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2004-2005 Ursinus College Course Catalogue

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URSINUS



2004-2005 Course Catalogue

Ursinus College Catalogue

Published May, 2004 by:

Ursinus College

P.O. Box 1000

Collegeville, PA 19426-1000

610.409.3000

www.ursinus.edu

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ON THE COVER: The Pfahler Hall of Science tower.

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The Campus walkway, with F.W. Olin Hall in the background.



URSINUS

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Collegeville, PA 19426-1000
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Ursinus College at a Glance

Character: Independent liberal arts

Founded: 1869; coeducational since 1880

Location: Collegeville, Pa., 28 miles northwest of Philadelphia

Enrollment: 1,485 students

Student Diversity and Demography: 8 percent African American; 3 percent Latino; 2 percent international; students from more than 26 states and 15 foreign countries

Faculty: 110 full-time faculty, 94 percent hold Ph.D. or highest degree in field

Student/Faculty Ratio: 12:1; 80% of courses have fewer than 20 students

Campus: 168 acres, 60 buildings

Residential Character: 95 percent of students are in residence; varied special interest housing is available

Academic Calendar: Two, 15-week semesters

Courses Offered: 28 majors, 49 minors; Economics, Biology, and Psychology are most popular majors

Academic Environment: Member of the Watson Foundation; 14 prestigious honor societies including Phi Beta Kappa

Student Organizations: More than 80 clubs, organizations and interest groups

Undergraduate Research: Strongly encouraged; students present research at colloquia and conferences; Independent Learning Experience required; Summer Fellows program

Internships: Every department encourages academic work experiences

Study Abroad: College-run programs in England, Italy, Spain, Germany, Costa Rica, Mexico, Senegal and others; affiliation with programs in 25 countries including France, Germany, Spain, England, Australia and Japan

Community Service: Varied opportunities including Alternative Spring Break and first-year orientation community service day; participation in America Reads and Best Buddies

Athletics and Recreation: NCAA Division III intercollegiate program with the Centennial Conference; strong participation in intramurals

Library: Myrin Library houses more than 390,000 volumes, and offers access to nearly 200,000 print, microform and electronic periodical titles and 46 million volumes

Computers: All freshmen receive a laptop computer. The campus is fully networked; residence halls and buildings are wired for computer, telephone, Internet and cable television access, and some wireless access.

Admissions Calendar: Early decision applications due Jan. 15; regular decision applications due Feb. 15

Financial Aid: Some 85 percent of students receive financial assistance

After Ursinus: 75 percent of Ursinus graduates eventually enter graduate and professional schools

Web site: www.ursinus.edu

Communication with Ursinus College

Academic and Faculty Affairs

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Academic Affairs FAX: (610) 409-3787

Academic Standing of Students and Requests for Transcripts

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Registrar's Office FAX: (610) 409-3756

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Nicole Minardi, Director of Alumni Relations
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Communications and Public Relations

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Communications and Web Information
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College Communications FAX: (610) 489-0627

Financial Aid and Student Employment

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Student Financial Services
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Student Financial Services FAX: (610) 409-3662

Finance and Administration

Winfield L. Guilmette, Vice President
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Gifts to the College

Hudson B. Scattergood, Vice President
for College Relations
(610) 409-3588
Development Office FAX: (610) 409-3724
Toll-free: 877-GIVE-2-UC

President of the College

John Strassburger
(610) 409-3000, ext. 2212

Residence Life

Deborah Nolan, Dean of Students
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Residence Life Office FAX: (610) 409-3787

Correspondence should be directed to the appropriate administrative officer.

The mailing address is Ursinus College, P.O. Box 1000, Collegeville, Pennsylvania 19426-1000.
The main college telephone number is (610) 409-3000.

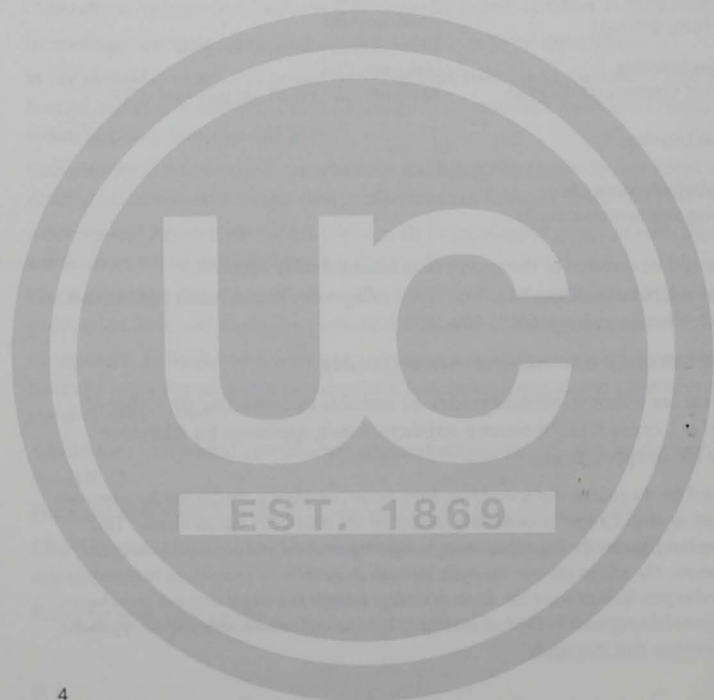
The Ursinus College homepage is accessible at www.ursinus.edu

Visitors to the College are welcome. Student guides are available by contacting the Office of Admissions, located in Corson Hall. To assure a satisfactory visit, applicants for admission should call or write for an appointment.

This catalog is intended for the guidance of persons applying for or considering application for admission to Ursinus College, and to assist Ursinus students and faculty for the 2004-2005 academic year. This catalog is not a contract; it presents the requirements, offerings, information and regulations in effect at the time of publication. The college reserves the right, through its established procedures, to change any requirement or other provision at any time. Ursinus College intends to provide notice of any change. However, it is the responsibility of each individual student to become and remain aware of all applicable requirements and provisions that may apply.

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.



The College

Ursinus College is a highly selective, independent, four-year liberal arts college with a tradition of academic excellence. It is among the eight percent of U.S. colleges to shelter a chapter of Phi Beta Kappa, the national academic honor society.

A leader in undergraduate research, Ursinus offers majors leading to a bachelor of arts or a bachelor of science degree in 28 major fields and 49 minor fields.

The Ursinus liberal arts education teaches students to think critically across the disciplines and emphasizes student achievement. A recent Middle States Association evaluation noted that:

“Ursinus College excites its students by involving them in active learning and transforming experiences. There is emphasis on close faculty interaction, made possible by many small classes and opportunities for independent study and research. Ursinus is a remarkable liberal arts college—student-centered, academically rigorous, ambitious, achieving, serious about students in the community—focused, in other words, on the right things. This focus on teaching and learning leads to a level of student-centeredness that is commendable. The high academic expectations of the college are coupled with a commitment to developing the whole student.”

All departments require a capstone project. Students are encouraged to continue their research and interests during their academic career.

A residential liberal arts college, Ursinus' educational program extends beyond the classroom, as the faculty fosters students' intellectual and creative talents throughout the College experience, especially as mentors for research and internships. The Ursinus experience nurtures a sense of community by empowering the intellect, awakening moral sensitivity and challenging students to improve society. The faculty is composed of some of the leading teacher-scholars in the country. The cornerstone of our academic program, the faculty is dedicated to teaching and scholarship.

Accreditation

Ursinus is accredited by the Middle States Association of Secondary Schools and Colleges, is approved by the Department of Education of the Commonwealth of Pennsylvania for the certification of teachers, and is certified by the American Chemical Society, Project Pericles and the Centennial Conference. Ursinus is also a member of the Annapolis Group.

The First-Year Experience

The first-year student advising program embodies a concern for the individual student and has as its goal the promotion of a successful adjustment to college. It also aims to address personal and intellectual development so that each student may realize his or her fullest potential.

Faculty members from all the disciplines serve as first-year student advisers. Students will have the opportunity to meet with an adviser during spring orientation; at this time they will begin the process of selecting courses for the fall semester, as well as having time to discuss their expectations and goals. During the August orientation, advisers will meet with their advisees to review fall schedules, make any needed changes, answer any last-minute questions, and set up meeting times with their advisees for the fall.

Regular advising meetings allow the adviser to monitor a student's adjustment to the college and help in the identification of early warning signs of academic or personal difficulties. As students "settle in" and as a rapport develops between adviser and advisee, meetings will normally shift to a student-initiated, "as needed" basis. However, students receiving academic warning slips must meet with their advisers within five days of receiving the slip. Advisers should be prepared to help and encourage students to deal with personal and academic issues of adjustment. Students should be ready to use the adviser as the first, not last resort when they encounter difficulties.

First-year students traditionally declare a major in the middle of their second semester at Ursinus. Students should meet with their adviser to discuss options. The adviser should encourage them to meet with faculty in their intended major department to find out more about the program. Responsibility for academic advising will shift to the student's major department after the spring declaration date. All students must declare a major no later than during the spring semester of their sophomore year. Students should be aware that in some departments it is easy to complete the requirements for graduation if they postpone the declaration of the major until the sophomore year. In other departments, the sequential nature of the program may make this more difficult. A careful reading of the First-Year Advising Handbook, available on the Ursinus web page, should help students and advisers as they discuss the various options.

First Year Student Coordinator

The primary role of the First Year Student Coordinator is to integrate academic and student services in an effort to enhance the intellectual experience and academic achievement and to support effective retention of first year students. The Coordinator works with both the Academic Dean and the Dean of Students to facilitate this process. Additionally, the First Year Coordinator teaches in the Common Intellectual Experience program.

First Year Clustering

Ursinus attempts to cluster first year students in comfortable, convenient residence halls that are centrally located, well-programmed and well-supervised.

The college is focused on the quality and the outcomes of the first year, because the evidence is overwhelming that a strong foundation leads to significant academic, leadership and personal achievements. The college's learning communities aim to foster good students and good citizens.

Student Life

Ursinus emphasizes growth in independence and responsibility. Students are encouraged to take an active role in the life of the campus community, where there are many opportunities to contribute to group decisions, practice leadership, sort out priorities and make personal choices. Students are encouraged to sit on campus committees and, in fact, are included in the membership of most faculty committees. As 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 Dean of Students in the Dean's Office, Corson Hall. It includes career services, counseling and wellness, health services, international student services, leadership development, multicultural services, residence life, security, student activities and tutorial programs.

Students at Ursinus 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.

Activities and Organizations

Ursinus students can organize, participate in and attend diverse cultural, educational and recreational activities on campus.

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 Academic and Student Affairs staff. The USGA allocates funding to campus organizations.

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. In addition, film series, theatrical productions, concerts and visits by notable artists and speakers are sponsored by campus organizations and academic departments throughout the academic year.

Students are encouraged to create organizations through the Student Life office. Student interest and academic organizations include Alternative Spring Break, Association for Computing Machinery, Association of Latinos Motivated to Achieve (ALMA), Beardwood Chemical Society, Beta Beta Beta Biological Society, Berman Buddies, Blue Note Jazz Society, Brownback-Anders Pre-Medical Society, Chess Club, College Democrats, College Republicans, Escape Velocity Dance Theatre, Exercise and Sport Science Club, Film Society, Forensics Society, Gay/Straight Alliance, German Club, The Grizzly (newspaper), Haines-Barnard Pre-Legal Society, Hillel, International Relations Club, Intervarsity Christian Fellowship, Investment Club, Japanese Club, The Lantern (literary magazine), Le Cercle Français (French Club), Mathematical Association of America, Newman Society, Organization of Commuting Students, Political Science Association, Psychology Club, Residence Hall Association, Roller Hockey Club, The Ruby (yearbook), Sankofa Umoja Nia (S.U.N.), Society of Physics Students, Spanish Club, Southeast Asian Student Association (SASA), Students for Creative Anachronism, Students Together Against Rape (STAR), Table Tennis Association, Ursinus Blue

URSINUS COLLEGE CATALOGUE

Skies Environmental Organization, Ursinus Chess Club, Ursinus College Democrats, Ursinus College Republicans, Ursinus College Theater, Ursinus Film Society, Ursinus Fishing Club, Ursinus Folksong Society, Ursinus Men's Rugby Club, Ursinus SCUBA Dive Team, Ursinus Student Government Association (USGA), Ursinus College Women's Rugby Club, Voices in Praise, Whitians, World Cultures Club, and WVOU (radio station).

Community Service clubs include Best Buddies, Norristown State Mental Hospital Volunteer Program, Student Emergency Response Volunteers and America Reads.

Additionally, Greek organizations on the Ursinus campus currently include the fraternities Alpha Phi Epsilon, Beta Sigma Lambda, Delta Mu Sigma, Delta Pi Sigma, Phi Kappa Sigma, Pi Omega Delta, and Sigma Rho Lambda. The sororities are Alpha Sigma Nu, Kappa Delta Kappa, Omega Chi, Phi Alpha Psi, Sigma, Sigma, Sigma, Tau Sigma Gamma, and Upsilon Phi Delta. The presidents of these organizations serve on the Greek Presidents Council, the governing board for all fraternities and sororities.

Athletics

For over 100 years, Ursinus College has been a leader among liberal arts colleges in combining and balancing athletics and academics. Ursinus offers unique opportunities to achieve athletic and personal goals through intercollegiate athletics, club sports and intramural programs. Whether they're playing among themselves or against another college's club team, or competing on one of Ursinus' 25 intercollegiate teams, students of all interest and ability levels discover the benefits of an active lifestyle. Over 85 percent of Ursinus students integrate some aspect of the athletic program into their lives at the College. You can achieve national recognition through intercollegiate athletics, or participate in a recreational, club, or intramural sport for the first time. Involvement at any level is encouraged.

Home to the United States Field Hockey Hall of Fame, Ursinus boasts the oldest field hockey program in the nation. Ursinus is a member of one of the three leading scholar-athlete conferences in the nation—the Centennial Conference (NCAA Division III). Its athletes not only compete in national championships every year; they also go on to achieve success in every imaginable field, from medicine and law to government, business and community service. Ursinus is a leader among Centennial Conference Colleges in its commitment to fostering excellence on the playing field and in life.

Like the other 10 colleges with whom Ursinus competes in the Centennial Conference (Bryn Mawr, Dickinson, Franklin & Marshall, Gettysburg, Haverford, Johns Hopkins, McDaniel, Muhlenberg, Swarthmore, Washington), Ursinus places its academic program as the top priority. This philosophy brings out the best in student-athletes and allows them to reach their potential, both in the classroom and on the playing fields. Athletics at Ursinus College provide the opportunity for student-athletes not only to participate in a highly competitive environment, but also to learn important lessons that apply in all aspects of their lives. These lessons support the mission of the College by helping to create a well-rounded individual: someone who has not only been shaped by Ursinus' academic rigors, but who also possesses a strong character that athletics has helped to develop.

The intercollegiate athletic teams at Ursinus are uncommonly competitive, winning a number of conference, regional, and national championships. Ursinus College is committed to providing the resources necessary to ensure that all student-athletes experience the benefits of successful athletic competition. Such competition complements an outstanding academic program and enhances an Ursinus education.

Arts

Performance opportunities in theater and dance are available to students from all disciplines. Each year, the Ursinus College Theater presents four student productions, ranging from the classics to the avant-garde. The Ursinus College Dance Company presents two student productions a year with works representing a multitude of dance forms including jazz dance, improvisation, African dance, modern, ballet and hip-hop. Students also have the opportunity to see professional performances on campus and to participate in workshops and classes during guest artist residencies.

Music organizations are varied. Faculty members in the music department advise most of the student musical organizations and provide professional musical leadership. The Meistersingers, a choral ensemble open by audition, offers concerts on and off campus, including a one-week tour each year. The Meistersingers toured Austria in 1999 and Italy in 2003. The Ursinus College Choir, open to all in the college community, performs varied works. Its annual presentation of Handel's *Messiah* is a highlight. The College Concert Band is open to everyone in the Ursinus campus community. The Jazz Ensemble is a big band that performs several concerts per year, and is open by audition. Students participate in several "Music at Noon" concerts throughout the year, performing some of their own compositions at the last concert of the spring semester.

A student-run gospel choir rehearses weekly and sings at chapel and other events throughout the academic year.

Communications

The Grizzly, the Ursinus newspaper, is edited and written entirely by the students, under the mentorship of a faculty adviser. The editor-in-chief, the associate editors, and the business manager are selected on the basis of merit, and the staff is selected by the editors.

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

WVOU, the student-run campus radio station, presents an eclectic blend of music, from classical to rock, and campus and world news.

Residence Halls

The College offers living accommodations for most of its students. The residence halls and smaller 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, which range in size from five to 50 residents. These houses are renovated historic homes, and comprise the Residential Village. The most recent is Wicks House, which houses 20 honors students, each of whom must have a G.P.A. of at least 3.3 and be enrolled in a research/independent study course. Wicks is named in honor of the Rev. Frederick Ross Wicks, Class of 1896, and was remodeled through a gift from his daughter, Katherine Wicks Perry.

Richter/North Residence Hall opened in the fall of 2002. This 143-bed facility includes 40 double rooms, 35 single rooms and seven suites. A faculty apartment provides a venue for student-faculty gatherings. A wing was named to honor the college's 12th president, Richard P. Richter.

Ursinus students may apply to live in residence halls based on personal interests. Special interest houses include residence halls for students interested in writing and literature, international and multicultural activities, service, biology, research, wellness, art and women's studies. Quiet halls, which implement a 24-hour quiet policy, are offered to men and women in both houses and large residence halls.

Other residential structures include Beardwood, Brodbeck, Clamer, Cloake, Commonwealth, Curtis, Duryea, Hobson, Isenberg, Keigwin, Lynnewood, Marjorie T. Elliott House, Maples, Musser, Olevian, Omwake, Paisley, Reimert Complex, Schaff, Shreiner, Stauffer, Sturgis, Todd, Wilkinson, Unity, Zwingli, and several additional residence halls with Main Street addresses.

Room and Meals

Students have the option to choose a 9-, 14-, or 19-meal plan. First-year students must opt for the 19-meal plan. These plans entitle students to an unlimited selection in the main dining room or to cash equivalency meals in Zack's, the campus grill and snack bar. Commuter and evening students may purchase blocks of meals. All students, faculty and staff may also purchase Zack Power, which is a declining-balance debit system for use in either the main dining room or Zack's. The main dining room features a wide variety of foods, including a salad bar. Both the main dining room and Zack's are located in Wismer Center.

Student Services

Bridge Program

The Bridge Program is designed to ease the transition between high school and college for incoming historically underrepresented minority students. In addition to taking a course for college credit, Bridge participants live in the residence halls and experience life as college students. Cultural and social activities are provided as one way of acclimating students to the Ursinus and Collegetown communities.

Campus Safety

Centrally located in Wismer Center, the Campus Safety Office provides 24-hour service, seven days a week. An escort service is available to all students, and the service is provided between academic buildings and residences by safety officers. The Safety Department makes regular vehicle, bicycle and foot patrols throughout the campus, and works to sustain a sense of community among faculty, staff and students, while maintaining a safe environment.

All safety personnel participate in in-service training programs and regularly receive updated materials. While Ursinus College safety officers cannot make arrests, they are acquainted with criminal laws and procedures. Officers are certified in basic first aid, C.P.R., and A.E.D. Emergency medical assistance is available through the student EMT group and the local ambulance corps. The department cooperates with the state police agency and maintains a relationship with the Collegeville Police Department, which assists as needed. Crimes involving violence, major property loss or any felony are reported by the Campus Safety 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. Campus safety is also responsible for enforcing and facilitating parking according to the guidelines set by the college.

