**

A cross-period study of literature by British and American women, paying attention to issues of canon formation and feminist literary theory. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

ENGL-321. Topics in Classical Studies**Dr. Wickersham**

A thorough study of one area of ancient Greek or Roman experience, thought, and literature. Reading in translation of comedy

or epic or tragedy. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

***ENGL-326. Mythology** **Dr. Wickersham**

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. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

ENGL-329. Chaucer and His Contemporaries**Dr. Lionarons**

A study of Chaucer's poetry in its historical and literary contexts. Students will read *Troilus and Criseyde*, selected *Canterbury Tales*, and some of Chaucer's shorter poems in conjunction with selected works of Chaucer's major contemporaries. Prerequisite: English 215 or consent of the instructor. Four hours per week. *Four semester hours.*

ENGL-335. 20th-Century Drama**Dr. Henry, Dr. Shroeder**

A study of the principal plays, playwrights, and movements of the 20th century, beginning with the revolution of Ibsen's realism through the emergence of women and black playwrights. Prerequisites: English 100; LS 100. Four hours per week. *Four semester hours.*

Students who have taken English 336 will not receive credit for English 335.

ENGL-337. British Novel I**Dr. Dole, Dr. Perreten**

A study of the origins and development of the novel in England up to the mid-19th century. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

***ENGL-338. British Novel II** **Dr. Dole**

A study of the development of the novel in Great Britain from the mid-19th century to the present. English 337 is not a prerequisite. Prerequisites: English 100; LS 100. Three hours per week. *Four semester hours.*

**This course is not offered in 1993-1994.*

ENGL-340. The Novel in America**Dr. Kelley, Dr. Schroeder**

Study of selected American novels, arranged topically. Prerequisite: English 219 or 220 or consent of instructor. Three hours per week. *Four semester hours.*

ENGL-342. Contemporary Fiction**Dr. Kelley, Dr. Schroeder, Dr. Volkmer**

A study of significant fictional works, trends, and innovations since World War II. Prerequisite: English 218 or English 220 or consent of instructor. Three hours per week. *Four semester hours.*

ENGL-381A. Internship**Staff**

An off-campus academic/work experience under the supervision of an internship adviser and an onsite supervisor, involving eight to 10 hours weekly. Discuss details with the chair of the department. Prerequisites: Junior standing and the approval of an internship adviser. *Three semester hours.*

ENGL-381B. Internship**Staff**

An off-campus academic/work experience under the supervision of an internship adviser and an onsite supervisor, involving 11 to 14 hours weekly. Discuss details with the chair of the department. Prerequisites: Junior standing and the approval of an internship adviser. *Four semester hours.*

ENGL-441 through 444. Seminar in**Advanced Studies in Literature****Staff**

A study of a genre, a major figure, or a special topic. Prerequisites: English 201W; CA 100; senior or second-semester junior standing. This course will satisfy the College requirement for a capstone experience and an oral presentation in the major. Three hours per week. *Four semester hours.*

ENGL-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. *Four semester hours.*

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

A continuation of course 491. Prerequisite: 491. When this course is used to fulfill the capstone experience in the major, the student will be required to give a substantial oral presentation of the research project, either to the departmental honor society or to another group approved by the project adviser, and CA 100 will be a prerequisite. *Four semester hours.*

EXERCISE AND SPORT SCIENCE

Professor Davidson (Chairperson); Associate Professors Boyd, Borsdorf; Assistant Professors Chlad, Wailgum; Visiting Professors Gilbert, Gros; Instructors Poley, Dahl.

The department of exercise and sport science 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 comprehensive programs in exercise science, sports medicine, wellness, fitness health and physical education leading to graduate programs, teaching and other professional certifications.

Included in the service program are required classes in basic and advanced activities, optional organized intramural programs for

men and women, and recreational facilities for use by all students in their leisure time.

The professional program is a four-year course of study, offering within the framework of a broad liberal arts education the opportunity to develop competencies in the many disciplines which make up the exercise and sport-science domain. Implicit in its objectives is the development of the total individual's 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.

Requirements for Majors

Students majoring in the department of exercise and sport science must take the following courses: ESS 131, 351, 352, 362W, 462; Biology 317 and 318. These students are also required to complete the capstone and oral presentation requirements (ESS 412, 465, 466, 482, or 491) and one of the following concentrations:

I. Teaching of Health and Physical Education

This program is recommended for those preparing to become teachers. The required courses are ESS 167, 132, 232, 333, 334, 355, 464; IS 350; and eight semester hours of ESS activities representing all six activities areas (aquatics, individual and dual activities, team sports, rhythms and dance, and combatives, and fitness).

NOTE: Students seeking K-12 teaching certification in health and physical education from the Commonwealth of Pennsylvania must include the following courses of study in their program: EDUC 202, 265, 302, 405, 441, and 444. Students and their advisers should consult the Education Department booklet, *Ursinus College Teacher Education Programs*, for further information.

II. Exercise Science and Sports Medicine

A science-based program recommended for those interested in athletic training, pre-physical therapy, and other areas of graduate study related to exercise science and sports medicine. The required courses are ESS 268, 334, 468; one semester hour of activities; 14-16 semester hours of laboratory courses in the natural sciences; and Psychology 260.

NOTE: Students seeking admission to graduate programs in physical therapy or related fields should take Biology 111Q, 112Q; Chemistry 111, 112, and 111aQ, 112a; Math 111, 112, 241; and Physics 109, 110 or 111, 112.

III. Wellness and Fitness

A program recommended for those preparing for careers in corporate fitness, health promotion, wellness/fitness program administration, and other areas of study related to wellness and fitness education in public and/or private settings. The required courses are ESS 167, 333, 334, 346, 347, 381 or 412, 464; one semester hour of activity; Psychology 260, and either Psychology 360, or 365. Strongly recommend ESS 211.

Minor Concentrations

A minor concentration in athletic training consists of ESS 268, 351, 468; one semester hour of majors' activities and Biology 317, 318. (20 semester hours)

A minor concentration in coaching consists of ESS 268, 334, 363, 365, 366; two semester hours of majors' activities including 137. (19 semester hours)

A minor concentration in wellness/fitness consists of ESS 167, 211, 333, 334, 346, 347, and Biology 100. (20 semester hours) Strongly recommend Biology 317 and 318.

ESS-100. Concepts of Wellness and Fitness

An exploration of the various dimensions of wellness. Emphasis will be on the concepts of total fitness and wellness. Wellness/fitness self testing, self evaluation, and self-care skills will be addressed; individualized

wellness programs will be developed. This course is required of all students except those majoring in health and physical education and should be completed in the first two years. This course will be offered in both the fall and spring semesters. Three hours per week. *Three semester hours.*

Activities Courses

In addition to ESS- 100, all students, except those majoring in the department of human performance, must elect one course from the activities courses listed at the 100 level. Students with special interest or skills may substitute an activities course at the 200 level or above with the permission of the instructor.

Academic credit for activities courses in excess of the College requirement will be withheld until the student has earned a total of 128 semester hours' credit. An exception will be made in the case of students who wish to minor in the department. In such cases, academic credit will be given within the 128-hour limit.

The intent of these courses will be to develop basic skills, improve fitness, foster the concepts of wellness, provide enjoyment, and develop recreational and social competencies through participation in lifetime sports and leisure activities.

- ESS-101. Social, Folk and Square Dance** Mrs. Poley
One semester hour.
- ESS-103. Modern Dance** Mrs. Poley
One semester hour.
- ESS-107. Basic Swimming** Dr. Davidson
Course is designed to meet the needs of the non-swimmer and the beginning swimmer. Emphasis will be on skill development and the ARC Basic Water Safety program. *One semester hour.*
- ESS-108. Intermediate Swimming** Dr. Davidson
Course is designed to meet the need of the intermediate level swimmer. Emphasis will be on skill development and the A.R.C. Emergency Water Safety program. *One semester hour.*
- ESS-109. Judo and Self Defense** Dr. Davidson
One semester hour.
- ESS-113. Racquet Sports (Basic Skills)** Staff
One semester hour.
- ESS-115. Wellness I** Ms. Boyd
Walking and stretching activities for the promotion of physical fitness. Weight control techniques through diet and exercise; stress management skills. *One semester hour.*
- ESS-116. Golf, Archery, and Bowling** Staff
One semester hour.
- ESS-121. Volleyball (Basic Skills)** Staff
One semester hour.
- ESS-134. A.R.C. Water Safety Instructor** Dr. Davidson
Course leads to A.R.C. certification as a Water Safety Instructor (WSI). *One semester hour.*
- ESS-135. A.R.C. Lifeguarding** Dr. Davidson
Course leads to certification in A.R.C. standard first aid, CPR, and lifeguarding. *One semester hour.*
- ESS-137. Weight Training and Physical Conditioning** Mr. Gilbert
One semester hour.
- ESS-200. Field Hockey and Women's Lacrosse** Ms. Boyd
One semester hour.
- ESS-201. Volleyball (Advanced Skills)** Staff
One semester hour.
- ESS-203. Racquet Sports (Advanced Skills)** Ms. Boyd
One semester hour.
- ESS-204. Non-Traditional Team Sports** Dr. Borsdorf
This course will introduce team sports which are typically included in physical education and recreation programs. The course will include activities which promote movement and cardiovascular fitness. Skills and strategy in team handball, speedball, ultimate frisbee and other team sports will be explored. *One semester hour.*
- ESS-205. Football and Wrestling** Staff
One semester hour.
- ESS-208. Baseball and Softball** Staff
One semester hour.
- ESS-209. Basketball and Soccer** Staff
One semester hour.
- ESS-210. Track and Field** Staff
One semester hour.
- ESS-308. Elementary Games and Tumbling** Mrs. Poley
One semester hour.
- ESS-401. Aerobics** Ms. Dahl
One semester hour.
- ESS-131. Survey of Health, Physical Education and Recreation** Ms. Gros
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.*

ESS-132. Health Awareness and Wellness Ms. Boyd

A study of factors affecting the physical, mental, and social well-being of the individual and the community. Major emphasis is placed on the identification and prevention of personal health problems and on the functioning of the human body. Prerequisite: ESS 131 or permission of the instructor. Three hours per week. *Three semester hours.*

ESS-167. Community CPR and Standard First Aid Staff

This course meets the requirements for the American Red Cross Standard First Aid and Community CPR Certifications. One hour lecture, two hours lab. *One semester hour.*

ESS-211. Introduction to Laboratory Procedures Dr. Wailgum

This course is designed to provide students with the opportunity to learn measurement and evaluation techniques related to the various components of fitness. Correct usage of equipment typically found in the exercise science laboratory will be emphasized. Students are expected to participate as test subjects. Two hours per week. *One semester hour.*

ESS-232. Current Trends in Health Ms. 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. Prerequisite: ESS 132 or permission of the instructor. Three hours per week. *Three semester hours.*

ESS-245. Leadership in High-Risk and Adventure Activities Staff

Basic concepts of the leadership role in high-risk and adventure activities. A historical perspective, philosophical background, educational strategies and safety considerations will be discussed. Particular attention is given to the integration of environmental concerns, problem solving, and adventure activities in

high-risk and adventure programming. Two hours lecture and two hours laboratory per week. *Three semester hours.*

ESS-268. Introduction to Sports Injury Management Ms. Chlad

This course deals with the prevention, mechanisms, and evaluation of all types of common sports injuries. Basic first aid, CPR, athletic training treatments and preventative support for injuries are emphasized. Prerequisite: Biology 317 or the permission of the instructor. Three hours lecture and two hours laboratory per week. *Four semester hours.*

ESS-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 drug and alcohol abuse. Three hours per week. *Three semester hours.*

ESS-334. Nutrition Ms. 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. Prerequisite: Biology 317 or the permission of the instructor. Three hours per week. *Three semester hours.*

ESS-346. Wellness/Fitness Program Management Dr. Borsdorf

A general survey of the fitness, wellness and recreation movements. Theories relevant to the three areas and their interrelationship will be explored. Particular attention will be given to methods and techniques of marketing and to developing and implementing wellness and fitness programs. Four hours per week. *Four semester hours.*

ESS-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.*

ESS-351. Structural Kinesiology
Dr. Wailgum

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.*

ESS-352. Exercise Physiology/Human Performance
Dr. Wailgum

The study of the physiological alterations and adjustments which occur in response to physical performance. Prerequisites: Biology 317-318. Three hours lecture and two hours laboratory. *Four semester hours.*

ESS-353. Introduction to Biomechanics
Dr. Wailgum

This course will introduce students to the fundamental principles of biomechanics by examining how the successful completion of sports skills are governed by the laws of physics. Prerequisite: ESS 351. Two hours per week. *One semester hour.*

ESS-355. Methods of Teaching Health and Physical Education

Staff

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-education majors or students who have completed six hours in education. Two hours lecture and two hours laboratory. *Three semester hours.*

ESS-362W. Measurement and Evaluation in Human Performance

Dr. Wailgum

Concentration on measuring human performance in the cognitive, psychomotor, and affective domains. Utilization of statistical procedures specifically designed for the behavioral sciences; analysis of data through the use of computers; evaluation of

results relevant to objectives; and participation in field experiences with standardized testing. Prerequisite: English 100. Three hours per week. *Four semester hours.*

ESS-363. Officiating
Ms. Boyd

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 hours per week. *Three semester hours.*

ESS-365. Philosophy and Principles of Coaching
Ms. Gros

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.*

ESS-366. Sports Psychology
Ms. Boyd

A study of the psychological aspects of sports with focus on understanding the emotional, attitudinal, and personality traits involved in athletics. Interaction among players and coaches, techniques which enhance performance, and problems which detract from optimal achievement are considered. The concepts of "imagery," "peaking," and "burnout" will be discussed as they relate to the psychological and technical preparation of the athlete and the team. Three hours per week. *Three semester hours.*

ESS-381. Internship in Wellness/Fitness Services
Dr. Borsdorf

An internship experience in a hospital, business, and/or geriatric care center with an emphasis on the concept of wellness. A 2.5 grade-point average in ESS and the permission of the department are required. Three hours per week. *Three semester hours.*

ESS-412. Wellness/Fitness Practicum
Dr. Borsdorf

An off-campus academic/work experience in a community or corporate wellness/fitness setting. A research paper is required. Prerequisites: Limited to seniors with a 2.5

grade point average in ESS; Communication Arts 100; and permission from the department. Three hours per week. *Three semester hours.*

ESS-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.*

ESS-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 the instructor. Three hours per week. *Three semester hours.*

ESS-465. Health and Physical Education Teaching Seminar **Ms. Gros**

Readings, discussions, and individual research focused on pedagogy, measurement and evaluation, or some other facet of teaching health or physical education. At the conclusion of the seminar, students will present a research paper at an open meeting of the department. Prerequisite: This course can only be taken in conjunction with Education 405 and requires permission of the department. One hour per week. *One semester hour.*

NOTE: ESS 465 would be an *elective* course taken concurrently with Education 405. Students in the teaching track not selecting ESS 465 could complete the capstone requirement by scheduling ESS 466 or ESS 491.

ESS-466. Health and Physical Education Seminar **Ms. Boyd**

Consideration of current trends and emphases in the fields of health, physical education and recreation. The class will consist of lectures, discussions, papers, reports, and guest speakers. A research paper is required. Prerequisites: Limited to second-semester seniors majoring in ESS; Communication Arts 100. Three hours per week. *Three semester hours.*

ESS-468. Care and Prevention of Athletic Injuries **Ms. Chlad**

The course focuses on the prevention, conditioning, and rehabilitation of athletic injuries. Students will examine the various procedures and evaluation processes used following serious athletic trauma. The clinical uses of the various therapeutic aids are explored. Prerequisites: ESS 268 and Biology 317, 318. Three hours lecture and two hours lab. *Four semester hours.*

ESS-482. Human Performance Practicum **Dr. 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. A research paper is required. Prerequisites: Limited to seniors with a 2.5 grade point average within the human performance concentration; Biology 317, 318; Communication Arts 100; and permission from the departmental chairperson. *Three semester hours.*

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

This course is open to candidates for departmental honors and to other students with a special interest in the field of exercise and sport science. Prerequisite: the permission of the departmental chair. *Three semester hours.*

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

A continuation of ESS 491. Prerequisite: ESS 491. *Three semester hours.*

FINE ARTS

See Art, Music

FRENCH

See Modern Languages

GEOGRAPHY

Visiting Professor Boekenkamp.

GEOG-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.*

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.

GEOG-100. Geological Sciences I Dr. Boekenkamp

A study of earth materials, processes and structures that form the earth. This study enables the student to interpret earth history as events recorded by geologic processes and organic evolution. Two hours of lecture and two hours of laboratory work per week. *Three semester hours.*

GEOG-200Q. Geological Sciences II Dr. Boekenkamp

Continued studies in selected fields in the geological sciences of special interest to one's understanding of related phenomena and the environment. Prerequisite: Geology 100. Two hours of lecture and two hours of laboratory/ field work per week. *Three semester hours.*

GERMAN

See Modern Languages

GREEK

See Classics

HISTORY

Professors Akin, Doughty, Visser (Chairperson); Associate Professor Clark; Assistant Professors Hemphill, King.

To study history is to study the powerful interaction between the past and the present. The goals of the history department are threefold: first, to convey an understanding of the meaning of history and knowledge of its methodology; second, to nurture students' abilities to read critically, write clearly, reason logically and inferentially; and third, to offer the multicultural historical

perspective that is necessary to understand the human condition and contemporary world affairs.

In addition to acquiring sound communication skills, history majors learn how to work with a vast variety of evidence, and how to evaluate the results. Moreover, the study of history is wide-ranging, as it connects all aspects of the present with the past. For these reasons, not only are there many career opportunities for history majors, but a minor in history can be combined with almost any other field.

History is good training for careers in law, business, government, the foreign service, journalism, and publishing. Moreover, those who wish to continue in history will find opportunities in teaching, historical preservation, and both management and interpretation in historical museums, sites, archives, and libraries. Historians also write and edit publications and manage archives for the government, publishers, and many businesses. These and other career options aside, the fundamental fact, recognized by the history department and employers alike, is that a consciousness of history and its critical skills is not luxury, but a vital part of a liberal education.

Requirements for Majors

The following requirements must be fulfilled: History 200; 221; *one* from 202, 205, 207, 210; *one* from 241, 243, 251, 253; *one* from 302, 304, 305, 308; *one* from 321, 323, 325, 327, 328; *one* from 342, 344, 352; *one* from 361, 362, 364, 366; *one* seminar or 491.

Students interested in becoming secondary school teachers should consult the education department booklet, *Ursinus College Teacher Education Programs*.

Requirements for Minors

Students seeking a minor in history must take a minimum of 20 credits in the department, including History 200 and one 400-level research course. Students interested in minoring in history must register with Dr. Visser to plan their course of study and should not register for 200 until they have done so.