Career Services

The Career Services Office assists students in relating their educational plans to future opportunities and in acquiring life skills essential for success. Through individual career counseling and group workshops and seminars, students are given the opportunity to conduct a thorough self-assessment, explore career opportunities, and develop job searching skills. The Internship Coordinator helps students identify and obtain meaningful internship experiences that will allow them to apply classroom theory to real life situations, to develop their skills, and to gain valuable insight into the world of work.

The Career Services Office maintains a career resource library and a comprehensive web site. These resources provide information about specific career fields, internships, graduate schools, general career planning, and job hunting. The Career Services web site features UC CareerNet, a web-based career and job management program that allows students search up-to-date listings of full-time, part-time, internship, and summer opportunities. The Grizzl*E Network is an online mentoring program that features alumni and Ursinus parents who have volunteered to share their experiences and provide advice to students on their career fields and industries.

The Career Services staff networks with regional employers to identify and develop internship and full-time opportunities for students. Representatives from business, government, and nonprofit organizations visit the Ursinus campus throughout the academic year to recruit and interview students for full-time, part-time, and internship positions. The Career Services Office also hosts a Job & Internship Fair in the spring semester, providing students the opportunity to network with employers and develop interviewing skills.

Chaplain's Office

The Office of the Chaplain encourages students to explore and develop their spiritual life as part of a liberal arts education, with the goal of providing students with a means to express their faith, if they wish to do so, in a safe, respectful and open manner. Traditionally, Ursinus has recognized diversity of expression and freedom to worship. The chaplain coordinates campus religious organizations and community service activities.

Under the Office of the Chaplain, a number of worship opportunities in different settings are available to students including the Intervarsity Christian Fellowship, the Newman Society, the Protestant chapel program, the Inter-Faith Outreach, Hillel, the Jewish student organization, and IMAAN, the Muslim organization.

Computing Resources at Ursinus College

Ursinus College prides itself on being a liberal arts college of distinction that makes innovative uses of computing and information technology resources. The college is committed to providing all students with access to needed technology resources and to supporting faculty and students in their use of these resources. In addition to innovations in teaching and learning, Ursinus College's technology-rich environment also serves to enhance communication and community and provides a valuable resource that can positively impact all aspects of campus life. The support of these endeavors is made possible through the college's extensive technology infrastructure: the laptop computing initiative, a robust and reliable computing network environment, fully wired dorm rooms and classrooms with high-speed network and internet connections, state-of-the-art projection equipment in classrooms and a high level of technical support.

Computing — Laptop program

All incoming Ursinus College freshman receive a state-of-the-art laptop computer and color inkjet printer. The laptop is provided to students ready to hook up to the campus network and Internet and is loaded with the Microsoft Office suite, e-mail and communication tools and other software for academic and nonacademic uses. The laptop is an essential learning tool that will frequently be used regardless of discipline or chosen major. The laptop is replaced at least once prior to graduation. At graduation students have an option to keep their laptops as part of a lease-buyout program.

Computing — Facilities and Support

A fiber optic backbone network connects all buildings on the Ursinus College campus, including all residence halls and most houses in the residential village. The network provides reliable, high-speed access to college computing resources and to the worldwide resources on the Internet.

The college has two instructional and general purpose computing labs as well as special purpose work areas and labs equipped for use in specific courses and disciplines. There is also a multimedia development workstation that students can reserve for scanning, making CDs, and using for other multimedia projects.

All students are provided with personal web space on the campus web server for posting personal web pages and are provided with file storage space on the network as well. Faculty and students are connected, inside and outside of the classroom, through the UC Online Web site. UC Online delivers an online course and portal environment where students can access course materials for all their courses, turn in assignments electronically, and hold online discussions with other members of their classes.

Help desk technical support is available online, in person, via email at help@ursinus.edu, or by phone for extended hours throughout the year.

Counseling and Wellness Services

With the goal of promoting emotional well-being for members of the Ursinus Community, the Counseling Office assists students in addressing problems dealing with relationship, anxiety, stress, depression, grief, eating disorders, physical and sexual abuse, traumatic experiences, suicidal ideation, drug and alcohol-related problems, as well as conflict mediation and study skills.

Counseling services are coordinated through the Wellness Center. The Wellness Center staff coordinates the education of students in preventative health, general wellness issues, and assists those students requiring regular medications or needing treatment for illness or injury.

Students with medical emergencies are transported by local ambulance to nearby hospitals. Twenty-four-hour, non-emergency medical care is coordinated through the Wellness Center and is available on campus weekdays during daytime hours, and at an off-campus site during non-business hours. Students requiring regular medication, such as allergy injections, may make arrangements through the Wellness Center. The Wellness Center covers routine illnesses and gynecological services.

Multicultural Services

The Director of Multicultural Services plans and coordinates services and programs for traditionally underserved student populations to help ensure the successful completion of college. Support includes, but is not limited to, academic and personal counseling, social and cultural activities, and leadership development. The director also serves as adviser to minority student organizations. This office is located in the Unity House.

Tutorial Services

The Tutorial Services program, located in the Unity House, provides tutoring for Ursinus students, as well as coordinates students as tutors in the Ursinus community.

The Campus Setting

Ursinus' scenic, 168-acre campus is part of the rich higher educational community of the greater Philadelphia region. The attractive campus provides an ideal setting for liberal education.

Academic and social life at Ursinus College especially intersect on a graceful plaza and brick walkway linking academic buildings, residence halls and the student center. The plaza provides settings where students and faculty can pause for conversations with one another.

Ursinus students have the educational and aesthetic advantages of the Philip and Muriel Berman Museum of Art, which offers exhibitions and events for the campus community, hosts an annual Student Art show, and maintains an important outdoor sculpture collection. The campus setting is enhanced by the presence of the collection of outdoor sculpture by noted artists, provided through the generosity of the late Philip and Muriel Berman. Sculptures are labeled, and there are print and audio guides available.

Notable buildings on campus include the following:

F.W. Olin Hall, housing the humanities program, was dedicated in 1990 and funded entirely by a grant from the F.W. Olin Foundation. It contains a 320-seat lecture hall, a 63-seat tiered classroom, a 42-seat tiered classroom, a Writing Center, eight traditional classrooms and four seminar rooms. It houses faculty offices for the departments of English, History, Modern Languages, Classics, and Philosophy and Religion.

Wismer Center is a major social center on campus, providing dining facilities, social lounges, an office complex for student activities, a snack bar, a game room and a multipurpose lounge. A lower lounge is a focal point for student social life, and the setting for various activities, such as films. The lobby was refurbished in 1997 and includes an important bas-relief honoring the classes from the War Years. A spacious two-story bookstore is part of Wismer Center. 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, is both a central repository of information and a comfortable setting for individual and group study. Myrin houses more than 400,000 volumes, 200,000 microforms, 3,500 audiovisual materials, 3,500 e-books, and offers on-site and remote access to approximately 2,800 print, microform and electronic periodical titles.

The library is also one of only three U.S. Government depositories in Montgomery County, Pa. and, as such, receives print and electronic federal documents for the collection.

The library is connected to the Online Computer Library Center's bibliographic network and provides a comprehensive inter-library loan service with access to more than 6,700 research collections around the world comprising over 50 million volumes.

The library is also a member of the Tri-State College Library Cooperative and through this membership offers Ursinus students borrowing privileges at over 40 college and university libraries in the region.

There are study facilities for 500 persons in carrels, seminar rooms, private study rooms and lounges. The library offers ample connectivity to the College's computer network and the Internet with over 380 network connections located throughout the four floors of the building.

During the academic year, the library is open 110 hours per week. Anyone may access the library's website (myrin.ursinus.edu) via the Internet, along with the online catalog and a myriad of other online databases and Internet resources.

These electronic resources, collectively known as the Myrin "Virtual Library," are available in the residence halls, in all academic buildings, and remotely through the Internet 7 days a week, 24 hours a day.

The library also houses a microcomputer lab, the Media Services Department, the Academic Computing Department, the Computing Department Help Desk, the Pennsylvania Folklife Archives, the Ursinusiana Collection of College-related artifacts, and the offices of the Education Department. Library hours, although subject to change, are: daily, 8 a.m. to 2 a.m., Friday, 8 a.m. to 9 p.m.; Saturday, 9 a.m. to 9 p.m.; and Sunday, 10 a.m. to 2 a.m.

Bomberger Memorial Hall houses classrooms, and the offices of the departments of Business and Economics, Anthropology and Sociology, Music and Politics and International Relations, as well as the offices of Career Services, Campus Chaplain and College Communications. Bomberger Auditorium contains the Heefner Memorial Organ, a three-manual 62-rank organ dedicated in 1986, the gift of the late 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 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 was opened for use in September 1970 and completely renovated in 1991. It is named in honor of the Thomas family, long-time 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.

A new **Performing Arts Center** is scheduled to open in spring of 2005. The 55,000-square-foot complex, includes spaces for the Theater and Dance academic programs, as well as two theaters: a larger, 350-seat proscenium theater and a black box theater with a flexible stage and moveable seating. Additionally, the Performing Arts Center will house a large rehearsal studio, wardrobe workroom, scene shop and storage area.

Pfahler Hall of Science houses classrooms and laboratories for work in Chemistry, Physics and Astronomy, Mathematics and Computer Science, and Environmental Studies. A new, state-of-the-art, three-story addition was completed in 1998, and is integrated into the traditional 1932 building. The new addition contains student work spaces, and settings for faculty and students to meet, fostering collaborative teaching and learning in the sciences. Named in honor of Dr. George E. Pfahler, famed radiologist, Pfahler Hall is where Professor John Mauchly built key components of ENIAC, considered the world's first computer, and Nobel Laureate Gerald Edelman (Ursinus Class of 1950) attended classes.

URSINUS COLLEGE CATALOGUE

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. For research, the museum's library has an on-line public access catalogue terminal linked to Myrin Library.

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; Dean's Office; President's Office; Development Office; Alumni Relations Office; some computing offices; Student Financial Services; the Registrar's Office and the Business Office.

Ritter Center opened in 1980 and houses a television studio, an editing bay, and a black box theater with flexible staging. It is named in honor of Dr. Rolland A. Ritter, LL.D., 1960, and his wife, Lullis M. Ritter. Ritter Center houses the Department of Media and Communication Studies, as well as the department of Theater and Dance, pending opening of the new Performing Arts Center (see above). Ritter also houses the Art Department, which includes studio and gallery spaces, as well as faculty offices.

The Floy Lewis Bakes Field House encompasses the D.L. Helfferich Hall of Health and Physical Education and the William Elliott Pool. The field house pavilion opened in 2001, while the other buildings 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. Helfferich Hall now includes completely renovated locker and training rooms, and a two-story glass-enclosed area for fitness and recreation. The physical education complex serves 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, handball courts and a gymnastics space. The field house was named for the late Catherine "Floy" Bakes 1949, a varsity-letter winner in golf, field hockey and basketball. The field house offers a six-lane indoor track.

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, 1905, 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 a relatively new addition to the athletic field complex.

The college also has eight **tennis courts**, named in honor of the **Wilkes** family.

Hunsberger Woods: A wooded, 35-acre tract that the college jointly owns with the Borough of Collegeville. It contains running trails, open space and a creek. It is used for environmental studies.

College History

The College history dates back two centuries to a log schoolhouse and the former Freeland Seminary. The College's founders named the College for the distinguished 16th-century Reformation scholar Zacharias Ursinus of the University of Heidelberg, Germany. A state charter was granted in 1869, and women were first admitted to the College in 1880. Ursinus' rich legacy includes a historical relationship with the United Church of Christ. Ursinus is independent, and enrolls close to 1,500 full-time students of varied backgrounds, about equally divided between men and women.

Presidents of the College

John Henry Augustus Bomberger, 1870-1890

Henry William Super, 1890-1891

George W. Willard, 1891-1892

Henry William Super, 1892-1893

Henry Thomas Spangler, 1893-1904

David Whittstone Ebbert, 1904-1906

Albert Edwin Keigwin, 1907-1912

George Leslie Omwake, 1912-1936

Norman Egbert McClure, 1936-1958

Donald Lawrence Helfferich, 1958-1970

William Schuyler Pettit, 1970-1976

Richard Paul Richter, 1976-1995

John Strassburger, 1995-present

Other Programs

The Center for Continuous Learning

Since 1952, Ursinus has extended its outreach to nontraditional students by means of continuing education programs in harmony with the College's mission of liberal education. Both single college courses and entire degree programs are available for those who wish to pursue academic goals in convenient, flexible, non-traditional evening schedules.

Evenings at Ursinus, a student may complete 128 semester hours of coursework leading to a bachelor's degree; complete coursework leading to a post-baccalaureate Certificate of Professional Studies or Secondary Teacher Certification; complete IT certifications from Carnegie Mellon University through their CTE subsidiary; select individual courses of special interest; and complete coursework leading to a Master of Business Administration degree or a Master of Science in Health Administration, an MS in Human Resources, MS in Financial Services or an MS in Education, in conjunction with St. Joseph's University.

For information about credit and noncredit evening programs, consult The Center for Continuous Learning (See Communications with Ursinus College). The center's Web site is <http://eveningprograms.ursinus.edu>



Professor and students work together in Pfahler physics laboratory.

Admission

The Ursinus College admissions process is highly personal. Students are encouraged to supplement our application with additional information that more fully describes the person beyond the transcript. All material will be carefully read by the admission staff. Personal essays, teacher recommendations, visit and interview at Ursinus are important in our decision.

The application process for Ursinus should start with a visit to the campus. The visit should take place any time from the spring of the junior year to February 15 of the Senior year in High School. Tours and interviews are available Monday through Friday 9:00 a.m. - 4:00 p.m. Appointments should be made at least one week in advance by calling the Admissions Office.

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 \$50 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. It is the responsibility of applicants to take the SAT I or the ACT and to have official test results sent to the Director of Admissions. Certain applicants may waive the test requirement if their grades and/or class standing meet certain standards (see www.ursinus.edu for further details). A personal interview is strongly recommended; the arrangements 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 Jan. 15 (see below for a description of the Early Decision plan).

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 admissions office 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 vice president for enrollment to take a course at another college.

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 January 15. Candidates will be notified of the admission decision by February 1.

International Students

The College encourages international students who have successfully completed their secondary school studies to apply for admission. International students are asked to complete a preliminary application. If their first language is not English, international applicants must take the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the SAT II: English Language Proficiency Test (ELPT). International applicants are strongly encouraged to take the SAT I. The Certification of Finances Form with two pieces of supporting documentation must be submitted with the application. This documentation is used to issue Form I-20, which is necessary to obtain an F-1 visa from a U.S. embassy or consulate abroad. The International Student Adviser can assist with visa, travel, and other concerns. Supplementary financial aid, a combination of need and merit based aid, is available to international students.

Ursinus recognizes and appreciates the rigor of the International Baccalaureate program. Therefore, students may receive up to one year of college credit for Higher Level subjects with a score of 5 and higher. Specifically, 6 - 8 credits will be awarded for such courses. Students may receive advanced standing but no credit for Subsidiary courses in consultation with the academic dean and the appropriate department. Students may also meet the college's foreign language requirement, with a Subsidiary language course other than English, in consultation with the academic dean and the appropriate department.

Up to one year of academic credit may also be awarded for completion of the German Abitur, European Baccalaureate, French Baccalaureate, 13th year of the Canadian educational system, British "A" Levels, Advanced Placement courses, etcetera. Please contact the Office of Admissions for more details.

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 SAT I results sent to the Director of Admissions. We strongly recommend that all candidates take Achievement/SAT II tests. The personal interview is strongly recommended, the arrangements for which are the responsibility of the candidate.

Notification of Admission

When candidates for admission are notified of acceptance by the College, each must make an advance payment of \$500 in accordance with the provisions of the letter of acceptance. This payment will be held in an escrow account until the student is graduated or withdraws from the College. The payment is non-refundable and forfeited if the candidate does not enroll.

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.

Readmission

(See The Ursinus Plan for Liberal Studies, page 33.)

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 2 1/2 units):

- Calculus
- Advanced Mathematics
- Statistics
- Computer Science
- Solid Geometry
- Trigonometry
- Science
- Social Studies
- Foreign Language

Electives (Maximum of 3 1/2 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. Ursinus College accepts the International Baccalaureate degree and grants advanced standing. IB students are encouraged to contact the Admissions Office for details regarding advanced standing. 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 Admissions Office, they are qualified to do college work satisfactorily.

Special Students

A limited number of applicants who are not candidates for degrees may be admitted as special students, provided 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.

Students with Disabilities

Ursinus College is in compliance with the Americans with Disabilities Act. Prospective students with disabilities should advise the admissions office. A counselor will discuss educational opportunities and note what reasonable accommodations might be required to succeed at the College.

Tests

Candidates for admission to the freshman class are required to take the Scholastic Assessment Test. Although not required, Achievement/SAT II tests are strongly recommended, especially in English composition with essay 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.

In addition to the SAT I, foreign applicants must take the Test of English as a Foreign Language (TOEFL) if their first language is not English.

SAT Score Report Option

Reporting of the SAT score or other standardized test results to the Ursinus Admissions Office is optional if: a) your high school reports class rank and you are in the top 10 percent, or b) your high school does not report class rank and you have a 3.5 GPA or better on a 4.0 scale.

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 vice president for enrollment 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 catalogue 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 64 hours of work taken elsewhere can be credited to students transferring to Ursinus College. Transfer students also participate in the Ursinus College laptop program, adhering to the same replacement schedule as their cohort group.

Financial Information

Student Charges

For 2004-2005, the following rates apply for students: tuition, \$29,650; room and board, \$7,150. A fee of \$130 is charged to all students.

Special and part-time students are charged at the rate of \$988 per credit hour. Part-time students registered for 12 or more credit hours will be charged full tuition.

Payments are made as follows: new students, \$500 reserve deposit as requested. All students pay half of the annual charges in August. The second half is due in January.

A graduated late-payment fee is charged each account which remains unpaid at the end of the fourth 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 10-month, no-interest payment plan managed by Key Education Resources in Boston. Additionally, for those who prefer longer-term extended payments, the College makes available loan plans through Key Education Resources and Citibank. Information about these programs is available through the Student Financial Services 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.

The Student Financial Services Office administers a comprehensive program of aid from federal, state, Ursinus College and other private sources. Approximately 85 percent of all students receive some form of assistance in paying tuition.

Explanation of Charges

Application Fee: A fee of \$50 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.

Reserve Deposit: Upon acceptance by the college, the applicant must make a reserve deposit of \$500 by May 1. This payment will be held in an escrow account until the student is graduated or withdraws from the College. At that time, the balance remaining after payment of any damage charges to College property; parking fines; library fines; or similar charges, will be refunded to the student. If the student fails to complete matriculation, this payment is forfeited.

Tuition: Covers classroom instruction, use of libraries, gymnasium and campus facilities, and supports the programs of the Campus Activities Board. The tuition charge also covers a wellness program, including routine physician and nursing services, both on campus and in a local physician's office, and supports a wellness coordinator's services.

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Room and Board: Charge covers use of a residence hall room and a meal plan for the period that classes are in session.

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

Student Medical Insurance Option: All full-time day students are required to have some form of medical insurance. The College will provide an accident and sickness insurance policy to students without other coverage. Students not showing proof of coverage as requested by the Wellness Center will be charged for the College plan on their August registration bill. Details of the insurance plan are available in the Wellness Center.

Should the student withdraw or be dismissed during the academic year, the insurance will remain in force. No refund will be made of the cost of the insurance.

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 on a student's account or if the student is in default on a student loan.

ID Card Fee: No charge is made for the issuance of the first 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 fourth week of each semester. The amount charged depends upon the size of the outstanding balance.

Outstanding Balance	Fee
\$100 - 500	\$50
\$501 - 1,000	\$100
\$1,001 - 2,000	\$150
\$2,001 - 4,000	\$200
\$4,001 - 6,000	\$250
\$6,001 - 8,000	\$300
\$8,001 - 10,000	\$350
\$10,001 or above	\$400

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 for 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 the 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 \$500.00 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.

Ursinus College will refund tuition and fees to students using the table below. There is NO refund of amounts paid for dormitory rooms after the first day of classes. The refund for meal plan charges is calculated on a pro-rate basis from the official date of withdrawal or dismissal. Institutional financial aid will also be adjusted using the percentages found in the table.

Week #	
1	87.5 percent
2	75.5 percent
3	62.5 percent
4	50.5 percent
5	37.5 percent
6.	25.5 percent
7	12.5 percent
8 - 10	00.5 percent

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.

When calculating refunds for withdrawing or dismissed students who are recipients of federal Title IV funds, Ursinus college will comply with the "Return of Title IV Funds" regulations published on Nov. 1, 1999, which are based on changes made by the Higher Education Amendments of 1998. These rules, following the basic steps found in the New Return of Funds Formula, were implemented by the College at the start of the 2000-2001 academic year.

Examples of refund calculations are available from the Student Financial Services Office upon request.

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 Student Financial Services Office.

Scholarships and Financial Aid

Student Financial Assistance

The primary mission of the Student Financial Services 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, Federal Supplemental Educational Opportunity Grants, Federal Perkins Loans, state grants, Federal Work Study, 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 scholarships, grants, loans, and employment. The financial aid package is based on demonstrated need as determined through federal and institutional methodology. Proven academic excellence and leadership abilities may also be considered.

Application Procedure

All prospective first-year students wishing consideration for institutional financial aid must submit a Free Application for Federal Student Aid (FAFSA) and a PROFILE application, with all questions completed, no later than February 15. A student who wants to be considered only for the federal financial aid programs need only complete the FAFSA (the PROFILE is not required). All late applications will be considered if funds are available. The FAFSA and the student's individual state application, where applicable, 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.

A paper copy of the Free Application for Federal Student Aid (FAFSA) and the CSS PROFILE registration form can be obtained from secondary school guidance offices or the Ursinus College Student Financial Services Office. The FAFSA may also be completed online at www.fafsa.ed.gov (Federal School Code 003385). To register online for the CSS PROFILE go to www.collegeboard.com (School Code 2931). Freshmen and transfer applicants should complete both the FAFSA and the CSS PROFILE by February 15 to ensure receipt of an award notice by April 1. The College requires the submission of signed parent and student federal tax forms, W2 forms, and the Annual institutional Verification Forum by May 1, to be considered for all types of aid offered by Ursinus College.

Upperclass applicants should submit the Renewal FAFSA by April 1. The Renewal FAFSA should arrive at the home address sometimes after mid-November. If the Renewal FAFSA is not received by January 1, student should apply on line at www.fafsa.ed.gov. Upperclass award notices will be sent by early July if all required documentation is received in the student Financial Services Office. The college requires the submission of signed parents and student federal tax forms, W2 forms, and the annual institutional Verification form by April 1 to be considered for all types of aid offered by Ursinus College.

An independent (self-supporting) student must file the FAFSA and PROFILE application 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 Student Financial Services counselor 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 institutional aid. International students must submit the Declaration of Finances and Application for Foreign Students, available from the Office of Admissions.

Ursinus College Scholarship 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 totaled nearly \$27 million in 2004-2005. Of the entire student body, approximately 85 percent receive some form of financial aid, whether it be through student employment, loans, college funds, or scholarships. Every student submitting the FAFSA and PROFILE 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 recognize 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 Scholarships: Ursinus Scholarships are awarded to applicants who have earned the College's recognition by their academic and extracurricular achievement in high school. Ursinus Scholars are chosen 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

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Scholars are awarded up to \$13,500 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 \$25,000 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 College 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 Fund: Funds 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 PROFILE application, and are expected to remain in good academic and social standing.

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 and Certificates of Professional Studies will also be considered. Selections are made by a scholarship committee.

W.W. Smith Scholar Grants and Prizes: The W.W. Smith Charitable Trust of West Conshohocken, 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 a scholarship committee.

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 12 hours a week, a student can expect to earn about \$1,800 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 the contract can be obtained from the Student Financial Services 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 Services 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) via mail or online, with a family contribution indicated. The maximum Federal Pell Grant for 2004-2005 is \$4,050.

Federal Supplemental Educational Opportunity Grants (FSEOG): These grants are federally funded and must be designated by the College to students with substantial financial need, primarily to those receiving Federal Pell Grant assistance. The application is made by filing the FAFSA. The average grant is \$500. The FSEOG Program is subject to change according to government regulations. Those filing the Free Application for Federal Student Aid (FAFSA) with Ursinus will be considered for this program.

Federal Perkins Loan: This federally funded student loan is offered to applicants with high financial need, especially when state or Federal 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.

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 FAFSA by May 1. The maximum Pennsylvania state grant for 2004-2005 is \$3,300, but is subject to change by the Pennsylvania legislature.

Federal Subsidized 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, according to regulations in effect as of Dec. 31, 1997. The interest rate is variable, based on 91-Day T-Bill plus 3.10 percent, capped at 8.25 percent (for loans with the first disbursement made to new borrowers on or after July 1, 1994). Repayment of principal and interest is deferred until six months after graduation or withdrawal. 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.

Federal Unsubsidized Stafford Loans: Unsubsidized Stafford Loans are effective for loans made for periods of enrollment beginning on or after Oct. 1, 1992. The same terms and conditions exist as Stafford Loans, except that the borrower is responsible for interest that accrues while he or 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. According to regulations in effect Dec. 31, 1997, the annual interest rate is variable, based on

52-week T-Bill plus 3.10 percent, capped at 9 percent (for loans with the first disbursement made on or after July 1, 1994). 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. Children of employees of schools participating in the program, may request tuition remission. Requests will be considered upon application. Those students who receive aid through the Tuition Exchange Program are not eligible for additional Ursinus college funds.

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 Standards and Discipline 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. Students receiving financial aid must also meet the following quantitative requirements:

Full-time Student: 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.

Three-quarter-time Student: 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.

Half-time Student: 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 noncredit 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
<i>Number of Credits Successfully Completed:</i>											
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. Since some financial aid programs have eight (8) semester limits, financing of the fifth year may be quite difficult.

Any student receiving financial aid who does not meet minimum satisfactory academic progress will be notified in writing by the Student Financial Services 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 Student Financial Services Director 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, *Affordable Excellence*, provides detailed information on all programs and is available in the Admissions Office and the Student Financial Services Office.



Students discuss a text in Liberal Studies class, part of the first-year Common Intellectual Experience.

Academics: The Ursinus Plan for Liberal Studies

The Educational Philosophy 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.

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. It takes place best among students of diverse backgrounds actively searching for meaning and purpose in their lives. In order to help students appreciate the diversity and ambiguity of their world, the College seeks to include issues of race, class, and gender across the curriculum.

The Liberal Studies Curriculum

The liberal studies curriculum is grounded in the assumption that individual human beings have intrinsic value. Individuals, however, live in community with other human beings. The challenge of liberal studies is to create independence of thought and spirit while fostering awareness of community connection and obligation.

To meet this challenge, the Ursinus liberal studies curriculum has three components:

The Core, a broad-based common experience to give all students the communications skills, and the scientific, cultural, and historical literacy that are fundamental to a liberally educated person;

Study in Depth in one or more of 28 academic majors, to provide the basis for lifelong engagement in intellectual inquiry;

The Independent Learning Experience prepares students to become independent, life-long learners. Each student must undertake one of the following: a) independent research or creative project; b) internship; c) study abroad; d) student teaching; e) Summer Fellow Program or a comparable summer research program.

The Core

The Liberal Studies Seminars (LSS-100 and LSS-200 — the Common Intellectual Experience sequence) introduce students to the intellectual life of the college through a shared interdisciplinary inquiry during two integrated seminars, one taken in the first semester of the first year, and one completed in the second semester of either the freshman or sophomore year.

English 100 (First Year Composition) is an intensive writing workshop to improve writing skills and prepare the student for the required writing-intensive (W) course in the department of the student's major.

To sharpen intellectual discipline and promote understanding across cultures, students take two semesters of a foreign language (modern or classical; ESOL-100 may be substituted for students who are eligible).

One course in mathematics and one in a laboratory science help students enhance their deductive reasoning skills and promote scientific literacy, and foster awareness of the issues of science as they influence the individual and society. Because students need to be able to deal with quantitative materials, they must be sure that one of their courses is designated a "Q" course. The complex relationship of the individual and society is explored in a social science course, and a view of the human experience is promoted in a humanities course. Both are further promoted through two diversity courses - one focusing on diversity within the United States, and another examining the issues from a global perspective. A greater appreciation for making and regarding art is developed through an art course. Each of these one-course divisional requirements, as well as the diversity courses, help to reinforce and extend the intellectual inquiry begun in LSS-100 and LSS-200, helping students to see the complementary natures of disciplinary and interdisciplinary investigation.

The Core Requirements

- LSS-100 and LSS-200 (The Common Intellectual Experience sequence).
- English 100 composition.
- Two courses of study of the same foreign language (modern or classical or ESOL-100 for eligible students).
- One course in mathematics. This deductive reasoning requirement may also be fulfilled by Philosophy 260 (Logic).
- One laboratory course in the sciences. IDS-151Q or NEUR-120 may be used to fulfill this requirement.
- One course in the social sciences.
- One course in the humanities, excluding English 100 and modern language classes through 112.
- Two courses emphasizing diversity; one course with an emphasis on diversity in the United States ("D"), and one Global Study course ("G"), examining a culture or cultures whose origins and development lie outside those of Western Europe and the United States. The two courses must have different course prefixes and only one may be in the student's major.

THE URSINUS PLAN FOR LIBERAL STUDIES

- One four-credit course (or four credits) in Art. Courses in art history, studio art, music, creative writing (ENGL-205, 206, 209, 402), theater (THEA-100, 200, or 201), dance (ESS-221G), and media production (MCS-210 or 212) can be used to fulfill this requirement.

For most students the Core will comprise 12 four-credit courses, or 48 credits, representing slightly more than one-third of the 128 credits needed for graduation.

Study in Depth

Through study in depth, students learn the modes of inquiry of an academic discipline, develop the insight to make informed judgments among conflicting methods and interpretations, and acquire the ability to make connections among different disciplines. Study in depth is achieved by the completion of a major.

Majors include at least 32 credit hours 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.

Majors

The following majors have been approved by the faculty:

- American Studies
- Anthropology and Sociology
- Art
- Biochemistry and Molecular Biology
- Biology
- Business and Economics
- Chemistry
- Classics
- Computer Science
- Dance
- East Asian Studies
- English
- Environmental Studies
- Exercise and Sport Science
- French
- German
- History
- International Relations
- Mathematics
- Media and Communication Studies
- Neuroscience
- Philosophy
- Philosophy and Religion
- Physics
- Politics
- Psychology
- Spanish
- Theater

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 two fields, such as biophysics, biopsychology, chemical biology or 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.

Minors

Students have the opportunity to develop a secondary academic specialty by developing a minor concentration.

The following minor concentrations have been approved by the faculty:

- Accounting
- African American and Africana Studies
- American Studies
- Anthropology
- Art
- Art History
- Astronomy
- Biology
- Biostatistics
- Chemistry
- Coaching
- Computer Science
- Creative Writing
- Dance
- East Asian Studies
- Economics
- Education, Elementary
- Education, Secondary
- English
- Environmental Studies
- Finance
- French
- Gender and Women's Studies
- German
- German Studies
- Greek
- History
- Human Behavioral Development
- International Business
- International Relations
- Japanese
- Latin
- Latin American Studies
- Management
- Mathematics
- Media and Communication Studies
- Music
- Neuroscience
- Pennsylvania German Studies
- Philosophy
- Physics
- Politics
- Psychology
- Religion
- Sociology
- Spanish
- Statistics
- Theater
- Wellness/Fitness

Students who have interests spanning more than one department may design individual minors in consultation with the chairpersons of the involved departments.

Independent Learning Experience (ILE)

A major academic goal of a liberal arts education is to transform students in meaningful and positive ways. Our mission statement describes specifically the goal of enabling students "to become independent, responsible and thoughtful individuals." The Independent Learning Experiences (ILE) will help students take responsibility for their education, and foster student initiative and independence by enhancing their confidence in their own abilities.

The ILE requirement is fulfilled by a completion of a single project of at least three credits in a single semester or summer in one of these categories: (a) an independent research project or a creative project (including but not limited to honors); (b) an internship; (c) approved study abroad programs; (d) student teaching; (e) a project in the Summer Fellows Program or a comparable summer research program; or (f) for pre-engineering students, successful completion of the first of two years at the engineering school.

Foreign Language Integration Option (FL)

This program allows students to use their language abilities in courses outside the language departments. Faculty members in the disciplines who wish to make their courses available for the foreign language integration option decide, in conjunction with individual students and in consultation with a member of the modern or classical language departments, on the amount and type of language work involved. This work typically includes readings from books, newspapers or articles, or paper writing, and it substitutes for English language work.

Requirements for Graduation

The requirements for the degree of Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) 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 degree 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 Center for Continuous Learning).

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.

Degrees

Ursinus College confers the degrees of Bachelor of Arts and Bachelor of Science. The Center for Continuous Learning at Ursinus College also confers a Bachelor of Business Administration. For specific requirements of the curricula leading to each of these degrees, see departmental requirements and the catalogue of the Center for Continuous Learning. Degrees are conferred only at commencement 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

Dean's Honor List

All full-time students achieving an average of 3.50 for a semester are announced six weeks after the end of that semester as members of the Dean's Honor List. It is an Ursinus tradition to publish at the Ursinus Day Academic Convocation the names of those students who have been carried on the Dean's Honor List for the preceding two semesters.

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 credentials 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.

Departmental and Interdepartmental Honors

The goals of the Honors Program at Ursinus College are to encourage academic excellence, to promote original research and independent study, and to reward scholarly achievement. 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 or distinguished honors in the department of their major or minor fields of concentration. Students may also be awarded interdepartmental honors or distinguished honors, in which case at least one department is the department of their major or minor fields of concentration. All these awards are made subject to the following regulations:

1. To be eligible for departmental honors or distinguished honors, students must have (a) a 3.0 cumulative average and an average of 3.3 or higher in all courses taken in the department in which they seek honors, based on the work of six semesters, or (b) a 3.3 cumulative average and an average of 3.5 or higher in the department in which they seek honors, based on the work of the last four semesters.

Students pursuing interdepartmental honors must have a 3.3 GPA or higher in each department.

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. Exceptions may be made by the Academic Standards and Discipline Committee.

2. To be admitted to candidacy for departmental honors or distinguished 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 or individual project approved by the department.

To be admitted to candidacy for interdepartmental honors or distinguished honors, students must obtain written consent of a faculty project adviser from each department, have their candidacy certified by the chairperson of one of these departments, and have the research or individual projects approved by both departments.

3. Students must complete the two-semester sequence Research/Independent Work 491 and 492. They usually register during the spring registration period of their junior year for this sequence.

Candidates for distinguished honors must work on the project for longer than these two semesters by participating in a summer research project, by earning at least four credits in preparatory Independent Study courses during the junior year, or by completing other equivalent requirements approved by the department(s). A related research project or internship approved by the department(s) also fulfills this requirement for distinguished honors. By the end of September of the senior year, a candidate for honors or distinguished honors submits a formal proposal including a bibliography and research plan to the department(s) for approval. Near the end of the 491 course, the candidate submits a written status report and makes an oral presentation to the department(s). At that time the department(s) decide whether the student may continue working for distinguished honors, honors or neither.

4. The Honors Project, completed in the research/independent work courses, must demonstrate disciplined, independent and original scholarship or creativity. Distinguished Honors Projects must exhibit exceptional creativity or scholarship. If the candidates receive a passing grade, they will earn credit hours toward graduation, even though their work may not be recommended for honors.
5. An honors committee of at least three faculty members, at least two from the department(s) and at least one from outside the department(s), evaluates the project and an oral presentation, and examines the candidate by early April. This committee is chosen by the department chair(s) in consultation with the adviser(s) and the student, and it submits a written evaluation to the department chairperson(s). Departmental or interdepartmental honors will be awarded on the recommendation of this committee and the department(s), and the approval of the faculty. When the honors committee recommends a candidate for distinguished honors, an outside evaluator assesses the paper and an oral presentation. The oral presentation is followed by an examination by the outside evaluator and the department(s). The outside evaluator is chosen by the department chair(s) after consultation with the adviser(s) and other department members. Departmental or interdepartmental distinguished honors will be awarded on the recommendation of the department(s) and the outside evaluator, 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 or distinguished 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(s) and of the outside evaluator for distinguished honors in the office of the dean of the College by the Monday of the last full week of classes.

A list of students who were awarded Departmental Honors in 2002-2003, and their project titles, appears in the Directory section of the catalogue.

Academic Honor Societies

Phi Beta Kappa: Phi Beta Kappa is a national academic honor society founded at the College of William and Mary in Williamsburg, Va., 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 October 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.

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.

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.

Honor Societies — Discipline-Based

These include: **Alpha Psi Omega**, 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; **Phi Epsilon Kappa**, the national honor society in exercise and sports science; **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; **Pi Sigma Alpha**, the national social science honor society; **Psi Chi**, the national honor society in psychology; **Sigma Pi Sigma**, the national physics honor society; **Sigma Tau Delta**, the national English honor society; **Sigma Xi**, the national honorary fraternity for the recognition and encouragement of scientific research; and **Theta Chi**, the Ursinus chapter of Lambda Pi Eta, the national communication honor society.

Academic Policies

Choice of Studies

At matriculation, students designate possible areas of academic interest. In the second semester, first-year students may declare a major field to study in depth. Students who have not decided on a major by the end of the second semester will retain their first-year 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 catalogue. Registration for the spring term is completed for all students during the fall registration period listed in the back of the catalogue.

Students are registered 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.

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:

Students should anticipate that in the normal course of a semester, unanticipated (illness, emergencies) as well as planned events (games, personal business) will call them away from their classes. For this reason, it is important that each student exercise reasonable judgment regarding class attendance at all times. Every student is accountable for all work missed. Instructors, however, are under no obligation to make special arrangements for students who are absent.

THE URSINUS PLAN FOR LIBERAL STUDIES

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.

Statement on Academic Honesty

Ursinus College is a small community which functions by a social contract among students, faculty, administration and alumni. In order for the spirit of community to endure and thrive, this agreement, based upon shared values and responsibilities and a sense of mutual respect, trust and cooperation, must be preserved. Students have an obligation to act ethically concerning academic matters and the faculty has a responsibility to require academic honesty from students and to be vigilant in order to discourage dishonesty.

Lying, cheating, stealing, plagiarism and other forms of academic dishonesty violate this spirit of mutual respect and collaboration and corrode the atmosphere of openness and free inquiry upon which the educational process is based. Such activities are demeaning and potentially damaging to those who undertake them. Moreover, academic dishonesty is damaging to the student body as a whole, in that it cheapens the achievement of the honest majority of students and subverts the integrity and reputation of the institution with which they will be identified for the rest of their lives.