HIST-101. The History of Traditional Civilizations Staff
An introductory survey of the origins, development and achievements of the world's major civilizations, with emphasis on the comparative study of their respective

ideas and institutions and on the early interaction among their societies. Significant selected primary sources will be assigned and short analytic papers are required. Two hours of lecture and one hour of discussion per week. *Four semester hours.*

HIST-102. The Emerging World Staff

An introductory survey of the development and transformation of the world's major civilizations in the modern era, with emphasis on the process of social, economic and political change; on the rise of "the West" to global dominance and its impact on other societies; and on the mutual interdependence of contemporary civilization. Significant selected primary sources will be assigned and short analytic papers are required. Two hours of lecture and one hour of discussion per week. *Four semester hours.*

HIST-200W. Historiography Staff

An introduction to the major issues and practices in the study of history. The course will include material on the "history of history" and on the methods of historical research. Students will be required to do extensive writing and revision of papers. Offered every semester. Three hours per week. *Four semester hours.*

**HIST-202. Topics in Medieval History
Dr. Visser**

An examination of the development of the ideas and institutions that controlled Medieval society. Relevant writings in translation will be used. Four hours per week. Alternates with 251. *Four semester hours.*

**HIST-205. Russia and The USSR
Dr. King**

An examination of major political, social, economic, and cultural themes in the history of Tsarist Russia and the Soviet Union. Four hours per week of lectures and discussion. *Four semester hours.*

**HIST-207. The Century of Total War
Dr. Doughty**

A survey of modernization and international conflict during the last century, with emphasis on the origins and consequences of the two World Wars in Europe and Asia. Imperialism, nationalism, mass society, totalitarianism and major social and economic developments will also be examined. Four hours per week of lectures and discussion. *Four semester hours.*

**HIST-210. The Making of Modern Britain
Dr. Doughty**

A survey of British history from the Middle Ages to the 20th century, with emphasis on the social, cultural and economic foundations of English political institutions. The development of the British monarchy and representative institutions, the origins and consequences of the Industrial Revolution, the expansion of the British Empire and the 19th- and 20th-century struggles for class and gender equality will be among the topics studied. Four hours per week of lectures and discussion. *Four semester hours.*

**HIST-221. Introduction to American
History
Dr. Akin,
Dr. Hemphill**

A survey of American history from the beginning of European settlement to the present, with an emphasis on the main themes of political and social development (the latter to include an analysis of the variables of race, class, region, ethnicity and gender). Four hours per week of lectures and discussion. *Four semester hours.*

**HIST-241. An Introduction to the History
and Culture of China
Dr. Clark.**

An introduction to Chinese history, with particular emphasis on late traditional (post-1600) cultural and social orders and their adaptation to the modern world up to and including the Chinese Revolution. Four hours per week. *Four semester hours.*

**HIST-243. An Introduction to the History
and Culture of Japan
Dr. Clark**

An introduction to Japanese history, with particular emphasis on late traditional (post-1600) cultural and social orders, and their adaptation to the modern world through World War II and the postwar settlement. Four hours per week. *Four semester hours.*

**HIST-251. Topics in Ancient History
Dr. Visser**

An examination of the emergence of religious, legal and social concepts that became the basis of Western civilization. Relevant writings in translation will be

used. Four hours per week. Alternates with 201. *Four semester hours.*

HIST-253. The Middle East Dr. King

An introduction to Middle Eastern societies and civilizations from the founding of Islam to the problems of the contemporary Middle East. Four hours per week of lectures and discussion. *Four semester hours.*

HIST-299. History Tutorial Staff

Individual study and directed reading on a selected topic in the historical literature and preparation of a critical bibliography of the works read. Open only to students majoring in history. Prerequisites: History 200 and prior consent of a member of the history department who agrees to serve as tutor. One hour per week. *One semester hour.*

HIST-300. Special Topics in History Staff

An elective course dealing with special subject areas and periods. Three hours per week. (Not offered on a regular basis.) *Four semester hours.*

HIST-302. 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. *Four semester hours.*

HIST-304. Studies in Reformation History 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 translation. Three hours per week. *Four semester hours.*

HIST-305. State and Society in Early Modern Europe Dr. Doughty

A study of early European modernization and the development of the sovereign state from the 16th through the 18th centuries. Theories of political sovereignty, the development of royal absolutism and concomitant religious, intellectual, social and economic transformations will be emphasized. Significant time will be devoted

to the historiography of the period. Three hours per week of discussion of assigned reading. *Four semester hours.*

HIST-308. Nazi Germany and the Holocaust. Dr. Doughty

A study of the rise of Adolf Hitler, the development of the National Socialist Party and the "Hitler State," German society under the Nazis, and the origins and implementation of the racial and foreign policies of the Third Reich. Significant time will be devoted to the historiography of the subject. Three hours per week of discussion of assigned readings. *Four semester hours.*

HIST-321. Colonial and Revolutionary America Dr. Hemphill

A survey of the history of the British colonies in America, from their founding through the War for American Independence. Special attention will be given to the genesis of American culture and institutions from diverse societies. Significant time will be devoted to the historiography of the period. Three hours per week of lectures and discussion. *Four semester hours.*

HIST-323. The Young American Nation and the Civil War. Dr. Hemphill

A survey of the history of the new American nation from its initial foundation in the Constitution period through its testing in the Civil War. Special emphasis will be given to the development of uniquely American politics and culture. Significant time will be devoted to the historiography of the period. Three hours per week of lectures and discussion. *Four semester hours.*

HIST-325. The Emergence of Industrial America Dr. Akin

The course examines the United States from the end of the Civil War to the end of World War I. The course will focus on the interrelationships between economic changes and changes in social structures (including sex, age, class, and race), popular culture and thought, and politics. Prerequisite: History 221 or Politics 218, or Sociology 245. Three hours per week. *Four semester hours.* (Given in alternate years.)

HIST-327. 20th-Century America**Dr. Akin**

The course examines the United States from 1919 to the present. The course will focus on the interrelationships between changes in the economic structure, social structure, politics and popular culture and thought. Prerequisites: History 221, or Politics 218, or Sociology 245. Three hours per week. *Four semester hours.* (Given in alternate years.)

HIST-328. Women in American History**Dr. Hemphill**

An examination of the changing experience of American women from colonial times to the present. The focus of this course will be the interaction of that experience with ideal roles for women in the realms of family, religion, politics, economics, and social life. Attention will also be paid to the interaction of gender with the variables of class, race, ethnicity, and region. Four hours per week of lectures and discussion. *Four semester hours.*

HIST-342. The 18th Century in China and Japan**Dr. Clark**

An in-depth and comparative look at late traditional culture in East Asia, including examination of the political structures, systems of thought and religion, social order, and economics. Three hours per week. *Four semester hours.*

HIST-344. Society and Revolution**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. *Four semester hours.*

HIST-352. Soviet Foreign Policy**Dr. King**

An examination from a historical perspective of continuity and change in the goals and methods of Soviet foreign policy; ideology and national interest; the role of the international Communist movement; domestic source of Soviet international conduct; the Cold War, detente, the arms

race, and recent developments. Extensive readings in historical and contemporary materials, written analyses and discussion of historical and contemporary issues. Three hours per week. *Four semester hours.*

HIST-361. East and West in the 13th Century**Dr. Clark**

A comparison/contrast of China and Western Europe on the eve of such events as the Mongol invasions, the Black Death, and the like. The course will focus particularly on economic, social and institutional structures. Three hours per week. *Four semester hours.*

HIST-362. The Age of Revolution**Dr. Doughty**

An examination of the "Dual Revolution" — the cumulative effects of the French and Industrial Revolutions — and the impact of political, economic and technological change on European society and the world in the period c. 1780 - 1800. Significant time will be devoted to the historiography of the topic. Three hours per week of discussion of assigned reading. *Four semester hours.*

HIST-364. Ideas and Ideologies**Dr. King**

An exploration of selected movements in the history of modern European political and social thought. Specific content may vary, but will include such topics as liberalism, nationalism, racism, and socialism. Extensive readings in original sources, written analyses, and discussion. Three hours per week. *Four semester hours.*

HIST-366. History of the Family**Dr. Hemphill**

A survey of the changing structure and function of the family in Europe and America from 1500 to the present. Special attention will be paid to the relationship between changes in the family and changes in the wider society; the family as the locus for changing gender and age relations; and the variations in family forms dictated by class, race, ethnicity, religion, and region. Three hours per week of lectures and discussion. *Four semester hours.*

HIST-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, 12 credits in history (excluding 101, 102) and approval of a faculty internship adviser. *Four semester hours.*

HIST-400W. 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 chair of the department of history. Prerequisites: Comm. Arts 100, History 200 or equivalent. *Four semester hours.*

HIST-401W. 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. Prerequisites: Comm. Arts 100, History 200 or equivalent. With departmental permission, may be used to fulfill the advanced European history requirement. Three hours per week. *Four semester hours.*

HIST-421W. 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. Prerequisites: Comm. Arts 100, History 200 or equivalent. With departmental permission, may be used to fulfill the advanced American history requirement. Three hours per week. *Four semester hours.*

INTERDIVISIONAL STUDIES

IDS-101. World Literature I: The Literary Tradition Staff
Critical reading of selected representative works from Western and non-Western literatures from early civilization through the European Renaissance. The epic and drama will be emphasized. Three hours per week. *Four semester hours.*

IDS-102. World Literature II: Topics in Comparative Literature Staff
Critical reading of selected works, with emphasis on 19th- and 20th-century non-Western literatures, in a comparative and pluralistic context. Three hours per week. *Four semester hours.*

HIST-442W. 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. Prerequisites: Comm. Arts 100, History 200 or equivalent. With departmental permission, may be used to fulfill the advanced non-Western history requirement. Three hours per week. *Four semester hours.*

HIST-462W. Seminar in Comparative History Staff
Readings and individual research on topics in comparative history leading to preparation and discussion of research papers. Open to third- and fourth-year students. Prerequisites: Comm. Arts 100, History 200 or equivalent. May be used, with departmental permission, to fulfill the advanced comparative history requirement. Three hours per week. *Four semester hours.*

HIST-491W. Research/Independent Work Staff
This course is open to candidates for departmental honors and to other students with the permission of the departmental chair. Prerequisites: Comm. Arts 100, History 200. *Four semester hours.*

HIST-492W. Research/Independent Work Staff
A continuation of course 491. Prerequisite: Course 491. *Four semester hours.*

IDS-201, 202, 203. Independent Study
Guided independent study involving more than one academic discipline for second-term freshmen, sophomores, juniors, and seniors. Projects will result in a major paper or creative project. Project proposal requires a faculty sponsor and approval of the College Scholars' Committee. *Four semester hours.*

IDS-301. Women's Studies Staff
An interdisciplinary course to promote an awareness and understanding of men's and women's potential and options in our society. Readings and discussions in history, gender and gender roles, women and

society, women's place in the working world, in legal and religious institutions. Open to upperclass students. Four hours per week. *Four semester hours.*

IDS-332. Latin American Studies
(see also Spanish)

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, films, and class discussions. The language of instruction is English. Open to upperclass students. Four hours per week. *Four semester hours.*

IDS-350. Human Sexuality

Dr. Allen, Dr. England

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 100 or 111, and Psychology 100 or permission of the instructor. Three hours of lecture per week. *Three semester hours.*

***IDS-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.*

INTERNATIONAL RELATIONS

Professors Berry, Doughty; Associate Professors Clark (Coordinator), Gallagher; Assistant Professors O'Neill, Hood, King, Oboler.

International relations majors become capable of living and working in a worldwide 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 102 and the following core requirements: History 207; Politics 100, 242, and 252; Economics and Business Administration 100, 251, and 252; one course from Anthropology 232, Anthropology 242, IDS 332; and two courses at the 200 level or above in a foreign language.

Students must select four additional courses, including at least one from each of the following areas: history, politics, and economics. Selections in history must be from the following: 205, 210, 241, 243, 253, 308, 344, 352. Selections in politics must be from the following: 344, 346, 347, 353, 355, 357, 442, 452. Selections in

**This course is not offered in 1993-1994.*

economics and business administration must be from the following: 308, 309, 314, 328.

All majors are required to take a capstone course in either history, politics, economics and business administration or modern languages, or take International Relations 400W.

IR-400W. Research in International Relations

This capstone course will require a series of short papers and a major research project. An oral presentation will be made before

an upper-division course on the subject. Prerequisites: English 100, Communication Arts 100. Three hours per week. *Four semester hours.*

LATIN

See Classics

LIBERAL STUDIES

The goals of the Liberal Studies Seminar are 1) to develop a student's ability to think critically through a pedagogy which stresses the intellectual process; 2) to foster the essential skills of critical reading, effective speaking, and clear writing; 3) to develop these skills within the intellectually challenging context of a broad theme relevant to the human condition; 4) to enable the student to make connections across the traditional disciplines.

All first-year students are required to enroll in a Liberal Studies Seminar during the fall or spring semester of their first year; transfer students may be exempted with the approval of the dean of the College.

All Liberal Studies Seminars will share common features. The enrollment will be limited to 15 students to provide an atmosphere conducive to discovery and inquiry. Faculty members from a variety of disciplines will lead students to reflect about significant issues that introduce them to the intellectual climate of the College. Reading assignments will consist of five or six books or their equivalents. Frequent writing and oral assignments will be required throughout the course.

During the 1992-93 academic year, the course was organized around the theme of *Unity and Diversity*. All topics related to the main theme, and they had interdisciplinary implications while grounded in the expertise of individual instructors. Topics were listed in a supplemental brochure. In 1992-93, topics included: Is the Land of The Rising Sun Outshining America?; The Female Experience: Unity or Diversity?; "Outside Is America": The New

Multiculturalism; Genius and Greatness: Conquering and Coping; Evil; Alone Together: Coordinating Individualism and Collectivism in a Democratic Society; Class in America; The Figure of the Outsider in German Literature and Film; Leadership; Science Fiction: Diversity in Other Dimensions; World of a Thousand Lenses: America Through the Eyes of Others; Poor Mother Earth; U2 Can Be Irish; Unity and Diversity In Australia: Can "Multiculturalism" Work?; Symmetry in Science; Pollution and The Environment: The New World Disorder; E Pluribus Unum In Ancient Greece; Point of View: Diverse Readings of World Cultures; Social Change; Race in America.

LS-100. Liberal Studies Seminar **Staff** analysis of readings or other material such as films, intensive writing and group discussions, students will participate in the challenges of intellectual inquiry. Four hours per week. *Four semester hours.*

This seminar, required of all first-year students, is designed to develop the students' ability to think critically and to write and speak effectively. In each seminar, organized around a common theme, students will explore an issue with interdisciplinary implications. Through the

MATHEMATICS AND COMPUTER SCIENCE

Professors BreMiller, Hagelgans, Jessup (*Acting Chairperson*), Shuck; *Associate Professors* Coleman, Neslen, Rosenthal; *Assistant Professor* Coll.

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.

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, 335, and also 491, or 492 or both 481 and 482.

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 postgraduate 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 214, 341, and either Math 342 or 462.

III. Mathematics Education

This program is recommended for those preparing to be teachers. The required courses are Math 322, 341, and at least one of 214, 321, 342, 382, 434. This concentration satisfies the mathematics part of certification requirements. Details may be obtained from the departments of mathematics and computer science or education.

Those students choosing the mathematics education concentration should consult the education department booklet, *Ursinus College Teacher Education Programs*.

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 373W, 374, 471, 472.

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, 373W, 374; at least one of Math 335, 341, 462 (Note: Math 214 is a prerequisite for 462;); either Math 471 or 472, and also Math 491 or 492 or both 481 and 482.

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.

Minor Concentrations

A minor concentration in computer science consists of Math 111; 112; 236; 271; 272; and two courses chosen from 371, 372, 373, 374.

A minor concentration in mathematics consists of Math 111, 112, 211, 235; and two additional courses in mathematics, chosen from 214, 236, 311W, 312, 321, 322, 335, 336, 341, 342, 411, 434, 462, at least one of these courses being at the 300 or 400 level.

A minor concentration in statistics consists of Math 111, 112, 211, 242, 341, 342.

MATH-100. Mathematics for the Liberal Arts **Dr. Jessup**

A cultural and historical approach to mathematics. Appreciation of the beauty and creative aspects of mathematics and its role in nature and the arts. Essay tests and papers as well as problems using deductive reasoning. Offered in the spring of odd years. Three hours per week. *Three semester hours.*

spring of even years. Three hours per week. *Four semester hours.*

NOTE: A student who has received credit for Math 111 may not enroll in Math 108.

MATH-105. Calculus for Economics and Business **Staff**

Conceptual understanding of differential and integral calculus. Some classical applications as well as applications to economics and business. Offered spring semester. Four hours per week. *Four semester hours.*

MATH-110. Precalculus **Mr. BreMiller**

A review of algebra, functions and graphs, exponential and logarithmic functions, circular and trigonometric functions. This course prepares the student for Math 111. Offered in the fall semester. Four hours per week. *Four semester hours.*

NOTE: This course does not satisfy the College mathematics requirement.

NOTE: A student may not receive credit for both Math 105 and 111. A student who has received credit for Math 111 may not enroll in Math 105.

MATH-111. Calculus I **Staff**

Limits; derivatives; applications of derivatives; integrals; trigonometric, logarithmic, and exponential functions and their applications. Prerequisite: Placement based on the high-school record and a diagnostic review, or a grade of C- or better in Math 110. Offered both semesters. Four hours per week. *Four semester hours.*

NOTE: A student may not receive credit for both Math 105 and 111. A student who has received credit for Math 111 may not enroll in Math 105.