Students should be aware that there are many legitimate sources of help available on campus. Academic departments often provide help sessions and the Library provides research assistance. There is also a Writing Center in Olin Hall and a Tutoring Center in Unity House. This help is provided for academic assistance and is designed to enhance the learning process rather than circumventing it, which occurs in cases of academic dishonesty.

The student body, the faculty, and the administration of Ursinus College therefore unanimously condemn academic dishonesty in all its forms and affirm that it is the responsibility of all members of the college community to prevent such activity.

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; or, if the course is a Satisfactory/Unsatisfactory (S/U) course, the student's standing is expressed by the grade S or the grade U.

URSINUS COLLEGE CATALOGUE

Letter grades have the following equivalence assigned:

Grade	GPA	Numeric Grade
A+	4.00	98.33
A	4.00	95.00
A-	3.67	91.67
B+	3.33	88.33
B	3.00	85.00
B-	2.67	81.67
C+	2.33	78.33
C	2.00	75.00
C-	1.67	71.67
D+	1.33	68.33
D	1.00	65.00
D-	0.67	61.67
F	0.00	45.00

The mark of S signifies that a student has earned the course credits in an S/U course at the B (3.00) level or higher; this mark is not included in the computation of a student's average. The mark of U in an S/U course is calculated into the student's average as F (0.0).

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.

Grade Appeal

Faculty must follow practices of fairness and objectivity when assigning student grades. Since it is assumed that the final grade is obtained after a careful evaluation of a student's entire academic performance in a class, the course syllabus must contain a clear statement of how a final grade is computed. Even though grading may be considered to be inherently subjective, it does not follow that grading is an arbitrary or capricious practice. Normally, no grade appeal will be accepted unless there is an error in computation or there is evidence of prejudice or caprice.

Grade Appeal Procedure

1. A student who wishes to appeal a final grade must contact the instructor and attempt to resolve the issue.
2. If, upon consultation with the instructor, there is no resolution, the student contacts the chair of the department in which the course is offered, or in the case where there is no chair, the Dean of the College. The chair attempts to resolve the conflict by discussing the issue with the instructor involved. Every effort should be made to resolve the conflict at the departmental level.

3. If there is still no resolution, the student contacts the Office of the Dean of the College, and in writing, describes the nature of the complaint. The Dean discusses the matter with the chair and the instructor and makes a recommendation to the instructor.
4. If there is still no resolution, the Dean will bring the issue to the committee on Academic Standing and/or appoint an ad hoc committee of three faculty to make a recommendation to the instructor. The committee will be composed of members acceptable to both the student and the faculty member.

Time Frame

Students must initiate the grade appeal no later than two weeks after the start of the next semester. The appeal process should take no longer than four weeks from the student's initial contact with the instructor to the final recommendation of the ad hoc committee.

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.

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. Students who earn a semester average of zero will also be dismissed. Exceptions to the above policy must be approved by the faculty, or by the Academic Standards and Discipline Committee acting for the faculty. The action of the faculty, or the Academic Standards and Discipline Committee acting for the faculty, in all cases is final.

Students who have been dismissed are not eligible to take courses in the Center for Continuous Learning or to take summer courses at Ursinus College.

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.

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 Standards and Discipline Committee must approve readmissions.

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.

Study Elsewhere

Students are not permitted to earn credit toward graduation from Ursinus College by study at another college unless they have been granted permission by their academic advisers and the Committee on Academic Standards and Discipline. 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 Standards and Discipline Committee only with the approval of the chairperson 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. Students who plan to study abroad must be admitted into the study abroad program before they are eligible for transfer credit.

Summer Program

Ursinus students may engage in research, which is often supported with housing and a stipend, by the College or outside organizations and foundations. During the summer session, students conduct research under the advisement of faculty mentors, meeting periodically to gather resources, discuss methods, data collection and analysis. Students also may participate in a college-approved internship or study abroad program. Students wishing to take summer study at other colleges must obtain approval in advance from their adviser, from the chairperson of their department if they wish to take a course required for the major, and from the Office of the Registrar. 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. Students planning to take summer classes abroad must also consult with the study abroad coordinator.

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 the Department of Modern Languages 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.

Highly motivated students who have successfully mastered another foreign language previously should contact *Dr. Colette Trout (Department of Modern Languages)*.

Off-Campus Study

Internships

An internship is a structured and supervised professional experience for which a student receives academic credit. The Career Services Office has information on a wide range of internship opportunities.

Guidelines

Credit for a departmental internship will be established within the department and may be either three or four credits. The faculty internship adviser will determine whether an internship opportunity meets the standards to qualify for academic credit. Approval for academic credit for internship experiences will not be granted for internships in progress or following their completion. Students register for a summer internship during the spring registration period. On campus internships must be approved by the Academic Standards Committee.

Qualifications

Students who meet the following qualifications will be permitted to enroll in an internship:

- a) junior or senior status, and have completed three courses within the department that administers the internship, or permission of the faculty internship adviser,
- b) must have an overall GPA of 2.0,
- c) students will be permitted to undertake two internships under any of the following conditions:
 - 1) the internship site requires a two-term commitment
 - 2) the student is a double major and wishes an internship in each major
 - 3) the second internship is outside their major (e.g. minor)
 - 4) the two internships are within the same major but are so different as to constitute a markedly different experience
 - 5) two internships may not be concurrent
- d) exceptions to these qualifications must be approved by Academic Standards and Discipline Committee.

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Defined Activities

The internships will include the following specified activities.

- a) specified number of hours at the internship site; the minimum hourly requirement will be 10-12 hours per week with a minimum of 160 hours per semester – four credits; 120 hours per semester – three credits
- b) submission of the internship registration form (internship learning agreement)
- c) a journal or daily log recording activities and hours
- d) meetings with the faculty internship adviser
- e) a final research paper or other visible product such as a portfolio, video
- f) whenever possible, a public oral presentation of results.

Grading

Since the faculty internship adviser is responsible for the final grade, the internship will be graded on the basis of:

- a) final visible product as defined by internship-granting department
- b) input from on-site adviser
- c) input from faculty internship advisers

Pre-Engineering Program

Arrangements have been made with the engineering schools of Columbia University and Washington University (St. Louis), 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, usually on satisfactory completion of the fourth year. The engineering school will grant the engineering degree on satisfactory completion of the fifth year. Transfer to other engineering schools (without formal affiliation) is also possible. Candidates for the pre-engineering program must present four years of entrance credit in mathematics.

National Programs

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. Gerard Fitzpatrick* (Department of 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 *Paulette Patton (Multicultural Services Office)*.

Capital Semester

The Capital Semester Internship is sponsored by the Pennsylvania Department of Education and the Office of Administration. It offers juniors and seniors who are Pennsylvania residents an opportunity to apply classroom knowledge in internships in state government-related agencies in Harrisburg. Placements are available in a wide variety of fields, including accounting, business, communications, education, health, law, public welfare, and taxation. In consultation with a faculty adviser, participating students prepare a substantial reading list and detailed outline of a major research project to which the reading would be directed. The project, researched at the internship site, is presented to the faculty adviser by means of a major paper. In addition, students are required to maintain a journal and to participate in a series of seminars at their placement sites. Interested students should contact *Dr. Gerard Fitzpatrick (Department of Politics)*.

International Programs

Ursinus College students may spend a semester, a year, or a summer in an approved study abroad program, 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. Rising sophomores may study abroad as early as the summer following their freshman year. Juniors are especially encouraged to study abroad, and seniors may petition to study abroad in the fall semester of their last year. 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. All students, regardless of major, are encouraged to study abroad, but they normally should have completed courses through at least 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. Information may be obtained from the study abroad coordinator or faculty advisers responsible for specific programs. All work abroad must be approved by the study abroad coordinator prior to departure.

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Summer and Winter Programs

Ursinus College offers several programs during the January interim or during the summer. All programs are conducted by Ursinus College faculty.

Summer Programs

The summer program in **Japan**, which runs from late May to late 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.

Adviser: Dr. Matthew Mizenko (Department of Modern Languages)

The four-week summer program in **Mexico** takes place from mid-July to mid-August and includes a homestay in Cuahahuac, and travel to Puebla, Mexico City, and other areas of interest, such as the Yucatan Peninsula, Oaxaca, or the west coast of Mexico.

Adviser: Dr. Douglas M. Cameron (Department of Modern Languages)

Art in **France** and **Italy** is a three-to-four week program that takes place in late May and June. The program alternates between France and Italy and offers students the opportunity to develop individualized projects as well as immersion in the artistic life of a particular region.

Ursinus in **France** is a four-week program in Southern France based in Provence. This program offers students several options: Art History, Studio Art, Photography, and Independent Research. The many museums of the region serve as the focus of the exploration of the art and architecture of Provence. On-site response papers and a research project round out the Art History experience. The regional landscape is explored as Ursinus students document the area. A journal and a portfolio of work or a research project serve as visible products of the program.

Adviser: Mr. Don Camp (Department of Art)

The Summer Program in **Germany** is held in Tübingen in southwestern Germany. Students of all majors and language levels study intensive language, live in student residences and have the opportunity to enroll in a practicum or internship. The six-week program begins at the end of May and ends in early July.

Adviser: Dr. Robin Clouser (Department of Modern Languages)

Winter Programs

Biology of Tropical Rain forests is a field study of the rain forests of **Costa Rica**. Qualified students meet for 15 hours on campus and spend three weeks in the field. Side trips include visits to cloud forests or coral reefs. The program is offered in January in alternating years.

Advisers: Drs. Robert and Ellen Dawley (Department of Biology)

Winter study in **Senegal** is a two-week French language course, including classroom study, homestay with a Senegalese family, excursions and weekend travel. Offered during winter break.

Adviser: Dr. Frances Novack (Department of Modern Languages)

Semester and Year Programs

Costa Rica: Organization for Tropical Studies

Ursinus has an affiliation with The Organization for Tropical Studies (OTS) in Costa Rica which offers an integrated semester program in environmental science, field research in tropical biology, Spanish language and Latin American culture. OTS field stations are prime research sites and facilities used by scientists from all over the world. Students transfer 16 credits.

Advisers: Drs. Robert and Ellen Dawley (Department of Biology) and Dr. Douglas Cameron (Department of Modern Languages)

England: Ursinus in London

The semester program includes courses in British literature, European history, media studies, international politics, interdisciplinary study, and independent research projects. An optional internship is available to eligible students. Theater performances and visits to local sites as well as regional excursions are included in the program. Students live with families.

Adviser: Melissa Hardin, Study Abroad Coordinator

France: American University Center in Provence

Ursinus has an agreement with the American University Center in Provence, in Aix-en-Provence, France. Students in good standing may study there for a semester or an entire academic year. Students normally should have a 3.00 GPA average and proficiency in French sufficient to study at the 200 level. A special aspect of the program is the French Practicum course, which requires students to integrate themselves with French life by undertaking practical activities which place them in direct, natural contact with the local population. In addition to AUCP classes, students will have the opportunity to study in the French Université de Provence and will live with French families. The program is open to majors in any subject. Students may transfer up to 16 credits a term.

Adviser: Dr. Frances Novack (Department of Modern Languages)

France: University of Strasbourg

Ursinus College has a formal agreement with the Hood College program in Strasbourg. Students must have a 3.00 GPA and have sufficient background in French to take courses at the 200 level. This program is of particular interest to students wishing to study the European community with its political and economic implications. Qualified students are eligible for internships. Courses in German are also available. Students live in university residences and have the opportunity to spend weekends with French host families.

Adviser: Dr. Colette Trout (Department of Modern Languages)

Germany: Heidelberg University

The University of Heidelberg, in affiliation with Heidelberg College of Tiffin, Ohio, serves as the site for Ursinus College students for the entire year, the spring or the shortened fall semester. Requirements: 3.00 GPA and at least two years of college-level language study. All students take an intensive four-week preliminary course. Depending on the results of the mandatory German Language Proficiency Examination, students are placed in courses at the International Study Center, the Institute for German as a Foreign Language, the Junior Year Student Center or in other departments of the University. All students participate in weekly tutorials, community activities and language exchange partnerships. Internships are available to qualified students. Students are housed with German students in university or private residence halls.

Adviser: Dr. Robin Clouser (Department of Modern Languages)

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Germany: Ursinus in Tübingen

The semester program is located in the beautiful medieval university town of Tübingen in southwestern Germany. Students of all majors have the opportunity to study European history, politics, and German and comparative literature. Independent research projects and internships are available to qualified students. Courses are taught in English and in German. No previous knowledge of German is required but all students must register for an intensive German language course. The program includes trips to regional museums and historic sites. Students live with families.

Advisers: Dr. Robin Clouser (Department of Modern Languages)

Italy: Ursinus in Florence

This semester program in Tuscany includes the study of Italian art, studio art, European history, politics, interdisciplinary studies, and independent research projects. All students are required to take a course in Italian language. Visits to regional museums and archaeological sites are included in the program. Students live with families.

Adviser: Melissa Hardin, Study Abroad Coordinator

Japan: Ursinus-Tohoku Gakuin University Program

Ursinus College has enjoyed 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, and students may transfer up to 16 credits. Admission is competitive and students must have completed some Japanese language courses.

Advisers: Dr. Matt Mizenko (Department of Modern Languages) and Dr. Hugh Clark (Department of History)

Mexico: Ursinus/Universidad de las Americas-Puebla Program

This program is a one-for-one student exchange program with the Universidad de las Americas-Puebla in Cholula, Mexico. Students may spend the fall or spring semester or a complete academic year at UDLA at no additional costs except transportation and spending money. If their level of proficiency in Spanish is adequate and they have the required prerequisites, Ursinus students at UDLA may enroll in courses in all fields with Mexican students. If not, they must enroll in special courses for foreigners in Spanish, in Mexican history and culture, and in Latin American literature. This program is open to majors in any field. Students may transfer up to 16 credits per semester.

Adviser: Dr. Douglas Cameron (Department of Modern Languages)

Sénégal: Ursinus-Université de Saint-Louis

Students may spend the fall semester or an entire academic year in Senegal through a direct exchange program between Ursinus College and the Université de Saint-Louis. All students are enrolled in an intensive four-week orientation program and take courses at the University. Students participate in tutorials, language exchange partnerships and cultural activities. Housing is provided by the university. Requirements: Two years of college-level French.

Adviser: Dr. Frances Novack (Department of Modern Languages)

Spain: Instituto Universitario de Sevilla

Ursinus has a formal association with the Instituto Universitario de Sevilla, Spain. Ursinus students who are recommended by the faculty to study in a Spanish-speaking country will be accepted by IUS, provided that they have a cumulative 2.5 GPA. Students who have enough proficiency to take all the courses of study in Spanish normally take courses at the Instituto and special cursos concertados at the University of Seville. The Instituto provides weekly tutorials in addition to regularly scheduled classes. All students live with local families and may be paired off with Spanish university students to provide further integration into Spanish life. *Adviser: Dr. Melissa Hardin (Study Abroad Coordinator, Department of Modern Languages)*

Spain: Ursinus in Madrid

This full immersion language program targets students of all levels who have completed a minimum of two semesters of Spanish. This program offers courses in language, literature, politics, and civilization in Spanish or in English taught by Ursinus College faculty. Independent study and selected core courses in English are also available. Eligible students may participate in a Community Practicum with local firms, Non-governmental Organizations, or community schools. All students live with families. *Adviser: Dr. Melissa Hardin (Study Abroad Coordinator, Department of Modern Languages)*

Additional International Opportunities

Council for International Education Exchange

Ursinus College is affiliated with several consortia of colleges and universities which have been created to offer high-quality international experiences to our students throughout the world. The Council on International Education Exchange (CIEE) works with Ursinus College faculty to provide semester or summer experiences to qualified students. They include sites in Argentina, Belgium, Chile, China, Czech Republic, Dominican Republic, Ghana, Hungary, Indonesia, Korea, Netherlands, Poland, Russia, Thailand, Tunisia and Vietnam. These programs are either broad-based and conducted in English or discipline-based and conducted in the target language. They are open to students from all majors. *Adviser: Dr. Melissa Hardin (Study Abroad Coordinator, Department of Modern Languages)*

IFSA: Australia, England, Ireland, Scotland and New Zealand

Ursinus College sponsors a variety of semester and year-long educational programs in Australia, England, Ireland, Scotland and New Zealand. All programs are administered by the Institute for Study Abroad (IFSA) at Butler University. Admission requirements for the various universities vary and range from a GPA of 2.5 to 3.5 In the past five years students from the sciences, social sciences and humanities have studied at over 20 different universities through IFSA. Internships are available at most sites. All students participate in the orientation programs, family or farm visits and special excursions. Students are housed in university or college housing. *Adviser: Dr. S. Ross Doughty (Department of History)*

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Leadership Studies in an International Context

Outstanding students in the Ursinus Leadership Studies Program may apply to participate in a service and study experience in another country. Service projects and academic credit are arranged in advance with the Leadership Studies Office and appropriate academic departments. Past service experiences have ranged in length from 3-8 weeks and have included teaching English and farm work in Cuba, Korea, and Madagascar. Academic credit may range from 2 to 4 credits in foreign language and politics and international relations. Academic credit in other disciplines is possible.

Adviser: Professor Houghton Kane, Department of Politics and International Relations

Sea Education Association (SEA) Semester

The Sea Education Association (SEA), founded in 1971, is located on a campus in Woods Hole, Mass. SEA operates year-round and its sailing vessels SSV Westward (125-foot schooner) and SSV Corwith Cramer (134-foot brigantine) routinely sail the waters of the north Atlantic Ocean and the Caribbean Sea - from Newfoundland to Venezuela. The SEA Semester (12 weeks) consists of six weeks spent in Woods Hole (oceanography, maritime studies, nautical science) followed by six weeks at sea (oceanographic research). After successfully completing SEA Semester, an Ursinus student earns 16 semester hours of academic credit. Ursinus College is a formal affiliate of SEA and students receive credit directly from Ursinus. An important component of this interdisciplinary program is the development of self-discipline, curiosity, persistence and collaborative investigation. The W. W. Smith Charitable Trusts accepts applications for financial assistance in the SEA program.

Interested students should contact Dr. James Sidie (Department of Biology)

Washington University in St. Louis Summer Study in France for the Pre-Med Student

This intensive summer program is designed for students interested in French language, cultural studies as well as pre-medical studies. The program aims at total immersion in French language and culture, while providing students with the opportunity to experience first-hand the French medical system. Going into its sixth season, France for the Pre-Med Student can accommodate students in a broad spectrum of health-related fields and special interests. For more information visit the Study Abroad section of the Ursinus College web site (www.ursinus.edu). Program dates: mid-May to late June. Prerequisite: Minimum 3.0 GPA, four semesters of college-level French. Credits: seven semester hours. Application deadline: Rolling admissions, February 1.

Adviser: Dr. Colette Trout (Department of Modern Languages)

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. Courses whose numbers are followed by a "W" are writing-intensive courses. Courses whose numbers are followed by "Q" are those which involve quantitative analysis. The credit value of each course is expressed in semester hours. The hours per week are given in italics in the definition of the course.

African American and Africana Studies

Associate Professor Edwards; Assistant Professors DaCosta, Keita, Instructor Ussery (Coordinator).

The African American and Africana Studies program provides an opportunity to study the experiences of people of African descent in the African Diaspora (including Latin America), the United States, and Africa. This program explores the human, cultural, social, political, and historical factors that have affected the experiences of African American and Africana people.