MATH-108. Humanistic Calculus **Dr. Rosenthal**

An overview of the calculus from a conceptual and historical perspective. The limiting, integration, and differentiation processes treated within a framework of meaning and verbal description rather than calculation and symbolism. Topics include Eudoxus' theory of exhaustion, the definition of real number, Cavalieri's Theorem, medieval discussions of motion, and the Fundamental Theorem of Calculus. (Assumes a knowledge of three years of high school mathematics.) Offered in the

MATH-112. Calculus II **Staff**

A continuation of Math 111. Inverse trigonometric functions, techniques of integration, applications of integration, improper integrals, indeterminate forms, polar coordinates, parametric equations,

infinite sequences and series. Prerequisite: A grade of C- or better in Math 111 or permission of the department. Offered both semesters. Four hours per week. *Four semester hours.*

MATH-170. Introduction to Information Systems

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. Prerequisite: Math 100, or 105, or 108, or 110, or 111, or 241, or permission of the instructor. Three hours per week. *Three semester hours.*

MATH-211. Multivariate Calculus
Dr. Shuck

Functions of several variables, including three-dimensional geometry and vectors, partial differentiation, multiple integration, selected topics from differential equations, line and surface integrals, and the theorems of Green, Gauss, and Stokes. Prerequisite: A grade of C- or better in Math 112 or permission of the department. Offered both semesters. Four hours per week. *Four semester hours.*

MATH-214. Differential Equations and Mathematical Models
Dr. Neslen

Mathematical methods for developing models in the physical, biological, and social sciences. Emphasis on models involving differential equations. Solutions of ordinary differential equations of first and second order. Additional topics chosen from power series solutions, systems of linear equations, numerical methods, and Laplace transforms. Independent projects. Prerequisite: Math 211. Three hours per week. *Four semester hours.*

MATH-235. Linear Algebra Dr. Neslen
Systems of linear equations, matrix theory, real vector spaces, linear transformations, eigenvectors and eigenvalues, inner products, orthogonal transformations,

quadratic forms, applications. The computer as a computational tool. Prerequisite: Math 112 or permission of the instructor. Four hours per week. *Four semester hours.*

MATH-236. Discrete Mathematics
Dr. Neslen

A course designed to bridge the gap between computation-oriented introductory courses and proof-oriented advanced courses. The language of contemporary mathematics, including the proper way to write mathematics, and the nature of mathematical reasoning. Extensive outside projects. Topics studied may include axiomatic systems, logic, set theory, functions, mathematical induction, graph theory and trees. Prerequisite: Math 112. Three hours per week. *Four semester hours.*

MATH-241Q. Statistics I Staff

Statistical methods of studying data, measures of central tendency and dispersion, probability, and distributions including: binomial, normal, and Student's *t*; confidence intervals and hypothesis testing. Computer statistical packages. Offered both semesters. Four hours per week. *Four semester hours.*

NOTE: Students with credit for Math 342 may not enroll in Math 241.

MATH-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 or 342. Three hours per week. *Three semester hours.*

MATH-271. Computer Science I
Dr. Coleman, Dr. Shuck

Problem-solving methods and algorithm development. Computer programming with a high-level language. Design, coding, debugging, and internal and external documentation of programs. Emphasis on developing good programming style. Programming projects of increasing complexity. Recommended for students in mathematics and the natural sciences.

Offered both semesters. Three hours per week. *Four semester hours.*

NOTE: A student may not receive credit for both Math 171 and Math 271.

MATH-272. Computer Science II
Dr. Shuck

A continuation of Math 271. Introduction to algorithm analysis and data structures. Larger programs. Team projects and/or incremental projects. Prerequisite: Math 271. Three hours per week. *Four semester hours.*

MATH-311W. Introduction to Analysis I
Mr. BreMiller

An introduction to the real number system and theoretical treatment of limits, continuity, and differentiability. Additional topics may include sequences and series, abstract metric spaces, and countability. Emphasis on writing mathematical proofs. Prerequisites: English 100, Math 211 and 236. Three hours per week. *Four semester hours.*

MATH-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. Offered in the spring of odd years. Three hours per week. *Three semester hours.*

MATH-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. Offered in the fall of odd years. Three hours per week. *Three semester hours.*

MATH-322. Fundamentals of Geometry
Mr. BreMiller

Axiomatic development, introduction to non-Euclidean geometry, projective geometry and modern geometry. Prerequisite: Permission of the instructor. Offered in the spring of odd years. Three hours per week. *Three semester hours.*

MATH-335. Abstract Algebra I
Dr. Coll

An introduction to algebraic structures, with emphasis in the first semester on groups. Subgroups, quotient groups, homomorphisms, isomorphism theorems, Cayley's theorem, permutation groups. Offered in the spring semester. Prerequisites: Math 235 and 236. Three hours per week. *Three semester hours.*

MATH-336. Abstract Algebra II
Dr. Neslen

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. Offered in the fall semester. Three hours per week. *Three semester hours.*

MATH-341. Probability **Dr. Coleman**

An introduction to probability theory, discrete and continuous probability distributions, moments and moment-generating functions of random variables, transformations of random variables. Prerequisite: Math 211. Four hours per week. *Four semester hours.*

MATH-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.*

MATH-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. Offered in the fall of odd years. Prerequisites: Math 236 and 272. Three hours per week. *Three semester hours.*

MATH-372. Computer Organization Dr. Jessup

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. Offered in the spring of even years. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

MATH-373W. Theory of Computation Dr. Hagelgans

Principles of formal languages, automata, computability and computational complexity. Emphasis on writing proofs of theorems. Prerequisites: English 100, Math 236 and 272. Offered in the fall semester of even years. Three hours per week. *Four semester hours.*

MATH-374. Principles of Programming Languages Dr. Hagelgans

Syntax, processors, representations and styles of programming languages. Study and comparison of several modern programming languages. Offered in the spring of odd years. Prerequisites: Math 236 and 272. Three hours per week. *Three semester hours.*

MATH-381. Internship Dr. Hagelgans

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair 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.*

MATH-382. History of Mathematics Mr. BreMiller

Mathematical thought from ancient times to the early 1800s. Topics from the modern era may be included. Prerequisite: Permission of the instructor. Offered in the spring semester of even years. Three hours per week. *Three semester hours.*

MATH-383. Internship

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further

details. Prerequisites: Junior standing, nine credits in mathematics and/or computer science, and approval of a faculty internship adviser. 11 to 14 hours per week. *Four semester hours.*

MATH-391. Research/Independent Work.

Independent investigation of an area of mathematics or computer science not covered in regular courses. Prerequisite: Written consent of a department faculty member. *One semester hour.*

MATH-392. Research/Independent Work.

Independent investigation of an area of mathematics or computer science not covered in regular courses. Prerequisite: Written consent of a department faculty member. *Two semester hours.*

MATH-411. Functions of a Complex Variable Dr. Shuck

An introduction to the theory of analytic functions, including elementary functions, contour integrals, Taylor and Laurent series, and residue theory. Prerequisite: Math 211. Offered in the fall semester of even years. Three hours per week. *Three semester hours.*

MATH-434. Theory of Numbers Dr. Coll

Divisibility; unique factorization; congruences; theorems of Fermat, Euler and Wilson; primitive roots; Diophantine equations; Fermat's conjecture; algebraic and transcendental numbers; Liouville's theorem. Additional topics chosen from quadratic reciprocity; continued fractions; sums of squares; distribution of primes; quadratic fields; public-key cryptography. Prerequisite: Permission of the instructor. Offered in the spring of even years. Three hours per week. *Three semester hours.*

***MATH-451. Topics in Advanced Mathematics I** Dr. Rosenthal

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.*

*This course is not offered in 1993-1994.

***MATH-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 student's preferences and needs. Prerequisite: Permission of the instructor. Three hours per week. *Three semester hours.*

MATH-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 214 and an ability to program. Offered in the fall semester of even years. Three hours per week. *Three semester hours.*

MATH-471. Seminar in Computer Science I

Dr. Hagelgans

A detailed study of an advanced topic in computer science such as artificial intelligence, database design, or compiler design. Readings, independent research, and/or projects related to the semester's topic. Prerequisite: Math 272 and written permission of the instructor. Usually offered in the fall semester of odd years. Three hours per week. *Three semester hours.*

MATH-472. Seminar in Computer Science II

Dr. Jessup

Similar to Math 471. Prerequisites: Math 272 and written permission of instructor. Usually offered in the spring semester of odd years. Three hours per week. *Three semester hours.*

MATH-481. Senior Seminar I

Staff

Topics in mathematics and computer science integrating students' previous experiences. Papers and oral presentations by students. Corequisite: Math 311 or 373. Prerequisite: Communication Arts 100. Offered both semesters. One hour per week. *One semester hour.*

MATH-482. Senior Seminar II

Staff

Same as Math 481. Prerequisite: Math 481. One hour per week. *One semester hour.*

MATH-491. Research/Independent Work

Staff

Independent investigation of an area of mathematics or computer science not covered in regular courses. An oral report describing the work must be presented to the department. Prerequisites: Written consent of a member of the staff to serve as an adviser and Communication Arts 100. *Three semester hours.*

MATH-492. Research/Independent Work

Staff

Content and prerequisites as in Math 491. *Three semester hours.*

MODERN LANGUAGES

Professors Clouser, Espadas (*Chairperson*), Lucas; *Associate Professors* Eaton, Hall, Novack, Thelen; *Assistant Professor* Cameron; *Instructors* Inoue, Rojas; *Lecturers* Bell, Brinkmann, Corrigan, Lüttcher, Vitaglione.

The modern language department aims, in its elementary and intermediate courses, to develop 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 cultures,

**This course is not offered in 1993-1994.*

and to explore the foreign literature in order to develop faculties of analysis and aesthetic judgment.

Majors should enrich their studies with courses in other literatures and relevant languages, European history and thought, and the fine arts and music. Majors interested in international affairs, business or diplomacy should choose appropriate courses from the departments of economics and business administration, history and politics. Students planning to pursue graduate study are especially advised to take courses in a second foreign language, world literature and history, as appropriate. Similarly, students with international interests who are majors in other departments should formulate a minor in French, Spanish, or German, to suit their goals.

Requirements for Majors (*see Individual languages*)

Students planning to obtain certification for secondary-school teaching in French, German or Spanish must take a minimum of 28 credit hours in French, German or Spanish at the 200, 300 and 400 levels. The following courses are required: French, German or Spanish 205, 206, 313, or 314; 328, and at least two 300 or 400 level courses. Students seeking certification in Japanese are required to take the following courses: Japanese 211, 212, 301, 328; English 224; History 243; or Politics 346; East Asian Studies 204; and East Asian Studies 299, or 314, or 401. 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, Japanese, 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*.

The varied activities of the language clubs add to the department's offerings. Language majors and students preparing for certification are required 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. Exceptions to this policy may be made by petition to the chairperson of the department.

Students who wish to satisfy the language requirement in a modern language will be placed in the appropriate language class

based on background and the results of the Foreign Language Diagnostic Test.

Requirements for Minors

A minor concentration in French consists of 205, 206 and 12 additional credits of French at the 200, 300 or 400 level.

A minor concentration in German consists of German 205, 206, and 12 additional credits of German at the 200, 300 or 400 level.

A minor concentration in Spanish consists of Spanish 205, 206, and 12 additional credits of Spanish at the 200, 300 or 400 level, excluding Spanish 332.

A minor concentration in Latin American studies consists of Spanish 206, 332, Anthropology 221; and two of the following courses: Spanish 200, 313, 314, 351, 352. Politics 242, 344, 355.

ENGLISH FOR SPEAKERS OF OTHER LANGUAGES

The ESOL course is meant to be taken during the first year at Ursinus during which many foreign students may have adjustment problems.

ESOL-100. English for Speakers of Other Languages Dr. Eaton

A developmental course for non-native speakers. Introduction to the structure and style of American academic English. Review

of grammar to perfect oral and written communication. Four hours per week plus one hour of tutoring per week. *Four semester hours.*

FRENCH

French majors are required to take at least 36 credit hours in French language, literature, and civilization above the 100 level. French 205, 206, and one 400-level W course are required.

FREN-100. Intensive Elementary French Staff

An intensive introduction to French with particular emphasis on comprehension and speaking. Five hours per week plus one hour of language laboratory per week. *Four semester hours.*

literary selections. Prerequisite: French 100 or equivalent. Four hours per week plus one hour of language laboratory per week. *Four semester hours.*

FREN-111. Intermediate French I Staff
Conversation and vocabulary development; grammar review, written work and discussions are based on cultural, social and

FREN-112. Intermediate French II Staff
Continued emphasis on comprehension and speaking. Reading in literary and cultural texts and longer writing assignments. Prerequisite: French 111 or equivalent. Four hours per week plus one hour of

language laboratory per week. *Four semester hours.*

FREN-201. Conversation and Composition
Dr. Hall

Intensive review of grammar to perfect oral and written communication. Discussion of literary texts, newspaper articles and films. Prerequisite: French 112 or equivalent. Four hours per week plus one hour of laboratory per week. *Four semester hours.*

FREN-202. Topics in French Literature and Culture
Dr. Hall

Topics, to be determined by interests of students and faculty may include the absurd, *La Francophonie*, the family, the short story, the fantastic as reflected in literature and/or film. Prerequisite: French 201 or permission of instructor. Four hours per week plus one hour of laboratory per week. *Four semester hours.* Course can be repeated twice but may be counted only once toward the major.

FREN-205. Literature from the Middle Ages to the 19th Century
Dr. Lucas/Dr. Novack

Major French writers from the Middle Ages to the Revolution and their contribution to world culture. Prerequisite: French 112 or equivalent. Four hours per week. *Four semester hours.*

FREN-206. 19th- and 20th-Century Literature
Dr. Hall

Major French and francophone writers of the 19th and 20th centuries and their contribution to world culture. Prerequisite: French 112 or equivalent. Four hours per week. *Four semester hours.*

All 300-level courses are offered in rotation.

FREN-313. French Culture and Society
Dr. Lucas

A study of France from the Old Regime to the Second World War. Students will examine social conditions, artistic achievements, and intellectual and philosophical developments. In addition to basic texts, films, slides and original documents will be utilized. Writing assignments and oral presentation are required. Prerequisite: Two courses at the

200 level or permission of the instructor. Four hours per week. *Four semester hours.*

FREN-314. France Today
Dr. Hall

A study of the forces of change and tradition in contemporary French society through an examination of the political, social and cultural developments of the past 30 years. Prerequisite: Two courses at the 200 level or permission of the instructor. Four hours per week. *Four semester hours.*

FREN-318. Economic and Commercial French
Dr. Novack

Introduction to the economy, business organization and commercial practices of France and French-speaking countries, and to France's place in the European community. Prerequisite: French 201, 202 or permission of the instructor. Four hours per week. *Four semester hours.*

FREN-328. Advanced Grammar and Translation
Dr. Novack

French phonetics, morphology and syntax, with emphasis on problems related to the teaching of the language. Frequent translations focus on structural differences between French and English. Prerequisite: Two semesters at the 200-level. Four hours per week. *Four semester hours.*

FREN-335. Independent Study in French
Staff

Individual study of topics in French literature and civilization. Prerequisites: Two 200-level courses and permission of instructor. *Two to four semester hours.*

FREN-340. 20th-Century Novel
Dr. Hall

The development of the French novel of the 20th century from Proust to the writers of the new novel. Authors studied include Colette, Malraux, Sartre, Camus, Beauvoir, Duras and others. Prerequisites: French 205, 206 or permission of the instructor. Three hours per week. *Four semester hours.*

FREN-350. 19th-Century Novel
Dr. Novack

The evolution of the French novel with emphasis on Stendhal, Balzac, Flaubert and Zola. Prerequisites: French 205, 206, or permission of the instructor. Three hours per week. *Four semester hours.*

FREN-360. 18th-Century Literature

Dr. Novack

Human nature, liberty, reason and their limits as seen in Enlightenment writing before the Revolution of 1789. Readings from Voltaire, Diderot, Rousseau, Laclos and others. Prerequisites: French 205, 206 or permission of the instructor. Three hours per week. *Four semester hours.*

FREN-370. 17th-Century Classicism

Dr. Novack

Classical French literature with emphasis on the theater of Corneille, Moliere and Racine. Prerequisites: French 205, 206 or permission of the instructor. Three hours per week. *Four semester hours.*

FREN-381. Internship

Staff

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Prerequisites: Junior standing, three courses in French, and approval of a faculty internship adviser. Eight to ten hours per week. *Three semester hours.*

FREN-440W, 441W. Seminar in French Literature

Staff

These courses are offered on a rotating basis and subjects will be determined according to students' background and interest. The seminars will take a thematic

approach to literature and topics will include the following: "Literature at Versailles;" "Love in the Middle Ages and the Renaissance;" "The Poetic Quest: Baudelaire, Verlaine, Rimbaud;" "*La condition feminine*: Pisan, Sand, de Beauvoir;" "The comic tradition; *Literature engagee*." This is a writing-intensive course and formal oral presentations are required. These courses satisfy the College requirement of a capstone experience. Prerequisites: English 100, Comm. Arts 100, French 340, or 350, or 360, or 370 or permission of the instructor. Three hours per week. *Four semester hours.*

FREN-491. Research/Independent Work

This course is open to candidates for departmental honors and to other students with the permission of the departmental chairman. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

FREN-492W. Research/Independent Work

A continuation of course 491. This is a writing-intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: English 100, Comm. Arts 100, French 491 and permission of the departmental chairman. *Four semester hours.*

GERMAN

German majors are required to take a minimum of 36 credit hours in German beyond the 100 level. German 205, 206, and either 401W or 402W or 403W are required.

GER-100. Intensive Elementary German

Staff

An intensive study of the German language with special emphasis on the development of listening skills and oral communication. Five hours plus one hour of language laboratory per week. *Four semester hours.*

contemporary social and cultural interest provide the focus for class discussion and writing exercises. Prerequisite: German 100 or equivalent. Four hours plus one hour of language laboratory per week. *Four semester hours.*

GER-111. Intermediate German I

Staff

A review of basic grammar concepts and a development of listening and communication skills. Texts of

GER-112. Intermediate German II **Staff**
A continuation of German 111. A review of selected advanced grammar concepts and further development of listening and communication skills. Longer literary texts

are discussed. Prerequisite: German 111 or equivalent. Four hours plus one hour of language laboratory per week. *Four semester hours.*

GER-201. Conversation and Composition I

Dr. Clouser

Intensive review of grammar to perfect oral and written communication. Literary texts, newspaper articles, and German films will be discussed. Formal and informal writing exercises will be assigned. Students are required to attend one conversation hour per week with a native speaker.

Prerequisite: German 112 or equivalent.

Four hours per week. *Four semester hours.*

GER-202. Conversation and Composition II

Dr. Thelen

Readings focus on a selected theme or topic. Students are required to attend one conversation hour per week with a native speaker. Prerequisite: German 112 or equivalent. Four hours per week. *Four semester hours.*

GER-205. German Literature I

Dr. Thelen

A survey of German literature from the Middle Ages to the Reformation.

Prerequisite: German 112 or equivalent.

Four hours per week. *Four semester hours.*

GER-206. German Literature II

Dr. Clouser

A survey of German literature from the Baroque to the 20th century. Prerequisite: German 112 or equivalent. Four hours per week. *Four semester hours.*

GER-208. Scientific German

Dr. Clouser

Reading of classical and contemporary scientific literature. This course is open, however, to all students. Prerequisites: Physics 111, or Biology 111, or Chemistry 111; German 111 or permission of instructor. Three hours per week. *Four semester hours.*

300- and 400-level courses are offered in rotation.

GER-311. German Studies in Literature

Dr. Clouser

Topics vary. Prerequisite: Two of the following courses: German 201, 202, 205, 206 or permission of instructor. Three hours per week. *Four semester hours.*

GER-314. German Studies in Literature and Culture

Dr. Thelen

A study of German cultural, intellectual, and artistic life from the Middle Ages to the present. Original texts, slides and films supplement the readings. Prerequisites: German 201, 202 or permission of instructor. Four hours per week. *Four semester hours.*

GER-318. Commercial and Economic German

Staff

A study of the vocabulary, dynamics, and cultural customs of business practices in Germany. Special emphasis will be on conventions of correspondence and on understanding contemporary commercial and economic articles. Prerequisite: German 201 or permission of the instructor. Three hours per week. *Four semester hours.*

GER-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. Prerequisites: German 205, 206 or permission of the instructor. Three hours per week. *Four semester hours.*

GER-320. German Novelle

Dr. Clouser

History and development of the German novelle from Goethe to the 20th century. Prerequisites: German 205, 206 or permission of instructor. Three hours per week. *Four semester hours.*

GER-328. Advanced German Grammar

Staff

In-depth study of German phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisites: German 201, 202 or permission of instructor. Four hours per week. *Four semester hours.*

GER-381. Internship **Staff**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Prerequisites: Junior standing, three courses in German, and approval of a faculty internship adviser. Eight to ten hours per week. *Three semester hours.*

GER-401W. German Medieval Studies
Dr. Thelen

Topics vary. This course satisfies the College requirement of a capstone experience. Prerequisites: English 100, Comm. Arts 100, German 205, 206 or permission of instructor. Three hours per week. *Four semester hours.*

GER-402W. Classical Literature of the 18th and 19th Centuries
Dr. Clouser

Topics vary. This course satisfies the College requirement of a capstone experience. Prerequisites: English 100; Comm. Arts 100; German 205, 206 or permission of instructor. Three hours per week. *Four semester hours.*

GER-403W. Advanced Seminar **Staff**

Topics vary. This course satisfies the College requirement of a capstone experience. Prerequisites: English 100; Comm. Arts 100; German 205, 206 or permission of instructor. Three hours per week. *Four semester hours.*

GER-491. Research/Independent Work
Staff

This course is open to candidates for departmental honors and to other students with the permission of the departmental chairman. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

GER-492W. Research/Independent Work
Staff

A continuation of course 491. This is a writing-intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: English 100, Comm. Arts 100, German 491 and permission of the departmental chairman. *Four semester hours.*

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 the study of Japanese is recommended for students interested in East Asian Studies and international relations.

JAPN-100. Intensive Elementary Japanese
Ms. Inoue

An intensive study of the Japanese language with special emphasis on the development of listening skills and oral communication. Hiragana, one of the three ways of the Japanese writing system, is introduced. Five hours plus one hour of language laboratory per week. *Four semester hours.*

JAPN-111. Advanced Elementary Japanese I **Ms. Inoue**

A review of basic grammar concepts and a development of communication skills. Special emphasis is placed on practical

usage of the language in real situations. The Katakana syllabary is introduced to write loan words from the West. Prerequisite: Japanese 100 or equivalent. Four hours plus one hour of language laboratory per week. *Four semester hours.*

JAPN-112. Advanced Elementary Japanese II **Ms. Inoue**

A continuation of Japanese 111. Acquisition of advanced grammar and further development of communication skills combined with expansion of vocabulary. Kanji, Japanese characters originally borrowed from Old China, are also a focus.

Prerequisite: Japanese 111 or equivalent.
Four hours plus one hour of language
laboratory per week. *Four semester hours.*

JAPN-211. Intermediate Japanese

Ms. Inoue

Intensive review of grammar to better oral and written communication. The three major ways of Keigo, expressions to show proper respect and/or politeness in the hierarchical society of Japan, are intensively studied so that they can be used appropriately in various situations.

Prerequisite: Japanese 111 or equivalent.
Four hours plus one language laboratory
per week. *Four semester hours.*

**JAPN-212. Topics in Japanese Society,
Culture and Literature**

Ms. Inoue

Continuation of Japanese 211. A further development of reading skills is to be emphasized. Literary texts, newspaper/magazine articles, and Japanese films will

be discussed with special focus on current issues. Prerequisite: Japanese 211 or equivalent. Four hours plus one hour of language laboratory per week. *Four semester hours.*

JAPN-301. Independent Study in Japanese

Ms. Inoue

Independent study of selected topics in Japanese. Periodic conferences and papers are required. May be taken more than once for credit. Prerequisite: Japanese 212 or permission of the instructor. *Four semester hours.*

JAPN-328. Advanced Japanese Language

Ms. Inoue

A study of linguistics, phonetics and grammar. Required of students seeking teaching certification in Japanese. Prerequisite: Japanese 212 or permission of the instructor. Four hours per week. *Four semester hours.*

MODERN LANGUAGES

ML-100, 101, 102. Modern Languages

Staff

Individualized study of languages, such as Italian, Hebrew, American Sign Language.

Prerequisite: Permission of the instructor. *Four semester hours.* (These courses do not satisfy the College language requirement for graduation.)

SPANISH

Spanish majors are required to take a minimum of 36 credit hours in Spanish beyond the 100 level, excluding Spanish 332. Spanish 205, 206, and at least a 400-level W course are required.

SPAN-100. Intensive Elementary Spanish

Staff

An introduction to Spanish language with particular emphasis on comprehension and speaking. For students with little or no background in the language, the course emphasizes the basic structures of Spanish to prepare students for the intermediate courses. Five hours per week plus one hour of language laboratory weekly. *Four semester hours.*

SPAN-111. Intermediate Spanish I

Dr. Eaton and Staff

A review of the basic grammatical structures of Spanish, with emphasis on the use of tenses and the subjunctive mood, vocabulary development through readings and use of authentic materials, and cultural and elementary literary readings. Prerequisite: Spanish 100. Four hours per week plus one hour of language laboratory weekly. *Four semester hours.*

SPAN-112. Intermediate Spanish II
Dr. Eaton and Staff

Although Intermediate Spanish II is a continuation of Intermediate Spanish I, students may be placed in this course if they can demonstrate a good command of the basic structures of the Spanish grammar. The main focus of this course will be in the strengthening of vocabulary and the written command of the language, through the use of authentic materials, literary readings, and writing of short compositions. Prerequisite: Spanish 111 or equivalent. Four hours per week plus one hour of laboratory weekly. *Four semester hours.*

SPAN-118. Spanish for the Health Professions
Staff

This course is designed for students interested in medicine or an allied health field. Grammar review and vocabulary development will be emphasized through readings. Oral competency in the medical vocabulary and ability to respond in emergency circumstances are an extremely important part of the course. This course may be used toward fulfillment of the language requirement. Prerequisite: Spanish 111 or equivalent. Four hours per week. *Four semester hours.*

SPAN-200. Summer Study in Mexico **Staff**
 A four-week course including classroom study, family residence and travel in Mexico directed by members of the faculty. Offered annually. Prerequisites: Spanish 112, 118 or permission of instructor. *Four semester hours.*

SPAN-201. Conversation and Composition
Ms. Rojas

Intensive review of the grammar to perfect oral and written communication. Materials used will be predominantly literary (short plays and short stories), but also journalistic. Writing will be both formal and informal. Students are required to attend one conversation hour per week in small groups with a native speaker assistant. Prerequisite: Spanish 112 or 118 or equivalent. Four hours per week. *Four semester hours.*

SPAN-202. Topics in Hispanic Literature and Culture
Staff

Continuation of Spanish 201. Topics, to be determined by interests of students and faculty, might include the short story, Spanish and/or Latin American film, class, gender, race relations as reflected in the literature and/or film, and others. Prerequisite: Spanish 201 or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-205. Survey of 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 112 or equivalent. Four hours per week. *Four semester hours.*

SPAN-206. Survey of 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 112 or equivalent. Four hours per week. *Four semester hours.*

300- and 400-level courses are offered in rotation.

SPAN-313. Spain and Hispanic America to the end of the 18th Century
Dr. Cameron

Spain and Hispanic America to the end of the 18th century. The development of Spanish Civilization as a conjunction of Eastern and Western experiences and its subsequent expansion and transformation in the Americas. Prerequisites: Two of the following: Spanish 201, 202, 205, or 206 or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-314. Spain and Hispanic America since 1812
Dr. Espadas

The development of national identities as shaped by international socioeconomic, political and cultural forces. Prerequisites:

Two of the following: Spanish 201, 202, 205 or 206 or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-318. Commercial and Economic Spanish **Dr. Cameron**

Introduction to the economic situation, business organization and commercial practices of the Hispanic world. Prerequisite: Spanish 201 or 202 or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-328. Advanced Spanish Grammar **Dr. Espadas**

In-depth study of Spanish phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite: Spanish 201 or equivalent. Four hours per week. *Four semester hours.*

SPAN-332. Latin American Studies **Dr. Cameron**

(See also under Interdivisional Studies) 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, films, and class discussions. The language of instruction is English. Open to upperclass students. Four hours per week. *Four semester hours.*

SPAN-351. Contemporary Hispanic Theater: History, Text and Performance **Dr. Espadas**

Study of Spanish and Spanish-American theater from the end of World War II to the present. The course will discuss the development of the genre, the structure of individual works, as well as the stage techniques. It will also include the production and performance of a short play. This course satisfies the fine-arts requirement. Prerequisite: Spanish 205, 206

or permission of the instructor. Three hours per week. *Four semester hours.*

SPAN-352. Contemporary Hispanic Novel **Dr. Cameron**

Close readings from a variety of perspectives (including gender, race, class) of texts representing major trends in contemporary fiction (Spain and Latin America). Prerequisite: Spanish 205, 206, or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-381. Internship **Staff**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Prerequisites: Junior standing, three courses in Spanish, and approval of a faculty internship adviser. Eight to ten hours per week. *Three semester hours.*

SPAN-401W. Golden Age Literature **Dr. Espadas**

The picaresque, and the *Comedia* of the 16th and 17th centuries. This course satisfies the College requirement of a capstone experience. Prerequisite: English 100, Comm. Arts 100, Spanish 205, 206, or permission of the instructor. *Four semester hours.*

SPAN-402W. Cervantes **Dr. Cameron**

Studies in the structure, sources and the impact of Cervantine prose, with emphasis on the *Quijote*. This course satisfies the College requirement of a capstone experience. Prerequisites: English 100, Comm. Arts 100, Spanish 205, 206, or permission of the instructor. Four hours per week. *Four semester hours.*

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

This course is open to candidates for departmental honors and to other students with the permission of the departmental chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

SPAN-492W. Research/Independent Work Staff

A continuation of course 491. This is a writing-intensive course and at least one formal oral presentation is required. This

course satisfies the College requirement of a capstone experience. Prerequisites: English 100, Comm. Arts 100, Spanish 491 and permission of the departmental chairman. *Four semester hours.*

MUSIC

Associate Professor French (Chairperson); Assistant Professor Branker.

Requirements for Minor in Music History and Theory

A minor concentration in music history and theory consists of Music 100, 121 and four courses in music from the 200 level or above. At least one course at the 200 level in music history and one course at the 200 level in theory is required for the minor.

The music department offers private instruction in piano, voice organ, guitar, woodwinds, brass and percussion. Students register for lessons with the departmental chair before each semester begins. A semester fee of \$180.00 is billed to the student for 14 half-hour lessons per semester.

MUS-100. Introduction to Music

Mr. French

A course in perceptive listening intended to heighten the student's awareness and understanding of music through an examination of its basic elements — tone color, texture, melody, rhythm and style. The course involves intensive required listening assignments as a means of achieving the awareness and understanding of these elements. Three hours per week. *Four semester hours.*

harmonization and motivic structure.

Additional emphasis on the acquisition of aural skills through ear-training exercises. Three hours per week. *Four semester hours.*

MUS-201. Music of the Middle Ages, Renaissance and Early Baroque

Mr. French

A study of music from its early origins through 1650. Intensive listening assignments and research projects required in the course. Prerequisite: Music 100 or by permission. Three hours per week. *Four semester hours.*

MUS-104. Evolution of Jazz Styles

Mr. Branker

An introductory survey examining the historical development of jazz from its African origins through the present. The course will place emphasis on intensive listening assignments and research projects. Three hours per week. *Four semester hours.*

MUS-202. Music of the Middle-Late Baroque and Classical Periods

Mr. French

A study of music from 1650 through 1825. Intensive listening assignments and research projects required in the course. Prerequisite: Music 100 or by permission. Three hours per week. *Four semester hours.*

MUS-121. Fundamentals of Music

Mr. Branker

An introductory course in music theory which presents essential basic concepts, from standard notation and scales to

MUS-203. Music of the Romantic Era**Mr. French**

A study of music from 1825 through 1910. Intensive listening assignments and research projects required in the course.

Prerequisite: Music 100 or by permission. Three hours per week. *Four semester hours.*

MUS-204. Music of the 20th Century**Mr. French**

A study of music from 1910 to the present. Intensive listening assignments and research projects required in the course.

Prerequisite: Music 100 or by permission. Three hours per week. *Four semester hours.*

MUS-222. Harmony**Mr. Branker**

A study of the materials and practices of tonal harmony through the examination of the techniques of four-part writing.

Additional emphasis on the acquisition of aural skills through ear-training exercises. Prerequisite: Music 121 or by permission. Three hours per week. *Four semester hours.*

MUS-225. Jazz Theory**Mr. Branker**

An exploration of the melodic, harmonic, and rhythmic principles of jazz. The course includes analysis of representative works by various jazz masters and will place a strong emphasis on student projects in composition and performance. Prerequisite: Music 121 or by permission. Three hours per week.

Four semester hours.

MUS-307. Topics in Music History**Mr. French**

A study of a specific period of genre of music such as the Second Viennese School, Late Beethoven, American Opera, and others. The course will place emphasis on independent research as well as required listening. Prerequisite: Appropriate 200-level music history course or by permission. Three hours per week. *Four semester hours.*

MUS-328. Topics in Music Theory**Mr. Branker**

A study of a specific style or school of composition such as counterpoint, serial music, chromatic harmony and others. The course will place emphasis on independent research as well as required listening.

Prerequisite: Appropriate 200-level music

theory course or by permission. Three hours per week. *Four semester hours.*

MUS-401. Special Projects in Music**Staff**

Advanced independent work on a creative, historical or theoretical project supervised and approved by a faculty adviser. *Four semester hours.*

ENSEMBLES

NOTE: A student may receive a maximum of four credits for participating in ensembles.

MUS-001-008. 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 performances of Handel's *Messiah* in the fall semester. Two hours per week. *One-half semester hour.*

MUS-011-018. 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. *One-half semester hour.*

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.

MUS-021-028. 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. *One-half semester hour.*

MUS-031-038. 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. *One-half semester hour.*

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.

PENNSYLVANIA GERMAN STUDIES

Associate Professor Gallagher (coordinator).

The purpose of Pennsylvania German Studies (PGS) 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 compare their folk culture with that of other peoples. The Pennsylvania German archives in Myrin Library and the art and artifacts in the Berman Museum of Art offer special opportunities for study and enrichment.

Minor Concentration

A minor in Pennsylvania German Studies consists of Pennsylvania German Studies 100 and 13 additional credits in PGS.

PGS-100. Pennsylvania German Culture Staff

A study of the history, culture and societies of the Pennsylvania Germans, their influence on early American life and their adjustments to the modern world. Three hours per week. *Three semester hours.*

PGS-203. Pennsylvania German Folklife Staff

Classroom study and field techniques related to the folklore, folklife, and folk culture of the Pennsylvania Dutch country. Prerequisites: PGS 100, or Anthropology 100, or History 213. Three hours per week. *Three semester hours.*

PGS-204. Topics in Pennsylvania German Studies Staff

A course focusing on special topics in Pennsylvania German studies. Prerequisite: Permission of instructor. Three hours per week. *Three semester hours.*

PGS-306. Pennsylvania German Art Staff

Pattern, symbolism and content in Pennsylvania German in folk art. Formal painters of Pennsylvania German origin. Three hours per week. *Three semester hours.*

PGS-310. Religious Experiences of the Pennsylvania Germans Staff

This course will examine the varieties of religious sects, denominations and institutions of the Pennsylvania Germans, their attitudes toward religion, as well as the transition to 20th-century religious forms. Prerequisite: Permission of instructor. Three hours per week. *Three semester hours.*

PGS-351. Independent Study Staff

Research involves directed readings and research on a topic in Pennsylvania German Studies. Prerequisites: PGS 100 and permission of the instructor. *Three semester hours.*

PHILOSOPHY AND RELIGION

Professor Hardman (Chairperson); Assistant Professor Goetz.

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, pre-law 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 36 hours of work within the department, including 101, 102, 211, 212, 301, 404, which are required. Each major is also encouraged to earn a minor in another field of study.

Requirements for Minors

A minor concentration in philosophy consists of 101, 102, 301, and three of the following: 302, 303, 304 and 305.

A minor concentration in religion consists of 101, 102, 211, 212, and two of the following: 214, 215, 216, 221, 223, and 224.