Requirements for Minors

A minor concentration in African American and Africana Studies consists of 20 credits including a 3-credit introductory course and a 1-credit readings course. The courses in the minor deal with aspects of the African American and African Diasporic experiences as they have been framed by the peoples concerned and represented by others. AAAS minors must take AAAS 200 and AAAS 299. Additionally, students must take at least four courses from the following electives, with no more than 2 courses from a single department: ANTH 242, BE 110D ENGL 222, FREN 203, HIST 231, HIST 323, HIST 324, HIST 329, PHIL 225, POL 316, POL 399L, SOC 255, SOC 258, or SOC/GWMS 264. AMST 200 and/or SPAN 440W may also fulfill this elective requirement when the topic is appropriate and with prior approval from the AAAS coordinator.

AAAS-200. Issues in African American and Africana Studies *Faculty*

This is an interdisciplinary, introductory course for the African American and Africana studies program. This discussion-oriented course is designed to integrate the diverse concentrations of the discipline. It will cover the history of the field, and the role and contributions of various disciplines. This course also examines the variables and dimensions of African-American and African Diasporic experiences. Three hours per week. *Three semester hours. Fall semester only.*

AAAS-299. Readings in African American and Africana Studies *Faculty*

This is a directed reading course in which the student chooses its focus and concentration. The student, in conjunction with an AAAS faculty member, will develop a bibliography and a schedule for the readings. Students are required to complete a research paper for this course. Prerequisite: Permission of the AAAS Coordinator. *One semester hour.*

American Studies

Professors Fitzpatrick, Gallagher, Hemphill, Kane, Oboler, Miller, Schroeder (*Coordinator*), Stern; *Associate Professor* Edwards; *Assistant Professors* K. Gross, Raphael; *Instructors* Ussery, Winslow.

Knowledge of our own culture, its history, literature, and politics, is indispensable to responsible American citizenship. Furthermore, a deeper understanding of American culture enables us to appreciate the way in which our own culture affects our perception of other cultures. The American Studies program provides an interdisciplinary approach to the study of American life through which students can fully appreciate both its unity and diversity. The American Studies major and minor are useful for students interested in graduate study in American Studies and all the other participating disciplines; as well as professional study in such areas as law, social work and journalism.

Requirements for Majors

The American Studies major is interdisciplinary. All majors must take AMST 200, a course that demonstrates the possibilities of an interdisciplinary approach to the study of American society. Interdisciplinary study works best, however, when the student is well grounded in at least one specific discipline to serve as a point of departure. American Studies majors accordingly choose a disciplinary concentration by taking an introductory or methods course, a capstone course, and two American Studies electives from one of the core disciplines of the program (Media and Communication Studies, English, History, Politics, and Sociology). The student will also elect four other American Studies courses from disciplines beyond the concentration, including one course from outside the five core disciplines of the major. The American Studies major can easily accommodate a dual major, should a student wish to pursue mastery of more than one discipline, but no more than two courses can count for both majors. The major can be completed with 36 credits.

Required course for all majors: Issues in American Studies (AMST 200.)

Media and Communication Studies concentration: MCS 105, 281, 460W or 462W or 464W, and two electives from 355, 360, 364.

English concentration: English 200W, 203, an American literature seminar or independent research course, and an elective from English 222 or advanced colloquia in American literature.

History concentration: History 200W, History 421W or 400, and two electives from 213, 214, 220, 320, 321, 322, 323, 324, 327, 328, 329.

Politics concentration: Politics 218, Politics 418, and two electives from 310, 315, 316, 321, 322, 323, 324, 325, 328, 330, 355.

Sociology concentration: Sociology 100, An/Soc 460 and two electives from 227, 245, 247, 255, 258, 263, 264, 275.

American Studies majors can choose any of the above courses except English 200W, History 200W, Politics 100 and Sociology 100 as electives outside their disciplinary concentration. American Studies electives outside the core disciplines are: Art 340; Music 207; and Philosophy 221. Students can not count more than four courses in any one discipline towards the American Studies major.

Students are encouraged to consider a semester of off-campus study in a national program such as the Washington Semester or the Howard Semester program. The American Studies major is also sufficiently flexible to accommodate study abroad.

Students may elect to fulfill some of the above requirements by doing an internship or research courses, (including honors) in American Studies.

Requirements for Minors

A minor concentration in American Studies consists of six courses dealing with aspects of American life. Three of the courses must come from a minor core consisting of Media and Communication Studies 105, History 213 or 214, Politics 218, English 203, Sociology 255. Students will select three elective courses from three different disciplines. They must include one course from either of the disciplines omitted in their selection of core courses. Courses listed in the minor core may be taken as electives. Otherwise, elective courses must come from the following: MCS 281, 355, 360, 364, 450W; History 213, 214, 220, 320, 321, 322, 323, 324, 325, 327, 328, 329, 421W; Politics 310, 315, 316, 321, 322, 323, 324, 325, 328, 330, 355, 418W; English 222 and Advanced Colloquia or English seminars in American literature (approval of American Studies Coordinator required); Philosophy 221; Sociology 227, 245, 247, 258, 263, 264, 275; Art 340; Music 207.

AMST-200. Issues in American Studies Faculty

This course will introduce students to American Studies by engaging them in an interdisciplinary examination of a broad theme or question about American society and culture. Topics will vary with the instructor(s), but will always be broad and issues and readings will be drawn from different disciplines. An example might be an interdisciplinary examination of the history of Philadelphia as a microcosm of the American experience, or an interdisciplinary examination of race and ethnicity in American society. Three hours per week. *Four semester hours.*

AMST-381. Internship Faculty

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Discuss details with the American Studies Coordinator. Prerequisites: 12 credits in the major and permission of the internship adviser. *Three or four semester hours.*

AMST-391. Independent Study Faculty

Independent study under the supervision of an American Studies Department adviser. Topic and readings will be decided by the student and the adviser. Substantial reading and writing is required. Prerequisites: 12 credits in the major; and permission of the department adviser. *Four semester hours.*

AMST-400W. Independent Research Faculty

Independent Research, under the guidance of an American Studies Department adviser, directed toward the production and oral presentation of a research project or paper. Prerequisite: 12 credits in the major and permission of the faculty adviser. *Four semester hours.*

AMST-491W. Research/Independent Work Faculty

This course is open to candidates for honors upon consultation with the American Studies Coordinator and with permission of an American Studies faculty adviser. *Four semester hours.*

AMST-492W. Research/Independent Work Faculty

A continuation of AMST-491W. Prerequisite: AMST-491W. *Four semester hours.*

Anthropology and Sociology

Professors Gallagher, Oboler (*Chair*); *Instructor* Ussery.

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 integrate 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.

The Department of Anthropology and Sociology is deeply committed to the liberal arts and encourages students to take a wide variety of courses in many different disciplines. There are many opportunities for our students. One direction is toward graduate programs in anthropology and sociology. A second direction would be alternative graduate programs in social work, public administration, criminology, regional planning, and a variety of other professional degrees in related applied disciplines. Another option is secondary education certification in social studies.

Requirements for Majors

All students majoring in anthropology and sociology must take Anthropology 100, Sociology 100 or Sociology 110; Anthropology/Sociology 200, Anthropology/Sociology 300 (Methods); Anthropology/Sociology 400W (History and Theories); Anthropology/Sociology 460 (Seminar); five additional courses 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). Those interested in teaching should consult the Ursinus College Education Department.

I. Anthropology Emphasis

Students choosing the anthropology emphasis must take a minimum of 36 semester hours in anthropology and sociology, including either eight credits of ethnography (chosen from Anthropology 222, 232, 242 and Sociology 255), or four credits of ethnography 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 toward the major. In addition, it is recommended that anthropology majors fulfill their science requirement in biology, and 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 36 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 encouraged. It is highly recommended that students choosing the sociology emphasis should take courses in other disciplines which will provide a broad insight into the human condition, whether these courses are in the humanities, sciences, or other social sciences. Students are encouraged to use this knowledge in their departmental courses.

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 20 semester hours in anthropology. These courses must include Anthropology 100 (Sociology 100 or Sociology 110 may be substituted) and at least four credits of ethnography (Anthropology 222, 232, 242 or Sociology 255). *[Note: With the possible exception of Sociology 100 or Sociology 110, courses for the minor should be selected either from the list of anthropology courses or the list of integrated anthropology/sociology courses. Only with special permission may they include courses from the list of sociology courses.]*

II. Sociology Minor

A minor in sociology requires that students take a minimum of 20 semester hours in sociology. These courses must include Sociology 100 or Sociology 110, (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 should be selected either from the list of sociology courses or the list of integrated anthropology/sociology courses. Only with special permission may they include courses from the list of anthropology courses.]*

ANSO-200. Methods in Anthropology and Sociology Ms. Usery

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, they will examine the relationship between research and theory. Prerequisites: Any 100-level Anthropology or Sociology course, Mathematics 241 as a pre- or co-requisite, or permission of the instructor. Three hours of lecture and discussion plus two hours of lab per week. *Four semester hours.*

ANSO-381. Anthropology and Sociology Internship Faculty

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

ANSO-382. Anthropology and Sociology Internship Faculty

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 information. Prerequisites: A major in anthropology and sociology, at least 12 credits in anthropology/sociology, and approval of the Department internship adviser. 120 hours per semester. *Three semester hours.*

ANSO-400W. History and Theories of Anthropology and Sociology Dr. Gallagher, 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: Any 100-level course in Anthropology or Sociology, and Anthropology/Sociology 200. Three hours per week. *Four semester hours.*

ANSO-460. Seminar in Anthropology and Sociology *Faculty*

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 or Sociology, ANSO 200 and ANSO 400W. 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, Dr. Oboler*

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-222. Drugs for Mind and Body *Dr. Gallagher*

An analysis of the uses of both medicinal and mind altering drugs with emphasis on the original inhabitants of the Americas and a comparative look at their uses in the United States today. While the primary focus of this course is on the utilization of drugs, we can only understand the use within the context of the societies as a whole; therefore, we will also read several ethnographic accounts of Native American societies in which these drugs were used. Prerequisite: ANTH-100. Three hours per week. *Four semester hours.*

ANTH/GWMS-225. Gender and Kinship Cross-Culturally *Dr. Gallagher, Dr. Oboler*

The structure of sex and gender roles has important implications for marriage, the family, and kinship in all societies. This course examines sex and gender roles, sexuality, mate selection, marriage customs, divorce, childbearing, parenting, spousal and other kin relations, across the spectrum of world cultures. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours.*

ANTH-232. Adaptation in the Pacific and East Asia *Dr. Gallagher*

This course will explore the physical and spiritual views of the peoples of the Pacific and East Asia both pre- and post-Western contact. On the physical side, we will study topics such as the navigation techniques of the Pacific Islanders domestication of plants in New Guinea and the Pacific and the relationship to nature and the many inventions of East Asian cultures. On the spiritual side, we will explore the religions of China, Japan, and Austronesia, and the impact of contact with the West as seen in the Cargo Cults of the Pacific. Prerequisite: ANTH-100 or permission of the instructor. 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 Sociology or permission of the instructor. Four hours per week. *Four semester hours.*

ANTH-251. Intermediate Topics in Anthropology Faculty

An occasional course which will focus on special topics in anthropology. This course is offered as needed. Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

ANTH/ENV-252. Peoples and Their Environments Dr. Oboler

Human cultural patterns and social institutions are adaptations to particular physical and social environments and also have impacts on those environments. This course is concerned with the relationship between environments and subsistence systems on the one hand, and social/political institutions and belief systems on the other, using case studies from a variety of traditional societies. We will also consider the relationship between the global ecosystem and problems of Third World development, patterns of peasant production, causes and consequences of rapid population growth, and the fate of indigenous peoples. Prerequisite: ANTH-100 or permission of the instructor. Three hours per week. *Four semester hours.*

ANTH-262. Psychological Anthropology Dr. Oboler

We will use writings by anthropologists and psychologists to examine the influence of cultural values and practices in shaping individual personality patterns and cognitive processes in various world societies. Topics will include studies of culture and perception: different cultural practices in the socialization of children; problems of measuring psychological traits across cultures; the interplay of socialization, environment, and personality; culture, "normalcy," and deviance; shamanism, trance, and spirit possession; and culture-specific psychoses. Prerequisite: ANTH-100 or permission of the instructor. Three hours per week. *Four semester hours.*

ANTH-273. Anthropology Applied to Contemporary Human Problems Dr. Oboler

Professional anthropologists who work in academic settings are now outnumbered by those applying their expertise to real-world issues. The aim of this course is to introduce students to the work being done in such fields as forensic and medical anthropology, socioeconomic development, corporate anthropology, and cultural resources management. We also consider how the insights of anthropology contribute to our understanding of such contemporary human problems as crime, war and violence, rapid population growth, world hunger, and the widening gap between rich and poor. Prerequisite: Anthropology 100 or written permission of the instructor. Three hours per week. *Four semester hours.*

ANTH-351. Advanced Topics in Anthropology Faculty

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

ANTH-371. Readings in Anthropology I Faculty

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 Department 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, and have completed at least four courses toward the major. Six to eight hours of reading per week. *Two semester hours.*

ANTH-372. Readings in Anthropology II Faculty

A continuation of Anthropology 371. Prerequisites: A student must be a major in anthropology and sociology, and have completed at least four courses toward the major, and have completed Anthropology 371. Six to eight hours of reading per week. *Two semester hours.*

ANTH-390. Research Faculty

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: Major or minor status and eight credit hours in the Department and the permission of the instructor. *Four semester hours.*

ANTH-491. Research/Independent Work Faculty

This course is open to candidates for Departmental honors and to other students with the permission of the Department chair. Prerequisites: Junior or senior status with a minimum of 16 semester hours in anthropology and sociology and the permission of the Department chair. *Four semester hours.*

ANTH-492. Research/Independent Work Faculty

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. Gallagher, Prof. Ussery

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.*

Note: Students may not receive credit for both SOC-100 and SOC-110.

SOC-110. Contemporary Social Issues Faculty

This course will analyze a variety of current social issues from a sociological perspective. Issues selected will vary from semester to semester but we will include topics such as poverty, homelessness, access to medical care, and the death penalty. Class, race, and gender issues will be central to this course. Three hours per week. *Four semester hours.*

Note: Students may not receive credit for both SOC-100 and SOC-110.

SOC/GWMS-227. Marriage and the Family Dr. Oboler, Dr. Gallagher

This course examines transitions, continuity, and variations in marriages and families in the 20th century United States, with some historical, cross-cultural, and cross-national comparisons. The implications of shifts in public policy for "traditional" and non-traditional families are considered, as well as possible and probable future change in family patterns. Prerequisite: Any 100-level course in Anthropology or sociology, or permission of instructor. Three hours per week. *Four semester hours.*

SOC-235. Sociology of Religion Dr. Gallagher

The sociological study of religion explores the profound impact religion has on our society today as well as the impact that society has on religion. We will analyze the role of religion in reinforcing beliefs, in contributing to social stability, and in advocating change. We will spend some time exploring the religious beliefs of small, traditional non-Western societies and large, complex non-Western societies. We will spend the majority of our time analyzing our own society including the impact of class, race and gender on religious beliefs. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

SOC-237. Alternative Societies *Dr. Gallagher*

We live in a world we are taught to understand. We think about this world through the shared language and culture of our society which are tools we are not born with but acquire. Our collective understandings make it easier to communicate with each other, but also make it difficult to question the basic tenets of our society. In order to be able to view ourselves more critically, we need to escape the confines of our society and view ourselves from a perspective outside these boundaries. We will accomplish this goal by exploring alternative ways of understanding the world. We will begin by exploring some general ideas about Utopian societies, we will follow that by looking at an alternative history of the United States of America. We will examine a 20th century construction of a communal society, and then study the Old Order Amish.

Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

SOC-245. Equality and Inequality *Faculty*

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-247. Urban Sociology *Prof. Ussery*

This course presents an interdisciplinary and dynamic image of American urban development. We will clarify the context in which race and racially related concepts (such as race, racism, ethnicity, discrimination, prejudice) are important analytical constructs for urban development and discourses about cities. This course will examine the urban (and in many cases, the suburban) experiences of immigrants and Black migrants; the often contentious relationship between industrialists and industrial workers; the role politics and political maneuvering plays in urban projects; and the future course of cities as our social and economic infrastructure becomes increasingly global and de-industrial. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

SOC-255. 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-256D. "Other" Minorities *Dr. Oboler*

Characteristics other than race and ethnicity cause many people to become objects of prejudice and discrimination by the mainstream of society. This course examines the experiences of members of these "other" minorities. Homosexuality, physical and mental disability, and religious minority status are some of the characteristics that will be considered. Prerequisite: Soc. 100 or permission of the instructor. Three hours per week. *Four semester hours.*

SOC-258. African American Experience *Prof. Ussery*

This class explores the experiences of African Americans in the U.S. with the dual focus of exploring the historical context of Black life and many of the contemporary issues facing African Americans. We cannot discuss the position of African Americans in the U.S. without critically examining race and discrimination. Race is a concept that encompasses more than a commonsense understanding, thus, it is one objective of this course to think about the historical development and current manifestations of race in the lives of African Americans. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

SOC-260. Intermediate Topics in Sociology *Faculty*

An occasional course which will focus on special topics in sociology. This course is offered as needed. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

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SOC/GWMS-263. Gender in Contemporary Society *Dr. Oboler*

After initial examination of the causes of sex differences, focus is placed on the modern American sex/gender role system: socialization and education; economic, political, religious, and family roles; sexual inequality; and gender-based public policy issues. Some cross-cultural and cross-national comparisons are made. Prerequisite: Any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours.*

SOC/GWMS-264. Gender, Race and Work *Prof. Ussery*

This course examines the intersection of race and class relations as they affect the work trajectories and experiences of women in the United States. According to various social indicators, women and their children remain disproportionately poor, undereducated, unemployed. These facts have led some social scientists to posit that poor women and children in the U.S. are becoming a seemingly permanent urban underclass. This course explores the way in which the intersection of systems of social organization (race, class, work and gender) operates as a "containment field" so that certain workers do not have legitimate access to power. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

SOC-265. Criminology *Dr. Gallagher*

Criminology is designed to introduce students to the field. In this course we will look at what constitutes criminal behavior, criminal law, and our system of criminal justice. Students will be introduced to the theoretical explanations used by social scientists and others to account for crime. Students will also learn about the production and collection of crime data, and about the "criminogenic" features of modern societies, particularly the United States. Three hours per week. *Four semester hours.*

SOC-275. 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-277 through SOC-280. Readings in Social Thought and Action *Dr. Oboler*

This is a student-initiated tutorial designed as an opportunity for students to read classic and current writings in social theory and social action. Students may register for a maximum of four semesters of the class, and no readings will be repeated within a four-semester cycle. Prerequisites: open to students who have completed three semesters of college work. Graded S/U. One hour per week. *One semester hour.*

SOC-295. Sociology of Medicine *Dr. Gallagher*

The Sociology of Medicine is an exploration of the health care system from the perspective of the people and institutions who provide health care as well as from the perspective of the recipients of health care. Special emphasis will be given to issues of race, class, gender, religious beliefs, and other aspects of diversity. Prerequisite: None. Three hours per week. *Four semester hours.*

SOC-360. Advanced Topics in Sociology *Faculty*

An occasional course which will focus on special topics in sociology. This course is offered as needed. Prerequisites: Any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours.*

SOC-375. Readings in Sociology I *Faculty*

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 Department 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, and have completed at least four courses toward the major. Six to eight hours of reading per week. *Two semester hours.*

SOC-376. Readings in Sociology II Faculty

A continuation of Sociology 375. Prerequisites: A student must be a major in anthropology and sociology, and have completed at least four courses toward the major, and have completed Sociology 375. Six to eight hours of reading per week. *Two semester hours.*

SOC-391. Research Faculty

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: Major or minor status and eight credit hours in the Department and the permission of the instructor. *Four semester hours.*

SOC-491. Research/Independent Work Faculty

This course is open to candidates for Departmental honors and to other students with the permission of the Department chair. Prerequisites: Junior or senior status, with a minimum of 16 semester hours in sociology and anthropology and permission of the Department chair. *Four semester hours.*

SOC-492. Research/Independent Work Faculty

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

Art

Professor Xaras (Chair); Assistant Professors Camp, Kalb; Adjunct Professor Hanover.

Studio art and art history offerings focus on the preparation of students in the creation of art, the critical study of art history and the appreciation of visual culture as an integral part of their liberal arts experience. Coursework covers the broad cultural and intellectual context of human civilization, from a visual and historical perspective, and provides an important framework for advanced study in making and interpreting art and the environment. The curriculum integrates art historical foundations with the hands-on creation of art, moving from general survey and introductory courses to advanced studio work, historical studies, and museum practices. The rich resources of the Philip and Muriel Berman Museum of Art and the Philadelphia region will be integral to the learning process. The art major and minors in studio art and art history provide students with an understanding of the human experience through visual and aesthetic means and prepare them for further study in the post-graduate arena, professional internship opportunities, and can serve as a springboard for other professions in the arts.

Studio Art classes are numbered 101-149; 200-249; 300-349; and 400-449.

Art History classes are numbered 100; 150-199; 250-299; 350-380; 450-489.

Internships (381, 382) and departmental honors (491, 492) are used for both studio art and art history.

An art materials fee is required for all studio art courses.

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Major in Art

A major in art consists of 40 credits in studio art and art history. Students may concentrate in either studio art or art history. Requirements:

1. Two studio art courses: Art 101 and one of the following: Art 102, 104, 106, 130, 303;
2. Art 150 or 160;
3. Art 170W;
4. Five electives selected from Art department courses, including a minimum of 2 courses at the 300 or 400 level;
5. One capstone course (Art 401, 450W, 492). The Capstone experience includes a research project or a student exhibit as well as an oral presentation. Student concentrating in studio art will complete a professional portfolio and will use Art 401 or 492 as the capstone. Students concentrating in art history will use Art 450W or 492 as the capstone;
6. Study abroad in an approved program or an off-campus internship in an art institute or coursework at an approved art program.

Strongly recommended: 2 semesters of a foreign language at the 200 level or above.

Minor in Studio Art

A minor concentration in studio art consists of 20 credits in art. Four courses in studio art (Art 101-106; 130; 201-206; 300 or 400 level studio art classes) and one course from the following: Art 100, 150, 160, 170W. Art 101 is strongly recommended.

Minor in Art History

A minor concentration in art history consists of 20 credits. Two courses selected from Art 150, 160, 170W, and one course at the 300 or 400 level, excluding the internship, are required. One course in studio art is strongly recommended and may be included in the 20 credits.

ART-100. Introduction to the Visual Arts *Faculty*

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. *Four semester hours.*

ART-101. Drawing I *Mr. Xaras*

This course teaches students perceptual drawing, including drawing technique, the study of form through the use of line, shape, light and shade, and pictorial composition. We will work with still life, landscape and the figure. Students are expected to develop a portfolio of work outside of the formal class meetings. We will work in a variety of drawing mediums such as pencil, charcoal, conte, pen and ink, and pastels. Intended for freshmen and sophomores. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

ART-102. Painting I *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-104 The Art of Photography I *Mr. Camp*

To explore the expressive qualities of black & white photography as an art form, the student will learn the use of the camera and basic darkroom techniques. The student will learn how to see photographically through a study of contemporary and historical photography, as well as through practical exercises. Students are expected to develop a portfolio of work outside the class meetings. Intended for freshmen and sophomores. Three hours per week plus extensive individual work. *Four semester hours.* Art materials fee.

ART-105. Printmaking I *Mr. Xaras*

This course introduces students to the art of printmaking. Students will study relief printing, linoleum block, woodcut in both traditional black and white and color, using multiple blocks, and monotype. Introduction to etching. Students are expected to develop a portfolio of work outside the class meetings. Intended for freshmen and sophomores. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

ART-106. Sculpture I *Faculty*

An introduction to three-dimensional art using traditional sculpture techniques, terra-cotta and plaster. Modeling, casting and carving in a variety of mediums. Introduction to wheel and pinch pottery. Students will work directly from the live model in figure and portrait. Intended for freshmen and sophomores. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

ART/TD-130. Introduction to Design *Faculty*

In this studio class, students will be introduced to principles of theatrical design and the artistry of imagination. They will explore how theater designers think about images and use elements such as line, shape, space, mass, texture, light and color to create visual expression and communicate dramatic intention in three-dimensional space. Students will gain an understanding of the effect of lighting, scenic and costume design choices for theater and dance productions. Four hours per week. *Four semester hours.*

ART-150. History of Art I: Ancient Through Early Christian and Byzantine *Dr. Kalb*

An exploration of the stylistic and conceptual developments of Western architecture, painting and sculpture from prehistory through the Byzantine period. A chronological survey and inquiry into questions of form and meaning will guide an investigation of the relationship between art and society. An interdisciplinary approach will be taken. Three hours per week of discussion of assigned readings and museum trips. *Four semester hours.*

ART-160. History of Art II: Medieval to Baroque *Dr. Kalb*

A study of architectural monuments, paintings, sculptures, manuscripts and frescoes from the Medieval through the Baroque periods. A chronological approach and an inquiry into form and meaning will guide an exploration into the changing concept of space, time and society. Readings from other disciplines will be used to examine contextual issues, such as the political and religious uses of arts, the relationship between art and science, and the ways in which visual imagery is related to social behavior. Three hours per week of discussion of assigned readings and museum trips. *Four semester hours.*

ART-170W. History of Art III: the 18th Century To the Present *Dr. Kalb*

An exploration of the origins of modern painting, sculpture and architecture in Europe and North America, and a survey of key artistic movements. Attention will be paid to profound social and political transformations by examining a variety of issues, such as class and gender, reception and spectatorship, racism and Eurocentrism. A writing intensive course with an introduction to research practices. Three hours per week of discussion of assigned readings and museum trips. The resources of the Berman Museum will be utilized. Prerequisite: English 100. Three hours per week. *Four semester hours.*

ART-201. Drawing II *Mr. Xaras*

A continuation of the study of form through drawing emphasizing more sustained studio work. Students must develop their techniques in significant independent work beyond the contact hours. Students are expected to develop a portfolio of work outside the class meetings. Prerequisite: Art 101 or permission of instructor. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

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ART-202. Painting II *Mr. Xaras*

A continued study of form through the use of color, building on skills acquired in Painting I. Classroom work will consist of painting from life, landscape and figure objects, but emphasis will be on more sustained work and personal exploration. Students will develop a portfolio and expand their techniques in significant independent work beyond the contact hours. Prerequisite: Art 102 or permission of instructor based on portfolio. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

ART-204. The Art of Photography II *Mr. Camp*

A continuation of Art 104. Students will investigate spaces and places defined by time with visual tools that record light. They will convert cultural, social, political, and philosophical issues into visual statements using the medium of photography. Students are expected to develop a portfolio of work outside class meetings. Prerequisite: Art 104 or permission of the instructor. Three hours per week plus extensive individual work. *Four semester hours.* Art materials fee.

ART-205. Printmaking II *Mr. Xaras*

A continuation of Printmaking I. Emphasis on etching as well as an introduction to lithography and silk screen printing. Students are expected to develop a portfolio of work outside the class meetings. Prerequisite: Art 105 or permission of the instructor. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

ART-206. Sculpture II *Faculty*

A continuation of Sculpture I. Students will further develop their skills in terra-cotta, stone and wood carving as well as learn special techniques such as medallion work. Prerequisite: Art 106 or permission of the instructor. Three hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee.

ART-250. Special Topics in Art History *Dr. Kalb*

A focused exploration of special subject areas and/or periods in Western, Asian and African art. Students will utilize regional museums and archives for individual research projects. Museum trips required. This course could also be held off campus. Open to all students although a course in art history is strongly recommended. Three hours per week. *Four semester hours.*

ART-260. Special Topics in Art History — International Experience *Faculty*

An international experience in which a focused exploration of special subject areas and/or periods in art is conducted abroad. Individual research projects and group museum and historic site excursions required. Open to all students although a course in art history is strongly recommended. *Four semester hours.*

ART-270. History of Photography *Mr. Camp*

An introduction to photographers and their images from 1829 to the present with attention to photographic images created from diverse cultural perspectives. Emphasis is on the development of photography as a fine art. Readings will be selected from artists and critics in the field. Classes are discussion based and museum trips are required. Open to all students. Three hours per week. *Four semester hours.*

ART-303. Special Topics in Studio Art *Faculty*

The course offers an opportunity to develop creative ability using various two and three-dimensional media. The specific course focus will vary from semester to semester, but topics may include graphic design, ceramics, advanced scenic design and other topics of interest to students. Prerequisite: one studio art course or permission of the instructor. Three hours per week plus extensive individual work. *Four semester hours.* Art materials fee.

ART-350. Special Topics in Art History *Faculty*

A focused exploration of special subject areas and/or periods in art. Students will utilize regional museums and archives for individual research projects. Museum trips required. This course could also be held off campus. Prerequisite: Art 150 or 160 or 170W or permission of instructor. Three hours per week. *Four semester hours.*

ART-360. Museum Studies *Ms. Hanover*

An introduction to the social and political history of museums, as well as the structure, function and practices of museums in America and Europe. The Berman Museum will be our laboratory, and independent projects will focus on objects from the Museum's collections. Outside scholars and specialists will offer in-depth examination of selected topics. Visits are made to regional museums. Three hours per week. *Four semester hours.*

ART-370. American Art *Faculty*

An examination of American painting, sculpture and architecture in the United States from its earliest settlement to World War II. Emphasis is placed on the relationship between artistic production/content and the prevailing social and political conditions. Issues to be explored include: art as the expression of personal and national identity; public censorship; the artist's role and status in society; and art as a cultural commodity. The Berman Museum and the museums of Philadelphia will be used extensively. Three hours per week. *Four semester hours.*

ART-381. Art Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact art faculty for further details. Prerequisites: approval of an internship adviser and three courses in art. 120 hours. *Three semester hours.*

ART-382. Art Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact art faculty for further details. Prerequisites: approval of an internship adviser and three courses in art. 160 hours. *Four semester hours.*

ART-401. Special Projects in Fine Art *Faculty*

Advanced independent work on a creative project approved and supervised by a faculty adviser. An oral presentation is required. Prerequisite: A juried portfolio or other creative works. *Four semester hours.* Art materials fee.

ART-414W. Seminar in the History of Art *Faculty*

In the course, students will further develop research criteria and techniques, using museum and library resources, in topics in a specific era of art history. An oral presentation is required. Prerequisite: English 100, Art 170 or permission of instructor. Three hours per week. *Four semester hours.*

ART-491. Research/Independent Work *Faculty*

This course is open to candidates for departmental honors and to other students, with the permission of the instructor. *Four semester hours.* Art materials fee for studio art project.

ART-492. Research/Independent Work *Faculty*

A continuation of ART-491. An oral presentation is required. Prerequisite: Art-491. *Four semester hours.* Art materials fee for studio art project.

Biochemistry and Molecular Biology

Professors E. Dawley, R. Dawley, Hess, Levy, Sidie, Small, Tortorelli; *Associate Professors* Bailey, Goddard, Lobo, Price, Ruttledge, Williamsen; *Assistant Professors* Kohn, Lyczak, Popescu, Roberts.

Biochemistry and Molecular Biology (BCMB) is an interdisciplinary major that includes courses in biology, chemistry, mathematics, and physics. Students pursuing this major will explore the chemical interactions that underlie life's diversity. Courses in the major will cover the theoretical basis of knowledge in biochemistry and molecular biology, and the experimental strategies used by scientists in these fields. Laboratories will foster creative experimental work by students and familiarize them with current techniques and equipment

used by biochemists and molecular biologists. It is the goal of this program to prepare majors for graduate study in biochemistry and molecular biology, post-baccalaureate study in the health sciences, and careers in the pharmaceutical and biotechnology industries.

Requirements for Biochemistry and Molecular Biology Majors

A major in Biochemistry and Molecular Biology requires BCMB-307 (or CHEM-309), 351, 426W or 429W or 433W, 452W; Biology 111WQ, 212WQ, 213; Chemistry 105, 105a, 106, 106a, 205, 205a, 206, 206aQ, 313, 309a or 314a; Mathematics 111, 112; and Physics 111Q.

BCMB-291. Introduction to Research Faculty

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. This course may be taken more than once. Prerequisites: Chemistry 105a, Biology 111WQ, and permission of the research adviser. Three hours of laboratory per week. Graded S/U. *One semester hour.*

BCMB-307. Physical Chemistry for the Life Sciences Dr. Popescu

A study of thermodynamics, transport properties and kinetics as applied to biological systems. Prerequisites: Chemistry 206; Math 112; Physics 111Q. Three hours per week. *Three semester hours.*
Note: Students may not receive credit for both BCMB-307 and CHEM-309.

BCMB-351. Biochemistry I Dr. Ruttledge, Dr. Roberts

The study of properties, structure, synthesis and function of proteins, carbohydrates, lipids, and nucleic acids. Enzyme catalysis, metabolism of biomolecules, and the biochemical basis of selected physiological processes are also included. Prerequisites: Biology 213 and Chemistry 205, 205a, 206 and 206aQ, or permission of instructor. Three hours of lecture; three hours of laboratory. *Four semester hours.*
Note: Students may not receive credit for both BIO-315 and BCMB-351.

BCMB-381. Internship Faculty

An off-campus academic/work experience. Before beginning the internship, the student must submit a proposal to be approved by both BC & MB faculty and the on-site supervisor. Upon completion of the work, written and oral presentations must be made to the department. Prerequisites: Biology 213 and Chemistry 206aQ. Ten-12 hours per week with a minimum of 160 hours for one semester or four weeks of full-time work. Graded S/U. *Four semester hours.*

BCMB-391. Research/Focused Inquiry Faculty

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Upon completion of the work, written and oral reports must be presented to the BCMB program. This course may be taken more than once. Prerequisites: Chemistry 205a and Biology 212WQ, or BCMB-291 and permission of the research adviser. Six hours of laboratory per week. Graded S/U. *Two semester hours.*

BCMB-426W. Molecular Biology Dr. Lobo

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 (the same course as BIO-426W). This course (together with BCMB-452W) fulfills the capstone, oral and writing requirements within the major. Prerequisites: Biology 213; or permission of the instructor. (Same as BIO 426W). Three hours of lecture; three hours of laboratory. *Four semester hours.*

BCMB-429W. Structural Biology *Dr. Roberts*

An introduction to the principles of protein and DNA structure, X-ray crystallography, structure visualization and interpretation, and bioinformatics. The use of these concepts to understand biological function at the level of individual molecular interactions and at the level of complex processes will be demonstrated through specific biological examples. Laboratory work will emphasize structure-determining techniques and use of scientific databases and protein visualization software. Prerequisite: Biology 213; or permission of the instructor. (Same as BIO-429W). Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BCMB-433W. Molecular Neurobiology *Dr. Kohn*

A study of the cellular and molecular basis of neuronal function. The course includes molecular properties of neurons, release of neurotransmitters, receptors in synaptic transmission, effects of drugs, synaptic plasticity, and neurological disorders. Prerequisites: Biology 213; or permission of the instructor. (Same as BIO-433W and NEUR-433W). Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BCMB-452W. Biochemistry II *Dr. Roberts, Dr. Rutledge*

The study of diverse, complex interactions among biomolecules introduced in BCMB-351, considering both natural (in vivo) and artificial (in vitro) contexts. Cellular mechanisms underlying the regulation of biomolecular interactions and their relevance to selected areas of discovery are also included. This course (together with BCMC-426W) fulfills the capstone, oral and writing requirements of the major. Prerequisite: BCMB-351. Three hours of lecture; three hours of laboratory. *Four semester hours.*

BCMB-491. Independent Research *Faculty*

Independent laboratory and library investigation in biochemistry and/or molecular biology, with oral progress reports and a research paper presented to the department faculty. Prerequisites: BCMB-351 (or concurrently) and written consent of research adviser and department. 12-14 hours of laboratory per week. *Four semester hours.*

BCMB-492W. Independent Research *Faculty*

A continuation of BCMB-491 with a final seminar and thesis describing research work. Emphasis is placed on oral and written presentation, as well as advanced laboratory techniques. Prerequisites: BCMB-491W, BCMB-452W (or concurrently). 12-14 hours of laboratory per week. *Four semester hours.*

Departmental Honors in Biochemistry and Molecular Biology

Students successfully completing BCMB-491/492 may be awarded honors but no additional credits will be given. Description of the honors program, including qualifications, is detailed in this catalogue.

Biology

Professors Allen, E. Dawley, R. Dawley, Fields (*Chair*), Sidie, Small; *Associate Professors* Bailey, Goddard, Lobo; *Assistant Professors* Kohn, Lyczak, Roberts.

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.

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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 111WQ, 212WQ, 213 and one of the following capstone courses: Biology 415W (or ENV-415W), 424W, 426W (or BCMB 426W), 429W (or BCMB 429W), 431W (or NEUR-431W), 433W (or BCMB 433W or NEUR 433W), 442W, 449W, 459W, 492W, BCMB 452W.

II. Distribution requirements:

- A. Molecular/Cellular Biology. At least one course must be completed from the following: Biology 345, 346, 426W (or BCMB 426W), 429W (or BCMB 429W), 431W, 433W (or BCMB 433W or NEUR 433W), 449W, BCMB 351, 452W.
- B. Physiology and Anatomy. At least one course must be completed from the following: Biology 305, 306, 335, 349.
- C. Organismal/Population Biology. At least one course must be completed from the following: Biology 222, 232, 250, 310, 320, 330, 333, 334, 415W (or ENV-415W), 424W, 442W.

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 (Biology 391, 392, 481, 485, 491, 492W), including no more than 3 credit hours from among Biology 391 and 392, may be applied to the major. A maximum of 12 credit hours of research, including no more than 3 credit hours from among Biology 391 and 392, may be applied to graduation.

IV. Required of all majors:

- A. Chemistry: 105/105a and a choice of 106/106a or 206/206a.
- B. Mathematics/Computer Science: Any two of the following – Mathematics 111, 112, 241Q, 242, 243, 271.

V. Recommended to all majors:

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

Requirements for Minors in Biology

A minor concentration in biology consists of Biology 111WQ, 212WQ, 213, and at least 8 additional elective credits in biology, exclusive of internships or research.

Requirements for Minors in Neuroscience

A minor in neuroscience consists of Biology 431W (or NEUR-431W); Psychology 110, 320 and 325; and either Biology 481, 482, 491 or 492 (approved topic applicable to the neurosciences) or Psychology 481, 482, 491, or 492 (approved topic applicable to the neurosciences). Psychology 327 is recommended but not required.