**PHIL-101. Origins of Philosophical
Consciousness**

Dr. Hardman, Dr. Goetz

A study of selected topics in philosophical thought from texts in both Western and non-Western cultures from primarily the ancient period through the 15th century. Philosophy 101 and 102 need not be taken in sequence. Three hours per week. *Four semester hours.*

**PHIL-102. Modern Philosophical
Consciousness**

Dr. Hardman, Dr. Goetz

A study of selected topics in philosophical thought from texts in both Western and non-Western cultures from primarily the 16th century to the present. Philosophy 101

is *not* a prerequisite. Three hours per week. *Four semester hours.*

**PHIL-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. Three hours per week. *Four semester hours.*

PHIL-104. Contemporary Philosophy

Staff

A study of late 19th-century and 20th-century philosophers and trends in philosophic thought beginning with Nietzsche and Moore. Intensive use is made of primary sources. Three hours per week. *Four semester hours.*

PHIL-211. World Religions

Dr. Hardman

An introduction to major living religions, with special attention to Oriental religions. An examination of the leading problems of religious thought, and to the alternative approaches of world religions to ultimate questions concerning the meaning of human life. Three hours per week. *Four semester hours.*

PHIL-212. Hebrew History and Scriptures

Dr. Hardman

Foundations of the Judeo-Christian tradition in the literature and thought of the Old Testament. Attention is given to the archeological and historical background of the Old Testament, as well as to the biblical materials themselves. Three hours per week. *Four semester hours.*

PHIL-214. Introduction to Judaism

Staff

Attention is given to the history, traditions, and literature of the Jewish people from their origins in the second millennium B.C.E. to the present day. Stress is given to specific religious concepts and teachings which are pertinent to modern times. Three hours per week. *Three semester hours.*

PHIL-215. The New Testament:

The Gospels Dr. Hardman

By means of various methods of study, the life and teachings of Jesus as set forth in the four Gospels are examined. Attention is given to the geography, politics, sociology, and religion of the first century A.D. Three hours per week. *Four semester hours.*

PHIL-216. The New Testament:

Pauline Epistles Dr. Hardman

Attention is given to the life, ministry, and writings of Paul. The doctrinal, pastoral, and personal epistles of Paul are studied with reference to their historical settings, the organization of the Apostolic church, and the development of Christian doctrine. Three hours per week. *Four semester hours.*

PHIL-221. Religion in American Culture

Dr. Hardman

A systematic examination of religion in the United States as a philosophy of life, attitude, tradition, and organization. The

beliefs and thoughts of Protestants, Catholics, and Jews from the colonial period to modern times are studied. Three hours per week. *Four semester hours.*

PHIL-223. The Christian Religious Tradition

Dr. Hardman

A survey of important thinkers, literature and movements typical of the Christian tradition through the 20th century. Careful study of Augustine, Abelard, Aquinas, Duns Scotus, Occam, Luther, Edwards and others is included. Three hours per week. *Four semester hours.*

PHIL-224. 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, and others. Three hours per week. *Four semester hours.*

PHIL-301. Logic

Dr. Goetz

A study of formal logic in which the student is taught how to translate sentences in ordinary English into the formal language of propositional and predicate logic. Emphasis is placed on recognizing logical connectives and quantifiers in ordinary language and becoming proficient in the natural deduction proof technique. Four hours per week. *Four semester hours.*

PHIL-302. Philosophy of Religion

Dr. Goetz

A philosophical study of both belief itself as a psychological attitude and what has been believed about God. Particular attention is given to such questions as whether or not belief is a matter of choice and whether or not one must have a reason to believe in God. Questions about the natures of God and man, evil and immortality are also addressed. Three hours per week. *Four semester hours.*

PHIL-303. Philosophy of Mind

Dr. Goetz

An examination of various arguments for and against different views of what a person or self is. Attention is given both to the claim that a person is a soul or mind which

is distinct from its physical body and to the conflicting assertion that a self is identical with its body or brain. Three hours per week. *Four semester hours.*

PHIL-304. Ethics **Dr. Goetz**

A study of various ethical theorists with regard to their attempts to give an account of such concepts as the human good, virtues, the role of motive and consequences in determining right and wrong conduct, and the like. Readings on practical issues (e.g., punishment and abortion) are included in an effort to explore how the various theories relate to practice. Three hours per week. *Four semester hours.*

PHIL-305. Philosophy of Action **Dr. Goetz**

An examination of what human action is, how it is explained, and whether it is free or determined. The examination raises such issues as how explanations in science are related to explanations of human behavior in terms of reasons, whether there is a science of human behavior, and for what, if any, behavior human beings are responsible. Three hours per week. *Four semester hours.*

PHIL-309. Selected Topics **Dr. Hardman, Dr. Goetz**

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. *Four semester hours.*

PHIL-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. *Four semester hours.*

PHIL-404W. Senior Seminar: Current Issues and Movements in Philosophy and Religion **Dr. Hardman, Dr. Goetz**

The aim of this capstone course is threefold: 1) A comprehensive grasp of the interrelatedness of the various courses in the major field; 2) an overview of the relation of the major field of study to the various areas in the liberal arts program; 3) a study of the relevance of philosophy and religion to the contemporary situation. There will be several papers and oral presentations. Prerequisites: English 100 and Communication Arts 100. Open only to philosophy and religion majors or by departmental permission. Three hours per week. *Four semester hours.*

PHIL-491W. Research/Independent Work **Dr. Hardman, Dr. Goetz**

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

PHIL-492W. Research/Independent Work **Dr. Hardman, Dr. Goetz**

A continuation of Philosophy 491. Prerequisite: Philosophy 491. *Four semester hours.*

PHYSICS

Professor Takats (Chairperson); Associate Professor Nagy; Assistant Professor Bashus.

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, 111a, 112, 112a; Mathematics 111, 112, 211, 214; Physics 111Q, 112, 121, 122, 207, 207a, 209, 210, 210a, 212, 212a, 315, either 450W or 492W, and at least six additional hours of credit in physics at the 300 or 400 level.

Students anticipating graduate study in physics should also take Physics 304, 309, 316, 401, 410.

Students majoring in physics who are preparing to teach in secondary schools must take Biology 100 or 111; Chemistry 111, 111a, 112, 112a; Mathematics 111, 112, 211, 214; Physics 111Q, 112, 121, 122, 200b, 207, 209, 210, 210a, 212, either 450W or 492W.

Requirements for Minors

A minor concentration in physics consists of Mathematics 111, 112; Physics 111Q, 112, 121, 122, 207, and a minimum of eight credits at the 200, 300 or 400 level, including at least one semester of laboratory (207a, 209, 210a, or 212a).

A minor concentration in astrophysics consists of Mathematics 111, 112; Physics 111Q, 112, 121, 122, 207, 301, 302, and a minimum of three credits of seminar from the following topics: planetary science, cosmology, celestial mechanics, observational techniques, general relativity.

Students in the pre-engineering program take Chemistry 111, 111a, 112, 112a; Mathematics 111, 112, 211, 214, 271; Physics 111Q, 112, 121, 122, 207, 209, 212. Additional courses in chemistry, mathematics, and physics are chosen in consultation with the pre-engineering adviser. The courses are determined by the particular field of engineering the student plans to enter.

PHYS-100Q. Introduction to Physics Staff

A survey of classical physics with emphasis on its structure and intellectual development as well as its application to problems of society. Concepts of motion, energy, sound, light, electricity, and magnetism. This course assumes no previous study in physics. A working knowledge of high school algebra is assumed. Two hours lecture and two hours laboratory per week. *Three semester hours.*

PHYS-111Q. General Physics I Staff

A study of elementary mechanics and thermodynamics, utilizing the principles of calculus in the presentation and in exercises. Prerequisite: Mathematics 110 or equivalent. Three hours of lecture, and three hours of laboratory per week. *Four semester hours.*

Students may receive credit for only one of the two courses—Physics 109Q or Physics 111Q.

PHYS-112. General Physics II Staff

A study of waves, sound, electricity, magnetism, and light. Prerequisite: Physics 111Q. Three hours of lecture, and three hours of laboratory per week. *Four semester hours.*

Students may receive credit for only one of the two courses—Physics 110 or Physics 112.

PHYS-121. Problem-Solving Techniques I Staff

Problem solving in physics using the methods of previously studied mathematics (precalculus and differential calculus) and computer systems (spreadsheets, graphing programs, and symbolic computation systems). Pre- or corequisites: Physics 111Q, Mathematics 111. Two hours per week. *One semester hour.*

PHYS-122. Problem-Solving Techniques II Staff

Problem solving in physics using the methods of previously studied mathematics (differential and integral calculus) and computer systems. Prerequisite: Physics 121; pre- or corequisites: Physics 112, Mathematics 112. Two hours per week. *One semester hour.*

PHYS-200a. Introduction to Modern Physics Dr. Takats

A survey of the development of physics in the 20th century. Concepts of relativity, atomic and nuclear physics, and elementary particles. Prerequisite: Physics 100Q. Two hours of lecture and two hours of laboratory per week. *Three semester hours.*

***PHYS-200b. Introduction to Astronomy Dr. Nagy**

Selected topics in contemporary astronomy. The solar system, stellar birth and evolution, the creation and evolution of the universe, searching for extraterrestrial intelligence. Prerequisite: Physics 100Q. Two hours of lecture and two hours of laboratory per week. *Three semester hours.*

Students may receive credit for both Physics 200a and 200b, but students having credit for Physics 207 may not receive credit for Physics 200a and those having credit for Physics 301 may not receive credit for Physics 200b.

PHYS-207. Modern Physics Dr. Bashus

Special relativity, origins of quantum theory, atomic spectra, electron distribution, structure of solids, nuclear physics, elementary particle physics. Prerequisite: Physics 110 or 112. Three hours per week. *Three semester hours.*

PHYS-207a. Laboratory in Modern Physics Dr. Takats

Laboratory work (optional) for Physics 207. Three hours per week. *One semester hour.*

PHYS-209. Circuits Dr. Bashus

Foundations of analog and digital circuits. D-C and A-C circuits, transistors, operational amplifiers, digital electronics. Prerequisites: Physics 110, 112. Three hours lecture and three hours laboratory per week. *Four semester hours.*

PHYS-210. Mechanics I Dr. Bashus

Vectors, statics, vector calculus, kinematics of a particle, dynamics of a particle, energy, harmonic motion, moving reference systems, central forces. Prerequisites: Physics 112, 121; pre- or corequisites: Physics 122, Mathematics 112. Three hours per week. *Three semester hours.*

*This course will not be offered in 1993-1994.

PHYS-210a. Laboratory in Mechanics I**Dr. Bashus**

Laboratory work (optional) for Physics 210. Three hours per week. *One semester hour.*

PHYS-212. Classical and Quantum Mechanical Waves**Dr. Nagy**

The behavior of classical waves, wave particle duality, state functions and probability densities, the Schroedinger wave equation, one-dimensional, quantum mechanical problems, prediction and measurement in quantum mechanics. Prerequisites: Physics 112, 121; pre- or corequisites: Physics 122, Mathematics 112. Three hours per week. *Three semester hours.*

PHYS-212a. Laboratory in Waves and Quantum Mechanics**Dr. Bashus**

Laboratory work (optional) for Physics 212. Three hours per week. *One semester hour.*

PHYS-301. Observational Astronomy**Dr. Nagy**

An introduction to the instruments and techniques of observational astronomy: astrometry, astronomical photometry, CCD imaging and image processing, spectroscopy. Prerequisites: Physics 112, 121, Mathematics 111. Three hours per week. *Three semester hours.*

PHYS-302. Introduction to Astrophysics**Dr. Nagy**

Astronomical coordinate systems and time, the astronomical two-body problem, tidal forces, the Sun and planets, observable properties of stars, stellar structure and evolution, binary stars, galaxies and cosmology. Prerequisites: Physics 112, 121; pre- or corequisites: Physics 122, Mathematics 112. Three hours per week. *Three semester hours.*

PHYS-304. Thermodynamics*Staff**

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. (Alternates with 410.) Prerequisites: Physics 112, 122, Mathematics 211. Three hours per week. *Three semester hours.*

PHYS-309. Electric and Magnetic Fields**Dr. Takats**

Electric and magnetic fields and potentials, Laplace's equation, dielectrics and magnetic materials, Maxwell's equations, electromagnetic waves. Prerequisites: Physics 112, 122, Mathematics 211, 214. (Alternates with 401.) Three hours per week. *Three semester hours.*

PHYS-315. Mathematical Physics I**Dr. Nagy**

Power series, complex numbers and functions, matrix algebra and the solution of simultaneous linear equations, partial derivatives, coordinate transformations, vector analysis, numerical solution of algebraic equations, Fourier series, numerical differentiation and integration. Prerequisites: Physics 112, 122, Mathematics 211, 214. Three hours per week. *Four semester hours.*

PHYS-316. Mathematical Physics II**Dr. Nagy**

Ordinary differential equations, the numerical solution of ordinary differential equations, complex analysis, series solutions of differential equations, orthogonal polynomials, partial differential equations, integral transforms. Prerequisite: Physics 315. Three hours per week. *Four semester hours.*

PHYS-317. Seminar**Staff**

Study and discussion of advanced topics or recent developments in physics. Students must consult the chair of the department before registering for this course. Three hours per week. *Three semester hours.*

PHYS-318. Seminar**Staff**

Same description as Physics 317. Three hours per week. *Three semester hours.*

PHYS-401. Applications of Quantum Mechanics*Staff**

The hydrogen atom, angular momentum, perturbation theory, systems of identical particles, alpha decay, the helium atom, the hydrogen molecule-ion, scattering theory, superfluids, superconductors, electrons in a periodic potential. Prerequisite: Physics 212. (Alternates with 309.) Three hours per week. *Three semester hours.*

**This course will not be offered in 1993-1994.*

PHYS-410. Mechanics II**Dr. Bashus**

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 210, Mathematics 211, 214. (Alternates with 304.) Three hours per week. *Three semester hours.*

PHYS-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 the adviser. *One semester hour.*

PHYS-412. Research**Staff**

Continuation of Physics 411. *One semester hour.*

PHYS-421. Research**Staff**

Same as Physics 411, but more extensive in scope. *Two semester hours.*

PHYS-422. Research**Staff**

Continuation of Physics 421. *Two semester hours.*

PHYS-450W. Senior Seminar**Staff**

Investigation and discussions of advanced topics or recent developments in physics. These may be experimental or theoretical investigations or they may be physics literature research. Writing a major paper and giving an oral presentation are required. Open to physics majors in their senior year or in their junior year with permission of the departmental chairperson. Prerequisites: English 100, Communication Arts 100. Course will meet on an arranged basis. *Three semester hours.*

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

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

PHYS-492W. Research/Independent Work**Staff**

A continuation of Physics 491. Writing a major paper and giving an oral presentation are required. Prerequisites: English 100, Communication Arts 100, Physics 491. *Four semester hours.*

POLITICS

Professor Berry, (Chairperson); Associate Professors Fitzpatrick, Kane; Assistant Professors Hood, Stern; Instructor Moore.

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 politics, 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. In addition, three courses in history, Economics 100, and one other social science course 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 coursework 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*.

Requirements for Minors

A minor in politics consists of Politics 100; two courses from among Politics 218, 237, 242, 252; and two courses at the 300 or 400 level.

POL-100. Politics and Government

Dr. Berry, Dr. Fitzpatrick,

Dr. Hood, Ms. Moore, Dr. Stern

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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-237. Political Philosophy**Dr. Stern**

This course examines the nature of justice through a careful reading of major works in the history of political philosophy. Specifically, we will consider selected political writings of Plato, Aristotle, Machiavelli, Hobbes, Locke, and Marx. Prerequisite: Politics 100. Three hours per week. *Four semester hours.*

POL-242. Comparative Politics**Dr. Hood**

The structure and function 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. *Four semester hours.*

POL-252. International Politics**Dr. Berry, Ms. Moore**

General theory, simulations, games, and case studies explain the relations 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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-321. Constitutional Interpretation I**Dr. Fitzpatrick**

The role of the Supreme Court in the interpretation and enforcement of the 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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-323. American Local Government**Staff**

The structure, policies, 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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-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. *Four semester hours.*

POL-330. American Political Thought**Dr. Stern**

This course examines the founding principles of our regime and the problems inherent in those principles as revealed by the great crises of our history. Accordingly, we will examine carefully the speeches and writings of those statesmen who founded the regime as well as those who guided it through its crises. Readings will include the works of Jefferson, Madison, Hamilton, the Anti-Federalists, Lincoln, Frederick Douglass, Wilson, and F.D.R. Prerequisite: Politics 237. Three hours per week. *Four semester hours.*

POL-337. Classical Political Philosophy**Dr. Stern**

This course examines the classical understanding of politics through a careful reading of selected works of Plato and Aristotle. We will consider such issues as the nature of justice, the meaning of moral and intellectual virtue, and the relation between philosophy and politics. Prerequisite: Politics 237. Three hours per week. *Four semester hours.*

POL-338. Modern Political Philosophy**Dr. Stern**

This course examines and evaluates the world-revolutionary challenge to classical and medieval political philosophy posed by such writers as Machiavelli, Hobbes, Spinoza, Locke, Rousseau and Hegel. Prerequisite: Politics 237. Three hours per week. *Four semester hours.*

POL-339. Contemporary Political Philosophy**Dr. Stern**

This course examines selected authors and issues in contemporary political philosophy. We will read the works of such authors as

Nietzsche, Heidegger, Kojève, Rawls and Foucault. We will consider such issues as historicism, contemporary liberalism, feminism, and Marxism. Prerequisite: Politics 237. Three hours per week. *Four semester hours.*

POL-344. Political Development**Dr. Hood**

An analysis of political change in developed and less-developed countries, focusing on the various theories used to explain socioeconomic and political conditions, and development strategies among several political systems in the international community. Prerequisite: Politics 242. Three hours per week. *Four semester hours.*

POL-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. *Four semester hours.*

POL-347. Chinese Politics**Dr. Hood**

Focus on the government and politics of 20th-century China. Examines the issues, events, personalities and policy trends of the modern Chinese political experience. Prerequisite: Politics 242. Three hours per week. *Four semester hours.*

POL-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 superpowers in the East Asian region. Prerequisite: Politics 252. Three hours per week. *Four semester hours.*

POL-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. *Four semester hours.*

POL-356. International Organizations
Dr. Berry

A study of governmental international organizations with emphases on the functions of the United Nations and the foreign policy of one of its members. Open only to members and alternates selected to Ursinus' National Model UN delegation. Does not satisfy major or minor requirements in politics or international relations. *One semester hour.*

POL-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 historical or hypothetical conflict to further test theories. Prerequisite: Politics 252. Three hours per week. *Four semester hours.*

POL-381. Internship in Politics and Government **Staff**

Internship in a public or governmental organization or participation in an overseas study program. A 2.67 grade average and permission of the department are required. *Four semester hours.*

POL-399. Topics in Law and Politics **Staff**

An occasional course dealing with special subject areas or events. *Four semester hours.*

POL-418W. Seminar in American Government **Dr. Fitzpatrick**

Intensive study of a special topic in American government emphasizing original research and substantial oral and written work. Prerequisites: English 100, Comm. Arts 100, junior or senior status and one 300-level course in American government. Three hours per week. *Four semester hours.*

POL-437W. Seminar in Political Philosophy **Dr. Stern**

Intensive study of a special topic in political philosophy emphasizing original research and substantial oral and written work. Prerequisites: English 100, Comm. Arts 100, junior or senior status and one 300-level course in political philosophy. Three hours per week. *Four semester hours.*

POL-442W. Seminar in Comparative Politics **Dr. Hood**

Intensive study of a special topic in comparative politics emphasizing original research and substantial oral and written work. Prerequisites: English 100, Comm. Arts 100, junior or senior status and one 300-level course in comparative politics. Three hours per week. *Four semester hours.*

POL-452W. Seminar in International Politics **Dr. Berry**

Intensive study of a special topic in international politics emphasizing original research and substantial oral and written work. Prerequisites: English 100, Comm. Arts 100, junior or senior status and one 300-level course in international politics. Three hours per week. *Four semester hours.*

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

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

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

A continuation of Politics 491. Prerequisite: Politics 491. *Four semester hours.*

PSYCHOLOGY

Professors Chambliss (Chairperson), Fago; Associate Professor Rideout; Assistant Professors England, 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 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 for psychology majors at Ursinus is Pennsylvania certification in social studies for grades 7-12, as well as courses which may apply to graduate school programs elsewhere for elementary and secondary school counselors and for school psychologists. Students and their advisers should consult the education department booklet, *Ursinus College Teacher Education Programs*.

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 100, 110, 210W.
2. Content areas: each student must select one course from each content area.
 - a. Experimental: Psychology 320, 325, 330, 340.
 - b. Developmental/Personality: Psychology 345, 355, 450, 455.
 - c. Social/Applied: Psychology 360, 365, 440, 465.
 - d. Research/Theory: Psychology 481, 482, 491, 492, 495.
3. Six additional elected credits in Psychology.

B. Ancillary Courses

Required of all majors

1. Biology 100, 200 or 111, 112Q.
2. Math 241.
3. Eight 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 481 or 482, 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 100 and 110; one course in experimental psychology chosen from 320, 325, 330 or 340; one course in developmental/personality psychology chosen from 345, 355, 450 or 455; one course in social/applied psychology chosen from 360, 365, 440, or 465.

A minor concentration in human behavioral development consists of Psychology 100, 110, 345, 355, and 455.

A minor concentration in neuroscience consists of Biology 317; Psychology 110, 320 and 325; and either Psychology 481 or 482 (approved topic applicable to the neurosciences), or Biology 481 or 482 (approved topic applicable to the neurosciences), or Biology 332. Psychology 327 is recommended but not required.

PSYC-100. Introductory Psychology

Staff

This course is an introduction to psychological research, and topics selected to illustrate interdisciplinary and cross-cultural perspectives. The goal is to enhance insight into individuals, the internal factors that influence their psychological processes, and their relationship with their social milieu. Four hours per week. *Four semester hours.*

including field studies, correlational research, and quasi-experimental and *ex post facto* research designs. Topics covered include the following: operationism, measurement and error, subject and variable selections, experimental control, and ethical issues. Students will also be introduced to the use of statistics as a research tool. Three hours lecture, two hours laboratory per week. *Four semester hours.*

PSYC-110. Research Methodology

Dr. Fago

This course is an introduction to psychological research, emphasizing non-experimental research methodologies

PSYC-210W. 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: English 100, Psychology 100, Psychology 110, Math 241, or permission of instructor. Three hours lecture, two hours laboratory per week. *Four semester hours.*

PSYC-260. Mental Health and Abnormal Psychology **Dr. Chambliss**

Mental health problems are examined from the biological, behavioral, cognitive, humanistic/existential and sociocultural perspectives. Topics include reactive, anxiety, and personality disorders, psychosis and organic disorders, and substance abuse. Prevention and treatment of mental illness are discussed. Prerequisite: Psychology 100. Three hours per week. *Four semester hours.*

PSYC-265. Educational Psychology **Staff**

Educational application of psychological concepts will be addressed. The focus is on the psychological processes involved in learning and behavior management in the classroom, but the course includes a survey of cognitive and social development. Prerequisite: Psychology 100. Three hours per week. *Four semester hours.*

PSYC-301. Reading in Psychology **Staff**

Individual study of one or more selected topics in the psychological literature, and preparation of an annotated bibliography of 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.*

PSYC-302. Reading in Psychology **Staff**

Content and prerequisites as in Psychology 301, but offered in the spring term. *One semester hour.*

PSYC-320. 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 100, Psychology 110. Three hours

of lecture, two hours of laboratory per week. *Four semester hours.*

***PSYC-325. 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 327. Prerequisites: Psychology 100; Biology 100 or 111; or permission of the instructor. Three hours per week. *Three semester hours.*

***PSYC-327. 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 325 and permission of the instructor. Two hours per week. *One semester hour.*

PSYC-330. 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 100 and 210W. Three hours lecture, two hours laboratory per week. *Four semester hours.*

***PSYC-340. 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

**This course is not offered in 1993-1994.*

100 and 210W. Three hours lecture, two hours laboratory per week. *Four semester hours.*

PSYC-345. Child Development

Dr. England

A study of human development from conception through childhood. Physical, cognitive, and social development will be reviewed in terms of psychological theory and empirical research. Emphasis will be given to the interaction between cultural and individual influences on the course of development. Prerequisite: Psychology 100. Three hours per week. *Four semester hours.*

PSYC-355. Adolescent Psychology

Dr. Fago

A review of research and theory of physical, psychological and social development during adolescence. Topics covered will include physical/sexual development, cognitive development, personality development, sex roles and gender identity, peer and familial influences, and social development. Prerequisite: Psychology 100. Three hours per week. *Four semester hours.*

PSYC-360. Psychology in the Community

Dr. England

Application of psychological theory, research methods, and empirical findings to community programs dealing with contemporary social problems, such as crime and delinquency, racial prejudice, environmental pollution, mental illness, drug addiction, poverty and other forms of deprivation. Prerequisite: Psychology 100. Three hours per week. *Four semester hours.*

PSYC-365. Organizational Psychology

Dr. Richardson

The study of human behavior in work settings. Motivation and productivity, personnel selection, human-computer interaction, and causes and consequences of job stress. The effects of different approaches to management are addressed. Prerequisites: Psychology 100; Math 241. Three hours per week. *Four semester hours.*

PSYC-381. Psychology Internship

Dr. Chambliss

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact departmental chair for further information. Prerequisites: Junior standing, nine credits in psychology, and approval of a faculty internship adviser. Eight to ten hours per week. *Three semester hours.*

PSYC-440. Social Psychology

Dr. Richardson

The study of social forces as they originate with and impinge on individuals. Attitude - behavior relationships, group membership, and causes of antisocial and prosocial behavior are analyzed. Historical perspectives are included. Three hours per week. Prerequisites: Psychology 100 and Math 241. Three hours per week. *Four semester hours.*

PSYC-450. 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. Prerequisites: Psychology 100, 260, and 265 or 345. Three hours per week. *Four semester hours.*

PSYC-455. Personality

Dr. Chambliss

A comprehensive survey of psychological theory and research dealing with the normal aspects of human nature. The psychoanalytic, biogenetic, trait, humanistic, and behavioral perspectives will be explored. Prerequisites: Psychology 100, 260, and 265, 355 or 345. Three hours per week. *Four semester hours.*

PSYC-465. Educational Tests and Measurements

Dr. Richardson

An introduction to various tests and the procedures associated with their development and use. Includes tests of aptitude and achievement, as well as various other psychometric devices (e.g., scales for clinical and personality

PSYCHOLOGY

assessment). Prerequisites: Psychology 100 and Math 241. Three hours per week. *Four semester hours.*

PSYC-480. History and Theories of Psychology Dr. Fago

The philosophical underpinnings of psychology from the Greeks to the 19th-century empiricists will be explored. The development of scientific paradigms to address fundamental philosophical issues will then be traced in the emergence of contemporary psychology. A critique of psychology as a method of inquiry and as a theory of knowledge will be attempted within the framework of a philosophy and sociology of science. Three semester hours per week. *Four semester hours.*

PSYC-481. Research Staff

Investigations of an experimental, clinical or theoretical nature pursued independently by the student. The preparation of a written and oral 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. Prerequisite: Communication Arts 100. *Four semester hours.*

PSYC-482. Research Staff

Content as in Psychology 481, 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. Prerequisite: Communication Arts 100. *Four semester hours.*

PSYC-491. Research/Independent Work Staff

This course is open to candidates for departmental honors and to other students with the permission of the departmental chairperson. The preparation of a written and oral scientific report is required. Prerequisite: Communication Arts 100. *Four semester hours.*

PSYC-492. Research/Independent Work Staff

A continuation of Psychology 491. Prerequisite: Psychology 491. *Four semester hours.*

PSYC-495. 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 oral presentation of papers on selected topics which will vary from year to year. Open to third- and fourth-year students majoring in psychology. Prerequisite: Communication Arts 100. Three hours per week. *Four semester hours.*

RELIGION

See Philosophy and Religion

SPANISH

See Modern Languages

INTERNATIONAL RELATIONS

See page 120.

BOARD OF DIRECTORS

	<i>First Elected</i>	<i>Term Expires</i>
WILBERT D. ABELE, B.A., Marlton, N.J.	1992	1997
JOAN D. AIKENS, B.A., Washington, D.C.	1985	1995
JAMES L. BAER, Esq., B.A., LL.B., Bethesda, Md.	1991	1996
JAMES W. BRIGHT, JR., B.A., B.Div., S.T.M., D.Min., Manheim, Pa.	1988	1993
DAVID A. CORNISH, A.A., Collegeville, Pa.	1986	1996
JOHN E.F. CORSON, B.A., Plymouth Meeting, Pa.	1983	1993
JAMES G. CROUSE, B.S., M.S., Royersford, Pa.	1980	1995
JAMES E. DALY, B.A., M.B.A., Larchmont, N.Y.	1989	1994
BETTY BROWN DANDO, B.S., Glenside, Pa.	1989	1994
THOMAS G. DAVIS, B.S., M.D., Radnor, Pa.	1980	1995
PAUL L. DOUGHTY, B.A., Ph.D., Gainesville, Fla.	1987	1997
LLEWELLYN F. DRYFOOS, JR., B.A., Sugarloaf, Pa.	1988	1993
THOMAS P. GLASSMOYER, B.A., LL.B., LL.D., Willow Grove, Pa.	1956	1997
CAROL K. HAAS, B.A., Ph.D., Richmond, Va.	1987	1997
ROBERT F. HARTMAN, B.A., Valley Forge, Pa.	1986	1996
PETER HAVENS, B.A., M.B.A., Rosemont, Pa.	1985	1995
WILLIAM F. HEEFNER, B.A., LL.B., LL.D., Perkasié, Pa.	1969	1995
DAVID J. KNAUER, B.A., West Chester, Pa.	1988	1993
MICHAEL J. LEWIS, B.S., M.S., Ph.D., Rockville, Md.	1991	1996
GEOFFREY MARSHALL, B.A., M.A., Ph.D., East Windsor, N.J.	1986	1996
LOUIS N. McCARTER III., B.S., Malvern, Pa.	1984	1994
BETTY UMSTAD MUSSER, B.A., Villanova, Pa.	1982	1997
DONALD E. PARLEE, B.S., M.D., Doylestown, Pa.	1983	1995
GLADYS PEARLSTINE, B.S., Haverford, Pa.	1984	1994
HENRY W. PFEIFFER, B.S., M.S., Chatham, N.J.	1978	1993
ROBERT POOLE, B.S., M.D., West Chester, Pa.	1985	1995
ROBERT A. REICHLEY, B.A., LL.D., Providence, R.I.	1987	1997
J. PERMAR RICHARDS, JR., L.H.D., Bryn Mawr, Pa.	1978	1993
RICHARD P. RICHTER, B.A., M.A., LL.D., L.H.D., Collegeville, Pa.	1976	1996
JACK W. ROBBINS, B.A., LL.B., Fort Washington, Pa.	1984	1994
JOHN C. SHETLER, A.B., B.D., Th.M., D.D., Collegeville, Pa.	1976	1996
JAN M. SMITH, B.A., Pottstown, Pa.	1988	1993
DONALD G. STAUFFER, B.A., Devon, Pa.	1988	1993
MARILYN L. STEINBRIGHT, B.S., LL.D., Norristown, Pa.	1975	1995
EDWARD J. STEMMLER, B.A., M.D., Sc.D., L.H.D., Washington, D.C.	1992	1997
ELIOT STELLAR, A.B., M.S., Ph.D., Sc.D., Ardmore, Pa.	1979	1994
ALBERT E. TESKE, B.A., B.D., D.D., East Greenville, Pa.	1984	1994
WILLIAM G. WARDEN, B.A., Newtown Square, Pa.	1982	1997
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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, Pa.	1967	1987
HENRY P. LAUGHLIN, M.D., Sc.D., Sc.S.D., B.S., Union Bridge, Md.	1967	1977
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SHELDON E. MACKEY, B.A., B.D., D.D., LL.D., Exton, Pa.	1960	1989
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CARL A. POSSE, Bryn Mawr, Pa.	1979	1989
WILLIAM R. ROBBINS, B.S., Bloomfield, Conn.	1971	1986
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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

- DONALD GAY BAKER, Ph.D., *Professor of Greek, Emeritus*
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- ROBERT VICTOR COGGER, Ph.D., *Professor of Education, Emeritus*
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- JAMES PRESSLEY CRAFT, Ph.D., *Professor of Political Science, Emeritus*
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- ALFRED L. CREAGER, B.D., D.D., *Professor of Religion, Emeritus*
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- JAMES DOUGLAS DAVIS, M.A., *Professor of History, Emeritus*
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- ALBERT LESTER REINER, Ph.D., *Professor of Romance Languages, Emeritus*
 A.B., M.A., Ph.D., Harvard University.
- BLANCHE BEATRICE SCHULTZ, M.S., *Professor of Mathematics, Emerita*
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- ELEANOR FROST SNELL, M.A., Sc.D., *Professor of Physical Education, Emerita*
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- EVAN SAMUEL SNYDER, Ph.D., *Professor of Physics, Emeritus*
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- WILLIAM BEDFORD WILLIAMSON, Ed.D., D.D., *Professor of Philosophy, Emeritus*
 B.S., S.T.B., Ed.D., Temple University; S.T.M., Lutheran Theological Seminary; M.A., Lehigh University; D.D., National University.
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- FREDERICK DONALD ZUCKER, Ph.D., *Professor of Political Science, Emeritus*
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Active

- JANE E. AGOSTINELLI, M.A., *Lecturer in English (1988)*
 B.S., Carnegie Mellon University; M.A., Villanova University.

- WILLIAM ERNEST AKIN, Ph.D., *Dean and Professor of History* (1979)
 B.A. and M.A., University of Maryland; Ph.D., University of Rochester.
- ALBERT CURTIS ALLEN, JR., Ph.D., *Professor of Biology* (1970)
 B.A., College of Wooster; M.A., Ph.D., University of Michigan.
- LISA TREMPER BARNES, M.A., *Adjunct Professor of Fine Arts* (1987)
 B.A., University of Richmond; M.A., University of Southern California.
- JANE ANN BARTH, M.A., *Associate Professor of Chemistry* (1963)
 B.A., Mount Holyoke College; M.A., Smith College.
- PAUL JOSEPH BASHUS, Ph.D., *Assistant Professor of Physics* (1991)
 B.S., Bucknell University; M.S., Ph.D., Lehigh University.
- TOSHIKO F. BELL, B.S., *Lecturer in Japanese* (1992)
 A.S., Kokusai College, Tokyo; B.S., Gwynedd-Mercy College.
- NICHOLAS O. BERRY, Ph.D., *Professor of Politics* (1982)
 A.B., Bethany College; M.A., Ph.D., University of Pittsburgh.
- RICHARD PAUL BOEKENKAMP, Ph.D., *Visiting Professor of Earth Sciences* (1985)
 B.S., Franklin & Marshall College; M.S., Cornell University; Ph.D., Ohio State University.
- LAURA BORSODORF, Ph.D., *Associate Professor of Exercise and Sport Science* (1986)
 B.S., Kansas State University; M.S., Kansas State University; Ph.D., Arizona State University.
- BARRY N. BOWERS, C.P.A., *Associate Professor of Economics and Business Administration* (1979)
 B.S., Bloomsburg State College; M.B.A., Temple University; C.P.A., Commonwealth of Pennsylvania.
- ADELE PACK BOYD, M.Ed., *Associate Professor of Exercise and Sport Science and Associate Director of Athletics* (1967)
 B.S., Ursinus College; M.Ed., Temple University.
- ANTHONY D.J. BRANKER, M.M., *Assistant Professor of Music* (1986)
 B.A., Princeton University; M.M., University of Miami, Fla.
- RICHARD STUART BREMILLER, M.A., *Professor of Mathematics* (1967)
 B.S., United States Merchant Marine Academy; M.S., Drexel University; M.A., University of Delaware.
- FRIEDA ELAINE BRINKMANN, M.A., *Lecturer in Spanish* (1992)
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- DOUGLAS McD. CAMERON, Ph.D., *Assistant Professor of Spanish* (1987)
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- ROBIN CLOUSER, Ph.D., *Professor of German* (1974)
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- JEANINE KALLANDER CZUBAROFF, Ph.D., *Associate Professor of Communication Arts* (1981)
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- ROBERT RAND DAVIDSON, Ed.D., *Director of Athletics; Professor of Exercise and Sport Science* (1972)
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- LOUIS AUBREY DECATUR, Ph.D., *Professor of English* (1970)
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- ANDREW J. ECONOMOPOULOS, Ph.D., *Assistant Professor of Economics* (1988)
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- JOYCE T. LIONARONS, Ph.D., *Associate Professor of English* (1984)
 B.A., University of Colorado; M.A., Ph.D., University of Denver.
- JAMES M. LOBUE, Ph.D., *Assistant Professor of Chemistry* (1988)
 B.A., Carleton College; Ph.D., Wesleyan University.
- ANNETTE VOCK LUCAS, Ph.D., *Assistant Dean and Professor of French* (1967)
 B.A., George Washington University; M.A., New York University; Ph.D., Bryn Mawr College.
- BENITA LÜTTCHER, M.A., *Lecturer in German* (1990)
 B.A., Universitaet Hannover (West Germany); M.A., University of Colorado.

- DEBORAH L. MALONE, M.L.S., *Assistant Professor and Technical Services Librarian* (1985)
 B.A., Ursinus College; M.L.S., Drexel University.
- MARGARET L. McMAHON, Ph.D., *Lecturer in Psychology* (1987)
 A.B., State University of New York at Buffalo; M.S., University of Massachusetts; Ph.D., Cornell University.
- DIANE McMANUS, M.A., *Lecturer in English* (1992)
 B.A., University of Steubenville; M.A., Temple University.
- WILLIAM J. MIDDLETON, Ph.D., *Adjunct Professor of Chemistry* (1985)
 B.S. and M.S., North Texas State University; Ph.D., University of Illinois.
- DAVID H. MILL, M.L.S., *Assistant Professor and Reference Librarian* (1988)
 B.A., Bucknell University; M.L.S., S.U.N.Y. - Albany.
- JAY KENNETH MILLER, Ph.D., *Professor of Communication Arts* (1984)
 B.A., M.C.R.P., Rutgers University; M.A., Miami University; Ph.D., The Union Institute.
- DONNA S. MONHEIT, M.Ed., *Lecturer in English* (1992)
 B.A., Indiana University; B.S.N., Thomas Jefferson University; M.Ed., Temple University.
- ELIZABETH BYRD MOORE, M.A., *Lecturer in Politics* (1991)
 B.A., M.A., Smith College.
- LUCIA C. R. MURPHY, M.B.A., *Assistant Professor of Economics and Business Administration* (1990)
 B.A., University of Colorado; M.B.A., Southern Methodist University.
- C. JOSEPH NACE, M.B.A., *Dean of Continuing Education and Visiting Professor of Economics and Business Administration* (1979)
 B.S. and M.B.A., Drexel University.
- DOUGLAS NAGY, Ph.D., *Associate Professor of Physics* (1979)
 B.S., M.S. and Ph.D., Pennsylvania State University.
- JEFFREY W. NESLEN, Ph.D., *Associate Professor of Mathematics* (1983)
 B.S., Hobart College; Ph.D., University of Rochester.
- PEGGY JOY NIXON, M.S., *Lecturer in Education* (1991)
 B.S., East Stroudsburg University; M.S., West Chester University.
- FRANCES CLAIRE NOVACK, Ph.D., *Associate Professor of French* (1979)
 B.A., Barnard College; Ph.D., Cornell University.
- REGINA SMITH OBOLER, Ph.D., *Assistant Professor of Anthropology and Sociology* (1988)
 B.A., Antioch College; Ph.D., Temple University.
- DOMINIC V. O'BRIEN, Ph.D., *Professor of Education* (1985)
 B.A., La Salle College; M.A. and Ph.D., University of Pennsylvania.
- HEATHER M. O'NEILL, Ph.D., *Associate Professor of Economics and Business Administration* (1986)
 B.S., B.A., University of Vermont; M.A., Ph.D., Georgetown University.
- PETER FLINT PERRETEN, Ph.D., *Professor of English* (1973)
 B.A., Moorhead State College; M.A., Idaho State University; Ph.D., University of Delaware.