Special Career Interests

- I. Students seeking admission to graduate programs in biologically related fields should note the following:
 - A. A second year of chemistry is strongly recommended.
 - B. A fifth course in chemistry is recommended.
 - C. Mathematics/Computer Science 241, 242, 243 and 271 are recommended.
 - D. 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:
 - A. Physics 100Q or 111Q is required; a year of physics is recommended.
 - B. Geology 105Q is required.
 - C. Two mathematics courses are required from among Mathematics 111, 112, 241Q, 242, 243, 271.
 - D. Chemistry 105/105a and a choice of 106/106a or 206/206a are required.
 - E. It is highly recommended that prospective teachers serve at least one semester as departmental assistants.
 - F. Dual certification in general science is highly recommended.
 - G. 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. Students and their advisers should consult the Ursinus College Education Department.
- III. Students seeking admission to schools of medicine, dentistry, veterinary medicine, optometry and podiatry should note the following:
 - A. Two years of chemistry and one year of general physics for science majors are required by all of the above schools.
 - B. Many schools also require one full year of English and some specify one or two semesters of calculus.
 - C. 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:
 - A. Mathematics 241Q, 242, and 271 are strongly recommended.
 - B. Business and Economics 100 and 140 are recommended.
 - C. Additional coursework in communication arts is recommended.
 - D. Additional courses that emphasize writing are recommended.

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BIO-100Q. Introduction to Biology *Dr. Fields, Dr. Allen, Dr. Small*

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. *Four semester hours.*

Note: Students who have received credit for either BIO-111Q or 112Q or 111WQ, 212WQ or 213 may not enroll in 100Q.

BIO-111WQ. Organisms and Evolution *Dr. E. Dawley, Dr. R. Dawley, Dr. Fields, Dr. Small*

Examines the adaptations, ecology, and systematics of organisms in the light of Darwinian theory and the scientific method. Field and laboratory exercises emphasize independent investigation. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

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 111WQ or permission of the instructor. Two hours of lecture; two hours of laboratory and/or discussion. *Four semester hours.*

Note: BIO-100Q and 200 may not be used for elective credits in biology for biology majors or minors.

BIO-200b. Environmental Science *Dr. Sidie*

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. *Four semester hours.*

Note: BIO-100Q and 200 may not be used for elective credits in biology for biology majors or minors.

BIO-212WQ. Cell Biology *Dr. Kohn, Dr. Bailey, Dr. Lobo, Dr. Roberts, Dr. Sidie*

An exploration of the molecular structure and function of cells, emphasizing cellular organelles, biochemical reactions in cells, membranes, movement of vesicles in secretory and endocytic pathways, roles of the cytoskeleton, cell signaling, regulation of the cell division cycle, cell-cell communication, and cell differentiation. Prerequisites: BIO-111WQ or permission of the instructor. Three hours of lecture per week and three hours of laboratory per week. *Four semester hours.*

Note: Students who have received credit for BIO-225 may not receive credit for BIO-212WQ.

BIO-213. Genetics *Dr. Goddard, Dr. Kohn, Dr. Lyczak*

Examines the basic principles of classical, molecular, and population genetics and introduces experimental methods used in these fields of investigation. Past, current and future issues in the application of genetics, including eugenics, genetic engineering, gene therapy, genetic testing and conservation genetics, are featured. Prerequisite: BIO-212WQ, or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

Note: students who have received credit for BIO-226 may not receive credit for BIO-213.

BIO-222. Vertebrate Biology *Dr. Allen*

A study of the diversity, lifestyles and adaptations of modern vertebrate animals and their interactions with one another and with the environment. Prerequisite: BIO-213; or permission of the instructor. Three hours of lecture 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. Prerequisite: BIO-213; 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, habitation, conditioning, pheromones, social behavior, sensory signals and territoriality. Pre- or co-requisite: BIO-232. Three hours of laboratory per week. *One semester hour.*

BIO-250. Environmental Biology *Dr. Sidie*

A study of the biological basis of environmental issues. Includes ecosystems, communities, populations, water, energy, geologic resources, biodiversity, weather/climate, pollution, agriculture/hunger, soil resources/pests, solid/toxic hazardous waste, toxicology, land use. Prerequisite: BIO-100 or BIO-111WQ; or permission of the instructor. Three hours of lab/discussion/simulations/writing per week. *Four semester hours.*

BIO-305. Human Anatomy and Functional Morphology *Dr. Allen*

A study of the structure of human tissues, organs and organ systems and their contributions to the integrated functioning of the human body. Prerequisite: BIO-213; or permission of the instructor. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

BIO-306. Human Physiology *Dr. Bailey*

A study of the physiological processes that support the integrated functioning of the human body. Prerequisite: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO/ENV-310. Biological Oceanography *Dr. Goddard, Dr. Sidie*

A study of the biological bases of ocean science. Topics discussed include: ocean basins, seawater physics and chemistry, currents, waves, tides, upwelling zones, tidal rhythms in organisms, ocean habitats/biota, marine virology, marine microbiology, plankton, trophic relationships, hydrothermal vent communities, coral reefs. Prerequisite: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. (Course may be conducted in part at a marine field station). *Four semester hours.*

BIO/ENV-320. Biology of the Neotropics *Dr. E. Dawley, Dr. R. Dawley*

A field study of Costa Rican tropical habitats — including lowland rain forests, montane rain forests, seasonally dry forests, and wetlands — conducted at research sites throughout the country. Topics include diversity and natural history of key plants and animals, ecological interactions and evolutionary processes, and conservation. Prerequisite: Permission of the instructor and BIO-111WQ. Field investigations accompanied by readings, lectures, and a directed research project. Course will meet 15 hours on campus and three weeks in Costa Rica between the Fall and Spring semesters. *Four semester hours.*

BIO/ENV-330. Marine Biology *Dr. Sidie*

A field-oriented study of the important marine habitats including pelagic and benthic zones, and intertidal communities. Topics include marine biodiversity - plants, protists, invertebrates, vertebrates; marine ecology; primary production in the sea; estuaries; plankton; nekton; marine mammals; ocean pollution. Prerequisite: Permission of the instructor and BIO-111WQ. Lecture and field investigations. (Course conducted in part at a marine field station.) *Four semester hours.*

BIO-334. Plant Biology *Dr. Small*

A survey of the morphology and evolution of the monophyletic green plant clade, including the principles, theory and methodology underlying modern taxonomic systems. Available field time centers upon the morphology and taxonomy of the local vascular flora. Prerequisite: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four 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. Prerequisite: BIO-213 and CHEM-105 and 105a; or permission of instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-345. Microbiology *Dr. Lobo*

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: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

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BIO-346. Developmental Biology *Dr. Lyczak*

An investigation of the cellular and molecular mechanisms that control animal development. The role of developmental regulators and cell-cell communication in the embryo will be discovered in the context of fertilization, axis formation, gastrulation and organogenesis in a variety of model organisms. Laboratory work will focus on hypothesis-driven inquiry and will include analysis of both vertebrate and invertebrate development. Prerequisite: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-349. Experimental Physiology *Dr. Bailey*

An investigation of the basic principles of vertebrates. Included will be the study of cell physiology, organ function, and systems physiology, including the nervous, cardiovascular, respiratory, gastrointestinal and renal systems. The laboratory will emphasize cooperative problem-solving, experimental design, and independent investigation. Prerequisites: BIO-213 and CHEM-106,106a; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

Note: Students having received credit for BIO-306 may not receive credit for BIO-349.

BIO-350. Selected Topics in Biology *Faculty*

A course offered periodically in an area of special interest to students by a Faculty member or a visiting lecturer. Prerequisite: permission of the instructor. Three hours per week, plus either intensive writing or three hours of laboratory, depending on the topic. *Four semester hours.*

BIO-381. Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chairman of the department for further details. Prerequisites: Junior standing, nine credits in biology, and approval of a faculty internship adviser. Eleven to 14 hours per week. Graded S/U. *Four semester hours.*

Note: Students having received credit for BIO-485 or 486 may not receive credit for BIO-381.

BIO-390. Directed Study *Faculty*

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: BIO-212WQ and permission of Faculty supervisor. Graded S/U. *One semester hour.*

BIO-391. Directed Research *Faculty*

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. This course can be taken more than once. Prerequisite: permission of a participating Faculty member. Three hours of laboratory per week. Graded S/U. *One semester hour.*

BIO-392. Directed Research *Faculty*

Content as in BIO-391. This course can be taken more than once. Prerequisite: permission of a participating Faculty member. Six hours of laboratory per week. Graded S/U. *Two semester hours.*

BIO/ENV-415W. 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: BIO-213; or permission of the instructor. Three hours of lecture, three hours of laboratory per week. *Four semester hours.*

BIO-424W. Evolution *Dr. R. Dawley*

A study of the Darwinian theory of adaptation and natural selection, focusing on areas of current interest and controversy, such as its application to animal and human behavior and to the study of medicine and disease. Prerequisites: BIO-213; or permission of the instructor. Three hours of lecture per week. *Four semester hours.*

BIO/BCMB-426W. Molecular Biology *Dr. Lobo*

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 (the same course as BCMB-426W). Prerequisites: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO/BCMB-429W. Structural Biology *Dr. Roberts*

An introduction to the principles of protein and DNA structure, X-ray crystallography, structure visualization and interpretation, and bioinformatics. The use of these concepts to understand biological function at the level of individual molecular interactions and at the level of complex processes will be demonstrated through specific biological examples. Laboratory work will stress structure-determining techniques and use of scientific databases and protein visualization software. Prerequisite: Biology 213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO/NEUR-431W. Cellular Neurobiology *Dr. Sidie*

A study of the neuron structure and function. The course includes excitable cell membranes, ion channels, synapses, sensory receptors, neuronal integration, neuromuscular systems, coding of neural information, and computer simulation of neural systems. Prerequisites: Biology 213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO/BCMB/NEUR-433W. Molecular Neurobiology *Dr. Kohn*

A study of the cellular and molecular basis of neuronal function. The course includes molecular properties of neurons, release of neurotransmitters, receptors in synaptic transmission, effects of drugs, synaptic plasticity, and neurological disorders. Prerequisites: Biology 213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

BIO-442W. 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: BIO-213; or permission of the instructor. Three hours of lecture; three hours of laboratory and field investigations per week. *Four semester hours.*

BIO-449W. Immunology *Dr. Lobo*

A study of the cellular and humoral aspects of immunity in humans and other mammals. The course will cover interactions between mammalian hosts and bacterial, fungal, and viral antigens: tumor and transplantation immunology, vaccines and their development and the evolution of the immune system. Prerequisites: BIO-213; or permission of the instructor. BIO-345 is recommended. Three hours per week. *Four semester hours.*

BIO-459W. Virology *Dr. Goddard*

After an introduction to general virology, each virus family and its unique approaches to host cell entry, viral replication, and transmission will be discussed. Topics covered will include the social, historical and economic impact of human diseases such as yellow fever, and Ebola hemorrhagic fever, and important diseases of crops and agricultural animals. Prerequisites: BIO-213; or permission of the instructor. Four hours per week. *Four semester hours.*

BIO-481. Independent Research *Faculty*

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 can be taken more than once. Pre- or co-requisites: junior or senior standing, written consent of a faculty member who will serve as research adviser. Graded S/U. *Four semester hours.*

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BIO-485. Off-Campus Research Faculty

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 can be taken more than once. Prerequisite: Junior or senior standing and written consent of a faculty adviser. Eleven to fourteen hours per week. Graded S/U. *Four semester hours.*

Note: Students having received credit for BIO-381 may not receive credit for BIO-485.

BIO-491. Honors Research Faculty

Content as in BIO-481, but open only to candidates for departmental honors. Prerequisites: English 100, junior or senior standing, written consent of a faculty member who will serve as research adviser. *Four semester hours.*

BIO-492W. Honors Research Faculty

Content as in BIO-481, but offered in the spring term and open only to candidates for departmental honors. This continuation of BIO-491 fulfills the capstone, oral and writing requirements within the major. Prerequisites: junior or senior standing, written consent of a faculty member who will serve as research adviser. *Four semester hours.*

Business and Economics

Professors Bowers (Executive-in-Residence), Economopoulos, O'Neill; Associate Professors Harris (Chair), McLennan; Assistant Professors Cirka, Mudd; Instructor Ferrier.

In our rapidly changing global environment, students majoring in Business and Economics receive a broad understanding in the organizational structure of business and the dynamic forces of the economy within the global community. Our integrated curriculum offers students the opportunity to explore the interconnectedness between business decision-making, human relations, and market forces. Students become creative and thoughtful innovators by exploring and applying new business and economic paradigms. Our curriculum, along with the mentoring provided to students by our faculty, will equip future leaders in the areas of accounting, finance, management, economic and business research, government or international affairs.

Requirements for Major

All students majoring in the department must complete a minimum of 40 semester hours in Business and Economics as outlined below. In addition, majors must take either Math 105 or 111, or Math 107 and 108. (Students who have completed one year of high school calculus can request a waiver of the calculus requirement in the major.)

I. Required Courses

BE 100, BE 140, BE 211, BE 220, BE 230 and BE 320.

II. Elective Requirements

All students must take 3 additional courses. At least one elective must be at the 300 level. Students may take BE 391 (Independent Study) as elective credit for the major. BE 381 (Internship) and BE 001-004 may not count as elective credit for the major.

III. Capstone:

All students must complete a capstone experience: BE 490W, or BE 491& 492W

Requirements for Minor in Accounting

A minor concentration in accounting consist of 20 credits: BE 100, BE 140, 240, and two electives chosen from 241, 242, or 340.

Requirements for Minor in Economics

A minor concentration in economics consists of 24 credits: BE 100, 140, 211, 212, 220 and Math 105 or 111, or Math 107 and 108.

Requirements for Minor in Finance

A minor concentration in finance consists of 20 credits: BE 100, 140, and three from BE 270, 362, 370, 371, or 372.

Requirements for Minor in International Business

A minor concentration in international business consists of 20 credits: BE 100, 140, 211 or 212, 260, 361 or 362 or 363. Students are strongly encouraged to take advanced coursework in one of the Modern Languages.

Requirements for Minor in Management

A minor in management consists of 20 credits: BE 100, 140, 230, and two from BE 331/MCS352, PSYC 365, BE 260, BE 330, BE 334, or BE 430.

Note: Students majoring in Business and Economics may not elect minors in the department.

Note: Courses in economics, business, and accounting in the Ursinus Center for Continuous Learning may have different prerequisites and coverage from those in the department of Business and Economics. Thus, courses in the Center for Continuous Learning may be used for credit toward the major in Business and Economics only with the prior written permission of the department chair.

Special Career Interests

Accounting: Students interested in pursuing a career in accounting are encouraged to choose from the following electives: BE 240, BE 241, BE 242, BE 340.

Management: Students interested in pursuing a career in management or marketing are encouraged to choose from the following electives: BE 260, BE 330, BE 331/MCS352, BE 333, BE 380, BE 430, BE 480,

Public Policy in Economics: Students interested in pursuing a career in economics are encouraged to choose from the following electives: BE 212, BE 213, BE 311, BE 312, BE 313, BE 361, BE 363

Finance: Students interested in pursuing a career in finance are encouraged to choose from the following electives: BE 240, BE 270, BE 362, BE 370, BE 371, BE 372

International Business: Students interested in pursuing a career in international business are encouraged to choose from the following electives from the department: BE 212, 260, BE 361, BE 362, BE 363, BE 380 and Politics 242 or Politics 252 or History 207. Students are strongly encouraged to take advanced coursework in one of the Modern Languages.

Secondary School Teaching Certification

This program satisfies the Pennsylvania State requirements for secondary certification in social studies. Substantial further coursework outside of economics and education is required in order to prepare the student for subjects 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.

BE 001-004. Portfolio Management Lab *Dr. Economopoulos*

A learning experience in which students will assume the responsibility of managing a hypothetical financial portfolio. Students will be responsible for different sectors and financial instruments of the portfolio and will present current trends and analyses of their sectors. Recommendations will be presented to the class. End of semester oral presentation and written report is required. Prerequisite: at least sophomore standing. One hour per week. Graded S/U *One semester hour.*

BE-100. The Global Economy *Dr. Economopoulos, Dr. McLennan, Dr. O'Neill, Dr. Mudd*

An introduction to why nations trade, the extent of that trade and how trade affects nations. An overview of demand and supply is given with special emphasis on macroeconomic policy, income inequality, the environment and culture. In addition, an examination of how exchange rates, foreign direct investment and labor migration affect economies. Four hours per week. *Four semester hours.*

BE-110D. Race and Gender in the American Economy *Dr. McLennan*

The study of the issues of race and gender in the U.S. economy. We will evaluate the economic status of racial minorities and women. Issues include occupational segregation, wage differentials, educational attainment, affirmative action and labor market discrimination. Three hours per week. *Four semester hours.*

BE-140. Financial Accounting *Mrs. Harris*

An introduction to fundamental concepts, standards and problems underlying financial reporting of accounting information in the income statement, balance sheet and statement of cash flows. Spreadsheet applications of accounting problems. Three hours of lecture; two hours of computer laboratory per week. *Four semester hours.*

Note: BE-140 does not meet the College Core requirement as a social science.