- JOHN DAVID PILGRIM, Ph.D., *Professor of Economics* (1974)
 B.A., Grinnell College; Ph.D., Vanderbilt University.
- CONSTANCE WARREN POLEY, B.S., *Lecturer in Exercise and Sport Science* (1952)
 B.S., Ursinus College.
- ANDREW C. PRICE, Ph.D., *Assistant Professor of Chemistry* (1990)
 B.S., University of St. Andrews, Scotland; Ph.D., Purdue University.
- ROYDEN S. PRICE, D.Ed., *Professor (visiting) of Education* (1988)
 B.A., Elizabethtown College; M.Ed., D.Ed., Temple University.
- KENNETH D. RICHARDSON, Ph.D., *Assistant Professor of Psychology* (1986)
 B.A., Indiana University of Pennsylvania; Ph.D., Arizona State University.
- BRUCE EDWARD RIDEOUT, Ph.D., *Associate Professor of Psychology* (1979)
 A.B., Boston University; M.S. and Ph.D., University of Massachusetts.
- NYDIA ROJAS, M.A., *Instructor (visiting) in Spanish* (1987)
 B.A., University of Hartford; M.A., Temple University.
- WILLIAM E. ROSENTHAL, Ph.D., *Associate Professor of Mathematics* (1986)
 B.S., State University of New York at Buffalo; M.A., Ph.D., State University of New York at Stony Brook.
- JAHANGIER SALEH, Ph.D., *Assistant Professor of Economics and Business Administration* (1989)
 B.A., College of William & Mary; M.A., Old Dominion College; Ph.D., University of Massachusetts.
- PATRICIA RICHARDS SCHROEDER, Ph.D., *Associate Professor of English* (1983)
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- RAY KARL SCHULTZ, Ph.D., *David Laucks Hain Professor of Chemistry* (1965)
 B.S., Muhlenberg College; M.S., Ph.D., Lehigh University.
- NANCY J. SHAW, Ph.D., *Lecturer in English* (1992)
 B.A., St. Olaf College; M.A., University of Wisconsin; Ph.D., Cornell University.
- CATHERINE N. SHELTON, Ph.D., *Lecturer in Anthropology and Sociology* (1992)
 B.A., Columbia University; M.A., Ph.D., Temple University.
- JANE PERRETEN SHINEHOUSE, P.T., *Professor of Biology* (1960)
 B.S., Ursinus College; P.T., University of Pennsylvania.
- JOHN WINFIELD SHUCK, Ph.D., *Professor of Mathematics* (1977)
 B.S., Massachusetts Institute of Technology; M.S., Tufts University; Ph.D., Northeastern University.
- JAMES M. SIDIE, Ph.D., *Professor of Biology* (1983)
 B.S., M.S., Ph.D., Notre Dame University.
- MATTHEW J. SLAGTER, M.A., *Lecturer in Classics* (1991)
 B.A., Northwestern University; M.A., University of Chicago; M.A., Bryn Mawr College.
- PETER FORREST SMALL, Ph.D., *Assistant Dean and Professor of Biology* (1972)
 B.S., Austin Peay State University; M.S., East Tennessee State University; Ph.D., Miami University.
- PAUL STERN, Ph.D., *Assistant Professor of Politics* (1989)
 B.A., Michigan State University; M.A., Ph.D., University of Chicago.

- KEITH A. STRUNK, M.F.A., *Lecturer in Communication Arts* (1987)
 B.A., Ursinus College; M.F.A., Rutgers University.
- MARTHA CARROLL TAKATS, Ph.D., *Professor of Physics* (1969) *Guilliam H. Clamer
 Chair of Physics*
 B.A., Wellesley College; M.S., University of Wisconsin; Ph.D., University of
 Pennsylvania.
- LYNN M. THELEN, Ph.D., *Associate Professor of German* (1982)
 B.A., Pennsylvania State University; M.A., Ph.D., University of Pennsylvania.
- VICTOR J. TORTORELLI, Ph.D., *Professor of Chemistry* (1981)
 B.S., Manhattan College; M.A., Ph.D., Princeton University.
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 B.A., M.A., Temple University.
- DERK VISSER, Ph.D., *Professor of History* (1968)
 M.A., University of Pennsylvania; Ph.D., Bryn Mawr College.
- DANIEL VITAGLIONE, Ph.D., *Lecturer in French* (1989)
 Maitrise Psychology, Maitrise English, University of Aix-Marseille; B.A., California State
 University - Sacramento; M.A., University of Hawaii; Ph.D., University of St. Andrews,
 Scotland.
- JON VOLKMER, Ph.D., *Assistant Professor of English* (1987)
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 Nebraska at Lincoln.
- TINA D. WAILGUM, Ph.D., *Assistant Professor of Exercise and Sport Science* (1983)
 B.S., Ursinus College; M.Ed., Ph.D., Temple University.
- RICHARD JACOB WHATLEY, M.S., *Associate Dean of Student Life; Professor of Exercise
 and Sport Science; Assistant Director of Athletics* (1959)
 B.S., University of Maine; M.S., Springfield College.
- JOHN MOORE WICKERSHAM, Ph.D., *Professor of Classics* (1972)
 B.A., M.A., University of Pennsylvania; B.A., New College, Oxford; Ph.D., Princeton
 University.
- THEODORE ANDREW XARAS, M.F.A., *Associate Professor of Fine Arts* (1973)
 B.F.A., Philadelphia College of Art; M.F.A., Tyler School of Art.

Date in parentheses is date of first appointment at Ursinus College.

OFFICERS OF THE FACULTY

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Secretary, Professor Hess

FRESHMAN ADVISERS

Coordinator of Freshman advising: Dean Lucas

Dean Akin	Professor Gallagher	Professor Neslen
Professor Bashus	Professor Gilbert	Professor Novack
Professor Berry	Professor Goetz	Professor Oboler
Professor Borsdorf	Professor Gross	Professor O'Brien
Professor Boyd	Professor Hagelgans	Mrs. Oehlert
Professor BreMiller	Professor Hall	Professor O'Neill
Professor Cameron	Professor Hemphill	Professor Perreten
Professor Chambliss	Professor Henry	Professor Price
Professor Clark	Professor Hess	Professor Richardson
Professor Coleman	Professor Hood	Professor Rideout
Professor Coll	Professor Hughes	Professor Saleh
Professor Czubaroff	Mrs. Hughes	Professor Schultz
Professor Davidson	Professor Jamison	Professor Shuck
Professor Dole	Professor Kelley	Professor Stern
Professor Eaton	Professor King	Professor Takats
Professor Economopoulos	Mr. Landis	Professor Thelen
Professor England	Professor LoBue	Professor Tortorelli
Professor Espadas	Dean Lucas	Ms. Van Dusen
Professor Fago	Mrs. Malone	Professor Wailgum
Professor Fitzpatrick	Mr. Mill	Professor Whatley
Professor French	Professor Nagy	Professor Wickersham
Professor Fryer		Professor Xaras

MAJOR PROGRAM ADVISERS

Advisers will be assigned by the chairperson or coordinator of the student's major. They are:

Anthropology and Sociology, Professor Gallagher

Biology, Professor Small

Chemistry, Professor Tortorelli

Classics, Professor Wickersham

Communication Arts, Professor Henry

Computer Science/Mathematics, Professor Jessup

Economics and Business Administration, Professor O'Neill

English, Professor Schroeder

Exercise and Sport Science, Professor Davidson

French, Professor Hall

German, Professor Thelen

History, Professor Visser

International Relations, Professor Clark

Mathematics, Professor Jessup

Philosophy and Religion, Professor Hardman

Physics, Professor Takats

Politics, Professor Berry

Psychology, Professor Chambliss

Spanish, Professor Espadas

PRE-PROFESSIONAL ADVISERS

Education, Professor O'Brien

Engineering, Professor Takats

Law, Professor Fitzpatrick

Medicine, Professor Hess

FOREIGN STUDENT ADVISER

Professor Eaton

CLASS ADVISERS

Class of 1997, Professor Berry

Class of 1996, Professor Thelen

Class of 1995, Professor Henry

Class of 1994, Professor BreMiller

FACULTY COMMITTEES

Committees Appointed by the President

Administrative Committees

Academic Standing: Akin, ch.; Boris, DiFelicianantonio, Dole, Economopoulos, J. Hughes, Kane, Lucas, Nace, Nolan, Richter.

Admissions: DiFelicianantonio, ch.; Allen, Chambliss, Cramer, Durgin (voice), Flamer, Kane, Lionarons, Lucas, Pilgrim, Rodenberger (voice), Thomas, Wade (voice).

Medical School Credentials: R. Hess, ch.; Allen, Clouser, Lentz, Nolan, Shinehouse, Small.

Parents' Day: Kane, ch.; DeWane, Hess, Kane, Koester, Lucas, Scattergood, Walker.

Scholarships: Pilgrim, ch.; Berry, DiFelicianantonio, Perreten, Richter, Small, Sparrow (voice), Waite.

Activities Fee Allocation: Student Ladd, ch.; Economopoulos, Kane, Koester, VanDusen; Students Bartholomew, Garawski, Jacobson, Koester, Meitzler, and Stankewicz.

Policy Committees

Arts and Lecture: French, ch.; Barnes, R. Dawley, DeWane, Hall, Henry, Kane, Oboler, Scattergood, Widman (voice).

Art Museum Advisory Committee: Perreten, ch.; Akin, Barnes, Berry, N. Fago, Fields, Fryer, Visser, Xaras, B. Zucker.

Athletics: Davidson, ch.; Akin, Boyd, Goetz, R. Hess, O'Neill, D. Sherman; Shuck.

Computer Policy: Hagelgans, ch.; Bashus, Jessup, Kneizys, LoBue, Mill, Nace, Rideout, Sidie, Wickersham; Student Donecker.

Freshman Orientation: Kane, ch.; Chambliss, DiFelicianantonio, Lucas, Malone, Nolan, Pilgrim; Students Lee, Szlanic, Zeberkiewicz.

International Education Committee: Lucas, ch.; Clark, DeCatur, Eaton, King, Nolan, A. Price, Rodenberger, Takats; Students Chen, Long, Scoville.

Library: Jamison, ch.; Akin, Coll, Czubaroff, Hardman, Lange, Nagy, Richardson; Student Larson.

Minority Affairs: Landis, ch.; Cameron, DiFelicianantonio, Flamer, Gilbert, Gross, Kane, Kelley, Lucas, McKinney, Oboler, Richardson; Students Chen, Le.

Student Publications: Volkmer, ch.; Agostinelli, Murphy, O'Brien; Students Gamble, Phillips, Wilusz.

Teacher Education: O'Brien, ch.; Boris, Bowers, BreMiller, Davidson, DeCatur, England, Espadas, Fields, Fryer, Gallagher, Gross, King, R. Price, Rojas, Schultz, Takats, Wickersham; Students Barber, Traver.

Wellness: Borsdorf, ch.; Bashus, Chlad, Durgin, G. Fago, Jamison, Oehlert, Shanahan; Students Baker, Boettger, Turchik.

Special Committees with Academic Functions

Interdisciplinary Independent Study Committee: Espadas, ch.; Dole, Rideout, Tortorelli.

Committees to Which Faculty Elect Members

Academic Council: Akin, ch.; Coleman, England, Espadas, Hood, Richter, Shinehouse, Stern, Volkmer, Wailgum; Students Bloodgood, Hasan.

Academic Discipline: BreMiller, England, Hemphill; Students Davis, Hasan; alternates Boyd, Goetz, Saleh.

Advisory Committee on College Priorities: Richter, ch.; Akin, O'Neill, Perreten, Pilgrim, Tortorelli (also functions as *Campus Planning Group* with the inclusion of Barnes, DiFelicianantonio, Kane, Lucas, Scattergood; Students Smith, Kester).

Advisory Committee on Faculty Retention, Promotion, and Tenure: Richter, ch.; Akin, Espadas, French, Harris, Shinehouse.

Appeals Committee: Neslen, Novack, Thelen; administrators TBA.

Board Buildings and Grounds Committee Representatives: French, Tortorelli; Student Monfiston.

Campus Life Committee: ch. TBA; Eaton, Goetz, Kane, LoBue, McKinney (voice), Nolan, Strunk, Taylor; Students Chrzanowski, Davis, Foley, Pettolina.

Campus Investment Committee Board Representative: O'Neill.

Faculty Development Committee: Akin, ch.; Gallagher, Hall, Sidie, Takats, Thelen.

Judiciary Board: BreMiller, ch.; Coleman, Stern, Tortorelli; Students Morawski, English, Welsh; alternates Kelley, Murphy, Rideout; Students Chrzanowski, Hartjen, Mitchell.

Nominating Committee: Hagelgans, ch.; Cameron, Dole, Fitzpatrick, Harris, Hemphill, Hess, Saleh, Shinehouse.

Ad Hoc Committees

Committee on Committees: Lentz, ch.; Akin, Coleman, E. Dawley, Espadas, French, Hood, Lucas.

Committee on Faculty Promotion and Tenure Criteria: Akin, Chambliss, R. Dawley, England, Hemphill, Small, Wickersham.

ALUMNI ASSOCIATION EXECUTIVE COMMITTEE – 1992-93

President:

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Vice President:

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Evening Division Representative:

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Robert Poole, '50, 1008 N. New St., West Chester, Pa. 19380

Jan M. Smith, '74, 1540 Buchert Rd., Pottstown, Pa. 19464

PRIZES, HONORS, DEGREES

AWARDED IN 1992

- The Alumni Senior Award–Bonnie Lynn Gilmour, '92;
Andrew Judd Woytek, '92
- The American Chemical Society Award–Thomas M. Kirrane, Jr., '92
- The American Chemical Society Award in Analytical Chemistry–Robert F. Kester, '93
- The American Chemical Society Award in Organic Chemistry–David G. Washburn, '94
- The American Institute of Chemists Award–Alexander Zak Bradley, '92
- The Cyrus E. Beekey Prize–James Carl Widmaier, Jr., '92
- The Biology Laboratory Technique Award–Donna M. Lorenzo, '92
- The Boeshore Prize–Christopher Alan Torak, '92
- The Chemistry Laboratory Technique Award–Thomas M. Kirrane, Jr., '92
- The CRC Press Freshman Chemistry Achievement Award–Sean J. Harrison, '95;
Robert E. Trout, '95
- The George Ditter Prize–Joseph E. Mazikas, Jr., '92
- The Ehret Prize–Joseph Hartley Kershner, '92
- The Faculty Prize in Computer Science–Kevin Patrick Acken, '92
- The Faculty Prize in Mathematics–Charles Bruce Kullmann, '92
- The Philip H. Fogel Memorial Prize–Shawn Alan Glancy, '92
- The French Award–Monica I. Ardura, '93; Lynn M. Duda, '92
- The Thomas P. and Frances T. Glassmoyer Scholastic Award–Jamie L. Adam, '92
- The Olive Sargeant Hamm Award–Kristen L. Wagner, '92
- The Elizabeth Hankel Memorial Prize–Paul Christopher Gagne, '92
- The Thomas Jefferson Prize–Jamie L. Adam, '92; Elisabeth Anne Hauser, '92
- The Ronald C. Kichline Prize–Scott F. Flannery, '92
- The Laughlin Award–Andrew Judd Woytek, '92
- The William L. Lettinger Chemistry Award–Brian Joseph Toleno, '92
- The Elizabeth Rockefeller McCain Prize–Paul G. Donecker II, '94;
Sona Rewari, '94
- The Merck Award–Jisoo Lee, '92
- The Professor Eugene H. Miller Prize–Steven Edward Grubb, '92
- The Wayne F. Millward '57 Memorial Prize–Erika Kristen Schwarz, '92
- The Paisley Prize–Jamie L. Adam, '92
- The Pennsylvania Institute of Certified Public Accountants–Rebecca Lynn Friz, '92
- The Peters Prize–Richard Matthew Landis, '92
- Professor William J. Phillips Prize–Carol A. Curtiss, ED
- Miriam and Irving N. Rosenthal Memorial Award–Rosemarie Feldmeier, '93;
Jennifer A. Norris, '94
- The W. W. Smith Prize–Melissa J. Margolis, '92; Pamela Joan Wilson, '92
- The Robert Trucksess Prize–Jacquelyn Jean Ager, '92
- The Wagman Prize–Dennis J. Cunningham, Jr., '92
- Wall Street Journal Award–Bonnie Lynn Gilmour, '92
- The Professor Elizabeth B. White Prize–Rodney J. Hessinger, '92
- The Whittian Prize–Julie Ann Tonnessen, '95
- The William B. Williamson Prize in Philosophy–Daniel Evan Flickinger, '92

COMMENCEMENT HONORS

Valedictorian:

Jamie L. Adam

Salutatorian:

Kelli Ann Rooney

Summa Cum Laude:

Jamie L. Adam

Magna Cum Laude:

Rebecca Lynn Friz
Steven Edward Grubb
Charles Bruce Kullmann

Melissa J. Margolis
Kelli Ann Rooney

Cum Laude:

Eric W. Bleickardt
Anne Marie Carr
Gregory P. Cuculino
Michael John Evans
Elisabeth Anne Hauser
Rodney J. Hessinger
Karla E. Hummel

Keith W. Kratz
Richard Matthew Landis
Jeanine M. Schiano
Karen Elaine Strickler
Jeffrey Walbridge Turner
Pamela Joan Wilson

EVENING DIVISION HONORS

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Jeannette S. Kriebel
Kathleen Hesser McCoy

Richard A. Prew
Zane Richard Stauffer

Cum Laude:

Gerard V. Fox
Karen H. Gildea
Stephanie P. Guinan

Kathleen W. Johns
Frank G. Wells

DEPARTMENTAL HONORS

Biology:

Jamie L. Adam
Eric W. Bleickardt
Richard Matthew Landis

Kelli Ann Rooney
Amy Sue Waronker

Chemistry:

Thomas M. Kirrane, Jr.

Communication Arts:

Jolene Marcia Prowse

History:

Rodney J. Hessinger

Mathematics and Computer Science:

Charles Bruce Kullmann

Physics:

Michael John Evans

Politics:

Christopher William Chappell

Steven Edward Grubb

Marc Jay Lowenberg

Spanish:

Elisabeth Anne Hauser

Anna Rivera

PHI BETA KAPPA

Jamie L. Adam, '92

Eric W. Bleickardt, '92

Anne Marie Carr, '92

Gregory P. Cuculino, '92

Dennis J. Cunningham, Jr., '92

*Lori A. Fitton, '93

Steven Edward Grubb, '92

Elisabeth Anne Hauser, '92

Rodney J. Hessinger, '92

Joseph Hartley Kershner, '92

*Robert F. Kester, '93

Charles Bruce Kullmann, '92

Richard Matthew Landis, '92

Melissa J. Margolis, '92

Kelli Ann Rooney, '92

Karen Elaine Strickler, '92

Pamela Joan Wilson, '92

CUB AND KEY

Jamie L. Adam, '92

Michael D. Baganski, '93

Anthony P. Barber, '93

Eric W. Bleickardt, '92

Jonathan D. Cole, '93

James A. Crowder, '93

Gregory P. Cuculino, '92

Dennis J. Cunningham, Jr., '92

Steven E. Grubb, '92

Christopher C. Kakacek, '93

Robert F. Kester, '93

R. Matthew Landis, '92

Wesley P. Lipschultz, '93

Naimish B. Pandya, '93

Scott T. Trzsaska, '93

Jeffrey W. Turner, '92

Paul J. Wagner, '92

James C. Widmaier, Jr., '92

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Senta K. Bamberger, '93

Beth Ann Carkner, '93

Deborah E. Collinge, '93

Lori A. Fitton, '93

Amy Flemming, '93

Jocelyn Gnirrep, '92

Elisabeth A. Hauser, '92

Grace G. Hohn, '93

Jennifer A. Janco, '93

Evelyn D. Kousoubris, '93

Kristin A. Link, '93

Donna M. Lorenzo, '92

Melissa J. Margolis, '92

Kelli A. Rooney, '92

Jeanine M. Schiano, '92

Linda C. Sisz, '93

Karen E. Strickler, '92

Pamela J. Wilson, '92

Michele Winter, '93

*elected junior year

DEGREES-HONORARY

Doctor of Science
 Doctor of Humane Letters

Loretta P. Finnegan, '60
 William Bedford Williamson

FACULTY AWARDS

Lindback Award

Andrew C. Price

The Laughlin Professional Achievement Award

Hugh R. Clark
 Robin Clouser

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Laurie Ann Avery	Rebecca Lynn Friz
Thomas Walter Bayruns	James Christopher Froelich
Amy Beth Beil	Paul Christopher Gagne
Jeffrey Bell	Tonia Elissa Garitano
Jeffrey Scott Bill	Mary Lucretia Garrett
Cendrine Marie Bisler	Leslie Claire Gaskill
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Robert J. Blessing	Bonnie Lynn Gilmour
Leslie Jean Bonham	Jocelyn Gnirrep
Kristin Deliz Border	Robert Joseph Pio Gonnella
Thomas Michael Boshell	Lori Jane Gosnear
Thomas Richard Bragg	Diane Marie Griffin
Morgan Alexander Breckon	Steven Edward Grubb
Frederic W. Brown, IV	Charles Donald Gulick, III
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Jennie Louisa Case	Matthew John Harrar
Christopher William Chappell	Hannegret M. Hartman
Megan Elizabeth Chmiel	Elisabeth Anne Hauser
Shannon Aileen Cleary	Elisabeth Jane Herod
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Michael Shalom Cohen	Rodney J. Hessinger
Brenn Arundel Connor	Karin Kolbe Hoerrner
Robert Connor	Dennis Adell Holzapfel
Maria G. Costa	Thomas Garey Hope
Amy Lynne Curran	Deborah Elizabeth Hulme
Michael P. Cyr	Jill Jackson
Richard Everhart Davis, Jr.	Margarette Marie Jacquelin
Glenn Steven Del Signore	Michael A. James
Dawn Marie Deraney	Kristin Anne Jenkins
David C. Dieterle	Terri Lynne Johnson
Lynn M. Duda	Katherine Helen Jones
Susan A. Durachko	Michael T. Kane
William Louis Engro	Marian Elizabeth Kellogg
Dawn M. Estelle	Sean Michael Kelly
Patricia R. Ewing	Christopher Sean Keohane
Scott F. Flannery	John Joseph Kerrigan
Daniel Evan Flickinger	Joseph Hartley Kershner
Eric William Foellmer	James Andrew Kitchell

- Matthew Steven Kitts
 Todd Charles Klinedinst
 Michele C. Koneski
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 Robert A. Lane, Jr.
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 John Walter Leszczynski
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 Marc Jay Lowenberg
 Jeremiah Michael Luongo
 Jeb Magruder
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 David Joseph Martina
 AnJanette L. Mason
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 Meghan J. McCormick
 Sarah Elizabeth McDermott
 Brian Douglas McGeorge
 Todd Louis McGowan
 John Neill McKenna
 Jennifer Alice McQuinn
 Lorenza Meccariello
 Laura Elizabeth Ming
 Sabrina Lyn Mobley
 Thomas Joseph Nace
 Thomas Aloysius Nelson, III
 Daniel A. Nicastro
 Julio Alfredo Omana
 Laurie Anne Paine
 Pamela Ruth Parkhurst
 John Lawrence Petko
 Robert James Pohl, II
 Denise Jo Popowich
 Deanna Suzanne Prickett
 Jolene Marcia Prowse
 William Thomas Reedy, III
 Anna Rivera
 Heather Diane Roberts
 Hector Rodriguez, III
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 James E. Ryan
 Adam Nelson Saget
 Jeanine M. Schiano
 Denise Rae Schildt
 Erika Kristen Schwarz
 Mark Steven Schwarz
 Brendan Laurence Grant Sharpe
 Hassan Hamdy Sherif
 Rosemarie Bridget Sills
 Michele Carol Simons
 Susan Elizabeth Slater
 Jeffrey B. Smith
 David John Soldo
 Christopher John Stanchina
 Christopher E. Stanton
 Victor Joseph Starr
 Norman Samuel Steward
 Michael Matthew Stewart
 Steven David Stolber
 Eric Alan Tallman
 Christopher Alan Torak
 Ralph Lawrence Torson, III
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 Jeffrey Walbridge Turner
 Michael Scott Vanim
 Eric Lawrence Velte
 Christopher Francis Vickery
 Audrey Wade
 Jennifer Lynn Weaver
 Antoinette Vincene Wenger
 Lisa Marie Wentzel
 Kristin Leigh White
 Eric Ryan Wilden
 Mark Spafford Wilhelms
 Robert B. Woodruff
 Andrew Judd Woytek
 George Setrag Yacoubian
 Robert Wallace Yetman, Jr.
 Charles Conway Young
 Laura Louise Zobel

BACHELOR OF SCIENCE

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Jacquelyn Jean Ager	Tavio R. Hunsicker
Nicole Marie Alu	Kathryn Lynn Keller
Supratik Banerjee	Claire Ellen Keppley
Jennifer Lewis Bell	Christina Maria Ketels
Kristin Marie Betts	Stephanie Anne Kiefer
Kimberly Black	Thomas M. Kirrane, Jr.
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Alexander Zak Bradley	Kathleen Patricia Lawless
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Kristin M. Facciolini	Michael Anthony Patane
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Lauren Stephanie Gerber	Gemma Romaniello
Shawn Alan Glancy	Kelli Ann Rooney
Lara Joy Gooding	Melissa Rosenstiehl
Jennifer Lynn Heal	Melissa Samworth
Christi L. Hoffman	John Charles Schwendeman, '53

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 Alison K. Sedgwick
 Gina Marie Solensky
 Julie Sommer
 Thomas Geoffrey Steele
 Karen Elaine Strickler
 Diedre Diane Stubanas
 Christopher Thomas Taylor
 Teresamarie Taylor
 Brian Joseph Toleno
 Stamatis Vasilios Tsamoutalidis
 Kristen L. Wagner

Paul J. Wagner
 Amy H. Ward
 Dawn M. Warner
 Amy Sue Waronker
 Jennifer Ann Werzinsky
 James Carl Widmaier, Jr.
 Krista Lee Wilk
 Kathryn Ann Willever
 David Mark Wilson
 Pamela Joan Wilson
 Mark J. Wuenschel

College Calendar for 1993-94

1993

January	18	Monday	Second Semester begins, 8:00 a.m.
January	29	Friday	Last day to add courses
February	15	Monday	Deadline for prospective freshmen filing financial aid applications (FAFSA/FAF)
March	5	Friday	Last day to drop courses without recording a failure
March	5	Friday	Mid-semester grades due, 4:00 p.m.
March	5	Friday	Spring vacation begins, 5:30 p.m.
March	15	Monday	Spring vacation ends, 8:00 a.m.
March	29	Monday	Fall semester registration begins
April	1	Thursday	Last day for upperclass students to file an FAFSA/FAF
April	8	Thursday	Easter recess begins, 5:30 p.m.
April	8	Thursday	Fall semester registration ends
April	13	Tuesday	Easter recess ends, 8:00 a.m.
May	1	Saturday	Last day to file PA state grant application
May	4	Tuesday	Last day of classes
May	4	Tuesday	Last day to drop a course
May	4	Tuesday	Arbor Day
May	5	Wednesday	Reading Day
May	6	Thursday	Second semester examinations begin
May	13	Thursday	Second semester examinations end
May	16	Sunday	Baccalaureate service, 10:30 a.m.
May	16	Sunday	Commencement, 2:00 p.m.
May	24	Monday	Summer School begins
June	4-6	Fri.-Sun.	Alumni Weekend
June	12	Saturday	Freshman orientation
June	19	Saturday	Freshman orientation
July	23	Friday	Summer school ends
August	26	Thursday	Faculty conference
August	26	Thursday	Freshman check-in
August	29	Sunday	Upperclass students check-in
August	30	Monday	First semester begins, 8:00 a.m.
August	31	Tuesday	Ursinus Day Convocation, 11:15 a.m.
September	6	Monday	Labor Day, holiday
September	10	Friday	Last day to add courses
October	2	Saturday	Parents' Day
October	15	Friday	Last day to drop courses without recording a failure
October	15	Friday	Mid-semester grades due, 4:00 p.m. mailed
October	15	Friday	Fall holiday begins, 5:30 p.m.
October	16	Saturday	Homecoming Day
October	20	Wednesday	Fall holiday ends, 8:00 a.m.
October	20	Wednesday	Mid-semester grades mailed (freshmen)
November	8	Monday	Spring term registration begins
November	19	Friday	Spring term registration ends
November	24	Wednesday	Thanksgiving recess begins, end of classes
November	29	Monday	Thanksgiving recess ends, 8:00 a.m.
December	9	Thursday	Last day of classes
December	9	Thursday	Last day to drop a course

December	10	Friday	Reading Day
December	11	Saturday	First semester examinations begin
December	18	Saturday	First semester examinations end
1994			
January	17	Monday	Second semester begins, 8:00 a.m.
January	28	Friday	Last day to add courses
February	6	Sunday	Founders' Day
February	15	Tuesday	Deadline for prospective freshmen filing financial aid applications (FAFSA/FAF)
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.
April	1	Friday	Last day for upperclass students to file an FAFSA/FAF
April	1	Friday	Easter recess begins, 5:30 p.m.
April	5	Tuesday	Easter recess ends, 8:00 a.m.
April	11	Monday	Fall semester registration begins
April	21	Thursday	Fall semester registration ends
April	29	Friday	Last day to file PA state grant application
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 examinations begin
May	12	Thursday	Second semester examinations end
May	15	Sunday	Baccalaureate service, 10:30 a.m.
May	15	Sunday	Commencement, 2:00 p.m.
May	24	Tuesday	Summer school begins
June	3-5	Fri.-Sun.	Alumni weekend
June	11	Saturday	Freshman orientation
June	18	Saturday	Freshman orientation

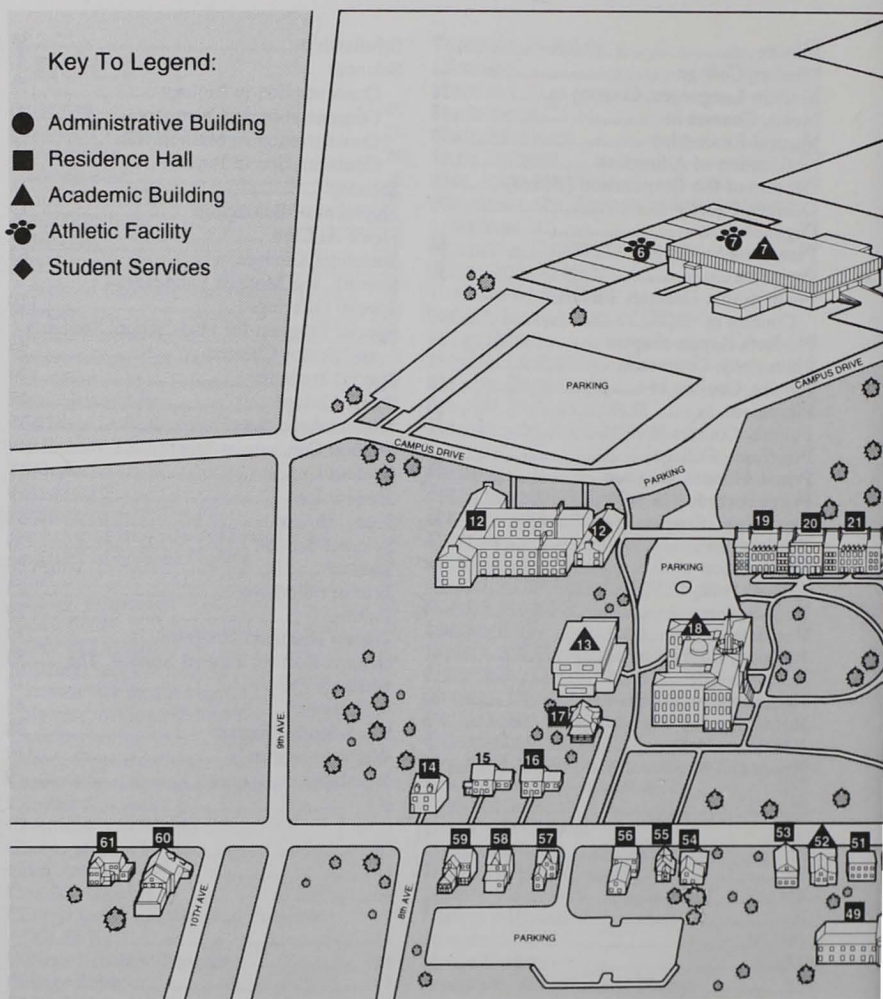
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Key To Legend:

- Administrative Building
- Residence Hall
- ▲ Academic Building
- ⚾ Athletic Facility
- ◆ Student Services

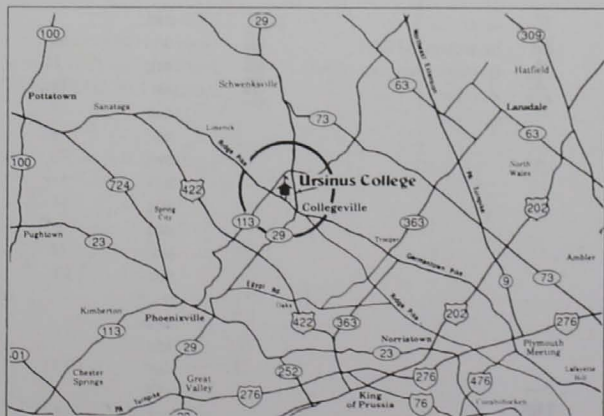


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|----|-----------------------------------|----|---|----|--------------------------|
| 6 | Baseball diamond | 7 | Helferich Hall | 28 | Paisley Hall |
| 27 | Beardwood Hall | 47 | Hobson Hall (568 Main) | 5 | Patterson Field |
| 26 | Berman Museum of Art | 14 | Isenberg Hall (801 Main) | 18 | Pfahler Hall |
| 23 | Bomberger Hall | 32 | Keigwin Hall (513 Main) | 12 | Reimert Complex |
| 11 | Bookstore | 3 | Lacrosse Field | 40 | Ritter Center |
| 21 | Brodbeck Hall | 2 | Lighted Football Field | 55 | Schaff Hall (646 Main) |
| 38 | Clamer Hall (409 Main) | 56 | Lynnewood Hall (702 Main) | 12 | Security Office |
| 30 | Corson Hall | 35 | Maintenance Building | 53 | 624 Main Street |
| 19 | Curtis Hall | 15 | Marjorie T. Elliott House
(President's Home) | 57 | 716 Main Street |
| 51 | Duryea Hall (612 Main) | 43 | Maples Hall (520 Main) | 59 | 732 Main Street |
| 36 | Effie Brant Evans
Hockey Field | 49 | Musser Hall (23 6th Ave.) | 16 | 777 Main Street |
| 46 | Fetterolf House (554 Main) | 22 | Myrin Library | 50 | Shreiner Hall (600 Main) |
| 39 | 424/426 Main Street | 60 | 942 Main Street | 1 | Soccer Field |
| 40 | 444 Main Street | 61 | 944 Main Street | 1 | Softball Field |
| 41 | 476 Main Street | 54 | Olevian Hall (640 Main) | 44 | Sprinkle Hall |
| 42 | 500 Main Street | 24 | F.W. Olin Hall | 29 | Stauffer Hall |
| 35 | 503/505 Main Street | 17 | Omwake Hall (701 Main) | 37 | Storage Barn |
| | | | | 31 | Studio Cottage |



- 48 Sturgis Hall (26 6th Main)
- 45 Super House (542 Main)
- 6 Tennis Courts
- 13 Thomas Hall
(formerly Life Science)
- 58 Todd Hall (724 Main)
- 44 Trinity United Church of Christ
- 9 Utility Gym
- 20 Wilkinson Hall
- 25 Wismer Hall
- 32 Zwingli Hall

Ursinus College is located in Collegeville, a borough in Montgomery County, Pa., 25 miles northwest of Philadelphia, and just a few miles from the Norristown and Valley Forge exits of the Pennsylvania Turnpike.



URSINUS COLLEGE

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