BE-211. Managerial Economics *Dr. McLennan, Dr. O'Neill*

The study of the economic behavior of consumers, firms and managers. Optimal resource usage for corporations, not-for-profit organizations and government agencies is discussed. Topics also include market analysis, pricing decisions, forecasting and risk analysis. Prerequisites: BE 100, 140. Math 105 or 111, or Math 107 and 108. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

BE-212. Intermediate Macroeconomic Theory *Dr. Economopoulos, Dr. O'Neill*

The study of inflation, unemployment and economic growth within the context of the world economy. An examination of how exchange rates, taxes and Federal Reserve policies affect business and the performance of the U.S. economy. Business forecasting based on macroeconomic indicators is discussed. Prerequisite: BE 100. Three hours per week. *Four semester hours.*

BE-213. Economics of Environment and Natural Resources *Dr. McLennan*

Economic analysis is used to inform, analyze, evaluate current environmental and natural resource policy decisions. Analyses of environmental problems use cost-benefit or efficiency criteria. Topics include externalities, public goods, common property rights, and sustainability. Prerequisite: BE 100. Three hours per week. *Four semester hours.*

BE-220. Business Statistics *Mrs. Harris, Dr. McLennan, Dr. O'Neill*

An introduction to the collection, presentation and analysis of quantitative data in business and economic settings. An overview of measures of central tendency, deviations, correlation and simple regression. Introduction to SAS statistical software programming, data sources and data manipulation. Prerequisites: BE 100, 140. Three hours per week. *Four semester hours.*

BE-230. Management and Organizational Behavior *Dr. Cirka, Mr. Bowers*

The study of theories and practices in the fields of management and organizational behavior. Focus is on understanding how organizations function in a global business environment. Integrates the study of the behavioral sciences as a framework for understanding individual and collective behavior with study of the essential management function of planning, organizing, leading and controlling. Prerequisite: BE 100 and Sophomore Standing. Four hours per week. *Four semester hours.*

BE-240. Advanced Financial Reporting *Mrs. Harris*

An in-depth study of financial statement reports and disclosures, including their impact on decisions by managers, investors and creditors. Emphasis is on accounting for debt and equity financing, cash flows, and coverage of selected topics related to operating and investing activities. Prerequisite: BE 100, 140. Three hours per week. *Four semester hours.*

BE-241. Managerial Accounting *Mrs. Harris*

An analysis of accounting data used by management in planning and controlling business activities. Emphasis is on basic concepts of product costing, cost measurement systems, budgets and variances, and managerial decision-making. Prerequisites: BE 100, 140. Three hours per week. *Four semester hours.*

BE-242. Federal Income Tax Topics *Faculty*

An introduction to the federal income tax code, with focus on tax principles, policies and preparation for individuals and business entities. Prerequisite: BE 100, 140. Three hours per week. *Four semester hours.*

BE-260. International Business *Dr. Cirka, Mr. Bowers*

The study of firms operating across borders and how the domestic, foreign, and international environments affect all functional and strategic managerial decisions. Topics include economic theories of international business, the international monetary system, and the influence of economic, political, legal, cultural, and labor forces on the international firm. Implications on marketing, human resource management, financial management, organization design and control are discussed. Prerequisite: BE 100. Three hours per week. *Four semester hours.*

BE-270. Financial Markets and Institutions *Dr. Economopoulos*

The study of financial instruments — their markets, risk, and returns, and major financial intermediaries - their sources and uses of funds, their operative and regulatory constraints, and their impact on aggregate economic activity. Prerequisite: BE 100. Three hours per week. *Four semester hours.*

BE-311. Health Economics *Dr. O'Neill*

Discussion of various topics including the supply and demand of health care, health professionals' services, facilities and pharmaceuticals. Government policies concerning Medicare and Medicaid are analyzed. International comparisons of health care delivery systems are discussed. Prerequisite: BE 211, 220 or permission of instructor. Three hours per week. *Four semester hours.*

BE-312. Labor Economics *Dr. McLennan*

A theoretical and empirical study of the functioning of labor markets, with emphasis on employment and compensation determination as affected by worker and firm characteristics, public policy, and worker organizations. Prerequisites: BE 211 Three hours per week. *Four semester hours.*

BE-313. Topics in Economics and Public Policy *Dr. Economopoulos, Dr. McLennan, Dr. O'Neill*

Contemporary issues are discussed using a cross-disciplinary approach. Microeconomic and macroeconomic analyses are undertaken within a historical context. Prerequisites: BE 211, 212, or permission of instructor. Three hours per week. *Four semester hours.*

BE-320Q. Econometrics *Dr. Economopoulos, Dr. McLennan, Dr. O'Neill*

Econometric methods used in analyzing business and economic data, including hypothesis testing, trend analysis, and forecasting of behavioral decisions by consumers and firms. Topics include the specification, estimation and verification of multiple regression and time series models. Laboratory experience includes SAS statistical software usage. A research paper presenting original data analysis is required. Prerequisites: BE 220, BE 211. Three hours of lecture; two hours of laboratory per week. *Four semester hours.*

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BE-330. Human Resource Management *Dr. Cirka*

The strategic importance of effectively managing human resources to achieve competitive advantage. Multiple views of the employment relationship are considered: the employer and employee view, as well as other stakeholders. Topics include human resource strategy and essential policies and procedures related to work design, staffing, performance management, career planning and compensation. Prerequisite: BE 230. Three hours per week. *Four semester hours.*

BE-331/MCS-352. Organizational Communication *Dr. Goodman*

A study of communication processes in organizational settings. Topics include formal and informal channels of communication, power structures, organizational effectiveness, and communication with a variety of publics. Field research required. Prerequisite: MCS 110. Three hours per week. *Four semester hours.*

BE-333. Topics in Business *Faculty*

Contemporary issues are discussed such as social responsibility, issues in the workplace, diversity and business decisions, the legal environment. Prerequisite: BE 100, Sophomore Standing, or permission of the instructor. Three hours per week. *Four semester hours.*

BE-334. Organizational Leadership *Mr. Bowers*

A seminar course on the nature, theory, and exercise of leadership in organizational settings. Through readings and discussion, the student will explore and grow to understand leaders and the practice of leadership in a wide variety of contexts, including industry, politics, the military, and non-profit institutions. The course provides a mix of organizational leadership theory, experiential exercises, and practical experience, and draws from the professional, business, and popular literature. Prerequisite: junior standing. Three hours per week. *Four semester hours.*

BE-340. Auditing *Mrs. Harris*

An introduction to the audit process through analysis of objectives, concepts, and procedures underlying the review of financial reports prepared by businesses. Emphasis is placed on the analysis of internal controls and the auditor's professional, ethical and legal responsibility. Prerequisites: BE 240, 241. Three hours per week. *Four semester hours.*

BE-361. International Trade Theory and Policy *Dr. O'Neill*

An analysis of world trade using the classical, neoclassical and 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. Prerequisites: BE 211, 220 or permission of instructor. Three hours per week. *Four semester hours.*

BE-362. International Finance Theory and Policy *Dr. O'Neill, Dr. Mudd*

An examination of balance of payments theory using fixed and flexible exchange rate regimes. Analysis of the effects of fiscal and monetary policies given alternative presumptions concerning capital mobility, expectations formation and international policy coordination. Systematic analysis of current international financial policies. Prerequisite: BE 212. Three hours per week. *Four semester hours.*

BE-363. Transitional Economies *Dr. Economopoulos*

The interpretation and understanding of the economic, cultural, and political issues that result from the transformation of their political and economic systems. The nature and institutional structure of their economic and political systems will be examined. Case studies of Eastern European and developing countries will be used. Prerequisites: BE 211 or 212 or permission of instructor. Three hours per week. *Four semester hours.*

BE-370. Corporate Finance *Dr. Economopoulos, Mrs. Harris, Dr. Mudd*

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. Case studies and/or semester project utilizing financial analysis and forecasting techniques. Proficiency in spreadsheet analysis is required. Prerequisites: BE 211, 220. Three hours per week. *Four semester hours.*

BE-371. Managerial Finance *Dr. Economopoulos, Mrs. Harris, Dr. Mudd*

The examination of short-term and long-term financial decisions of managers. Microeconomic theory is applied to financial planning decisions of businesses. Topics include management of cash, receivables, inventory, long-term sources of financing, debt-equity decisions, and mergers and acquisitions.

Prerequisite: BE 211. Three hours per week. *Four semester hours.*

BE-372. Investments *Dr. Economopoulos*

An investigation of the concepts of security analysis and valuation and of the fundamentals of market analysis. Special attention will be paid to securities and security markets, risk-return characteristics of investment types, and investment strategies including the use of convertible securities and options.

Prerequisites: BE 140, 220, BE 212 or 270. Three hours per week. *Four semester hours.*

BE-380. Marketing *Dr. Cirka, Mr. Bowers*

The study of market analysis, consumer behavior and the four components of the marketing mix-product, price, promotion and distribution. Marketing issues will be examined through case studies and projects utilizing marketing research and analytical techniques. Proficiency in spreadsheet analysis is required.

Prerequisite: BE 211. Three hours per week. *Four semester hours.*

BE-381. Internship *Faculty*

An off-campus academic/work experience under the supervision of a faculty internship adviser and an on-site supervisor. Students are required to document their experiences in a written journal. A written research paper/project is required. Contact the chair of the department for further details. Prerequisites:

Four courses in the major and prior written approval of a faculty internship adviser. Eight to 10 hours per week. Graded S/U. *Four semester hours.*

BE-391. Independent Research *Faculty*

Preparation of an independent research paper. Prerequisites: junior or senior standing, completed departmental core requirements, and permission of department chair. *Four semester hours.*

BE-430. Business Strategy *Dr. Cirka, Mr. Bowers*

A case-oriented course taught from the perspective of the firm's top management team as they seek to achieve competitive advantage in an increasingly knowledge-intensive business world. Theories of strategic management and their practical application through case exercises enable students to integrate all of their prior disciplinary work in the business and economics major. In addition, a team project provides students with the opportunity to improve their teamwork skills as well as their written and oral communication skills. Prerequisites: BE 230, 380. Three hours per week. *Four semester hours.*

BE-480. Marketing Research *Faculty*

Focuses on fundamental issues in research design and analysis: problem formulation, data collection, sample selection, data analysis and interpretation. Topics include the economic aspects of pricing strategies, advertising, inter and intra market rivalries, entry and barriers to new markets, and regulations. A marketing research paper is required. Prerequisites: BE 220, 380. Three hours per week. *Four semester hours.*

BE-490W. Seminar in Business and Economics *Faculty*

Readings and individual research on topics in business and economics. Leading to preparation, oral presentation, and discussion of research papers. Prerequisites: Departmental core requirements. Three hours per week. *Four semester hours.*

BE-491. Research/Independent Work *Faculty*

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

BE-492W. Research/Independent Work *Faculty*

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

Note: The completion of BE 491 and 492W satisfies the capstone requirement (BE 490W).

BE-499W. Advanced Seminar in Business and Economics Faculty

Extension of individual research on topics in business and economics completed in BE 490W requiring econometric analysis of relevant data. Expanded research paper and oral presentation required. Prerequisites: BE 490W and department approval. Three hours per week. *Four semester hours.*

Chemistry

Professors Hess, Levy, Tortorelli; Associate Professors Price (Chair), Ruttledge, Williamsen; Assistant Professor Popescu.

The chemistry department at Ursinus College has been approved 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; and (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 may enroll in any one of the following programs (tracks) in accordance with their career interests.

Requirements for Majors

Regardless of track, all majors must complete the following courses: Chemistry 105/105a, 106/106a, 205/205a, 206/206a, 209, 211, 222, 309/309a, 313, 314a; Math 111/112; and Physics 111Q/112.

Track 1. Major Specialization in Chemistry

Students planning to enter the chemical industry or planning further study in chemistry or chemically related areas (e.g. engineering, biochemistry, material science, and the like) may enroll in this program. In addition to the courses required of all majors, this specialization consists of the following courses central to the field of chemistry: Chemistry 310 and a "W" course in chemistry.

Track 2. American Chemical Society Certified Major—Chemistry Emphasis

The American Chemical Society has adopted a set of standards for undergraduate training in chemistry. In addition to the courses required of all majors, students seeking certification must complete the following courses: Chemistry 310/310a; 320 or BCMB-351; 401W/401a; and either 381 or 390 or 480 or 491W.

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. In addition to the courses required of all majors, this program consists of the following courses: Chemistry 310; 320 or BCMB 351, a W course in chemistry; Biology 111WQ and 212WQ.

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. In addition to the courses required of all majors, students seeking certification should complete a "W" course in chemistry and the prescribed education courses. A course in geology is recommended. Prospective teachers should serve as laboratory assistants or participate in safety training. Prospective student teachers must have a 2.50 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 Ursinus College Education Department.

Requirements for Minors

A minor concentration in chemistry consists of Chemistry 105/105a, 106/106a, 205/205a, 206/206a, 313 or 309/309a, and three additional credits in chemistry.

CHEM-100Q. Topics in Chemistry Faculty

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. A knowledge of algebra is assumed. Three hours of lecture and three hours of laboratory per week. *Four semester hours.*

Note: A student who has received credit for CHEM-105 may not enroll in CHEM-100Q. CHEM-100Q may not be used as elective credits for chemistry majors or minors.

CHEM-102. Introduction to Forensic Chemistry Faculty

This course, intended for non-science majors, will examine selected topics in forensic science. Through an understanding of basic chemical principles, this course will investigate the role of science in solving crimes. Topics may include fingerprint analysis, fiber identification, blood typing and analysis, drug identification, and DNA profiling. Case studies will be used to explore the scientific foundation for the examination of physical, chemical, and biological evidence. Three hours of lecture. *Three semester hours.*

Note: A student who has received credit for CHEM-105 may not enroll in CHEM-102. CHEM-102 may not be used as elective credits for chemistry majors or minors.

CHEM-102a. Laboratory in Forensic Chemistry Faculty

This laboratory course will involve the analysis of trace evidence. Techniques utilized may include chromatography, fingerprinting, blood typing, fiber identification, glass analysis, mass spectrometry, and infrared spectroscopy. Students will work in investigative teams. Prerequisite: CHEM-102 (or concurrently). Three hours of laboratory per week. *One semester hour.*

CHEM-105. General Chemistry I: Foundations Dr. Hess, Dr. Price, Dr. Williamsen

A study of the principles of chemistry. Topics include structure, bonding, stoichiometry, states of matter, inorganic reactions, thermochemistry, and solutions. The mathematical solution of chemical problems will be emphasized. This course must be taken concurrently with CHEM-105a.* Three hours of lecture per week plus one hour of recitation per week at the discretion of the instructor. *Three semester hours.*

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

CHEM-105a. Laboratory in General Chemistry I Faculty

Laboratory work related to CHEM-105. Experimental work may include verification of the stoichiometric relationship between reactants and products, the preparation and characterization of compounds, titrations involving neutralization and redox reactions, measurement of enthalpies of reaction, and colorimetric analysis. This course must be taken concurrently with CHEM-105.* Three hours per week.

One semester hour.

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CHEM-106. Organic Chemistry I *Dr. Hess, Dr. Rutledge, Dr. Tortorelli*

An introduction to the study of the physical and chemical properties of both aliphatic and aromatic hydrocarbons within the context of modern structural theory. Areas emphasized are bonding, acidity and basicity in organic systems, stereochemistry, and reaction mechanisms. This course must be taken concurrently with CHEM-106a.* Prerequisite: CHEM-105. Three hours per week. *Three semester hours.*

CHEM-106a. Laboratory in Organic Chemistry I *Dr. Hess, Dr. Rutledge, Dr. Tortorelli*

Laboratory work related to CHEM-106. Experimental work may include measurement of physical properties, study of reaction kinetics, and synthesis. Techniques employed include chromatography, distillation, extraction, infrared and UV/vis spectroscopy, and recrystallization. Primary and secondary literature sources are introduced. This course must be taken concurrently with CHEM-106.* Prerequisite: CHEM-105a. Three hours per week. *One semester hour.*

CHEM-205. Organic Chemistry II *Dr. Hess, Dr. Rutledge, Dr. Tortorelli*

A continuation of CHEM-106. Particular emphasis is placed on reactivity and synthesis of a variety of organic functional groups including alcohols, ethers, carbonyl compounds, and carboxylic acids. Other topics may include macromolecules, carbohydrates, and NMR spectroscopy. This course must be taken concurrently with CHEM-205a.* Prerequisite: CHEM-106. Three hours per week. *Three semester hours.*

CHEM-205a. Laboratory in Organic Chemistry II *Dr. Hess, Dr. Rutledge, Dr. Tortorelli*

Laboratory work related to CHEM-205; a continuation of 106a. This course must be taken concurrently with CHEM-205.* Prerequisite: CHEM-106a. Three hours per week. *One semester hour.*

CHEM-206. General Chemistry II: Analysis *Dr. Williamsen*

A study of kinetics, equilibria, and acid-base chemistry, thermodynamics, electrochemistry, and properties of solutions. This course must be taken concurrently with CHEM-206aQ.* Prerequisite: CHEM-105. Three hours per week. *Three semester hours.*

CHEM-206aQ. Laboratory in General Chemistry II *Faculty*

Laboratory work related to CHEM-206. Special emphasis will be placed on sample manipulation, control of solution characteristics, quantitative analysis, and the development of skills in wet and instrumental analysis methods. Literature sources used in analytical chemistry will be introduced. This course must be taken concurrently with CHEM-206.* Prerequisite: CHEM-105a. Three hours per week. *One semester hour.*

CHEM-209. Introduction to Chemical Resources and Tools *Dr. Williamsen*

Introduction to resources and tools used in chemistry. Topics may include specialized features of computer software (word-processing, spreadsheets, scientific graphing, chemical structure drawing programs), chemical modeling, and chemical information sources. Potential advantages and pitfalls of the various resources will be presented. Students should take this course prior to or when they begin research. Prerequisite: CHEM-106. Corequisite: CHEM-205 (or previously). One hour per week. *One semester hour.*

CHEM-211. Spectral Interpretation *Faculty*

Structural elucidation of organic compounds through interpretation of spectral information obtained from mass spectrometry, UV/vis, IR, and NMR spectroscopy. Prerequisite: CHEM-106. Co-requisite: CHEM-205 (or previously). One hour per week. *One semester hour.*

CHEM-222. Inorganic Chemistry *Dr. Price*

A systematic survey of the descriptive chemistry of the main group elements with an emphasis on periodicity and nomenclature. The chemistry of the transition metals and nuclear chemistry will be discussed. Primary and secondary literature sources will be used. Co-requisite: CHEM-206 (or previously). Two hours per week. *Two semester hours.*

CHEM-291. Introduction to Research *Faculty*

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Upon completion of the work, written and oral reports must be presented to the department. This course may be taken more than once. Prerequisites: CHEM-105a and permission of the research adviser. Three hours of laboratory per week. *One semester hour.*

CHEM-309. Physical Chemistry I *Dr. Popescu*

A study of chemical thermodynamics and statistical mechanics. Prerequisites: CHEM-206; MATH-112; PHYS-112. Strongly recommended: MATH-211. Three hours per week. *Three semester hours.*

Note: Students may not receive credit for both CHEM-309 and BCMB-307.

CHEM-309a. Laboratory in Physical Chemistry I *Dr. Popescu*

Laboratory work related to BCMB-307 and CHEM-309, emphasizing computer and writing skills. An introduction to the primary and secondary literature sources of physical chemistry. Prerequisites: BCMB-307 (or concurrently) or CHEM-309 (or concurrently) CHEM-209 recommended. Three hours per week. *One semester hour.*

CHEM-310. Physical Chemistry II *Dr. Popescu*

An in-depth study of kinetics, quantum mechanics, and spectroscopy. Prerequisite: CHEM-309. Three hours per week. *Three semester hours.*

CHEM-310a. Laboratory in Physical Chemistry II *Dr. Popescu*

Laboratory work related to CHEM-310, emphasizing the use of the literature. Prerequisites: CHEM-309a and 310 (or concurrently). Three hours per week. *One semester hour.*

CHEM-313. Instrumental Analysis *Dr. Williamsen*

A study of the theory and application of spectroscopic, separation, and electrochemical instrumental techniques. A general framework for understanding instrumental methods will be presented. Prerequisite: CHEM-206. Recommended: CHEM-211 and PHYS-112. Four hours per week. *Four semester hours.*

CHEM-314a. Laboratory in Advanced Analytical Chemistry *Dr. Williamsen*

Laboratory work related to advanced techniques of analysis. The operation of common instrumentation, demonstrations of the effects of instrumental settings on acquired data, and application of statistical methods will be emphasized. Prerequisites: CHEM-206aQ, 209, and 313. One hour of lecture and three hours of laboratory per week. *Two semester hours.*

CHEM-320. Biological Chemistry *Dr. Tortorelli*

A study of various classes of compounds that serve important functions in biological systems. Topics may include proteins, carbohydrates, lipids, enzymes, DNA, RNA, porphyrins, redox chemistry, bioenergetics, vitamins, metal-containing proteins, pharmaceuticals, and mechanisms of biological reactions.

Prerequisites: CHEM-205 and 206. Three hours of lecture per week. *Three semester hours.*

Note: Students receiving credit for BCMB-351 cannot receive credit for CHEM-320.

CHEM-350W. Selected Topics in Chemistry *Faculty*

A course focused on a topic of contemporary interest to the chemical community, such as advanced organic chemistry, nuclear magnetic resonance, medicinal chemistry, materials science, ethical issues in science, or synthesis. Several written and oral exercises are required, as well as a major paper. Prerequisites: CHEM-205 and 206, and permission of the instructor. Three hours per week. *Three semester hours.*

CHEM/ENV-352. Environmental Chemistry *Dr. Price*

The study of the atmosphere, the greenhouse effect, ozone depletion and CFCs, air pollution, acid rain, natural and drinking waters, chlorinated organics, and heavy metals in the environment from a regional and global perspective. Other topics include the treatment of wastewater, toxic and nuclear wastes as well as energy production and its environmental consequences. Offered spring semester of even-numbered years. Prerequisites: CHEM-106 and 206. Three hours per week. *Three semester hours.*

CHEM/ENV-352a. Laboratory in Environmental Chemistry *Dr. Price, Dr. Williamsen*

Laboratory work related to Chemistry 352 involving the investigation of local air quality, rain water, natural waters and soil using common analytical techniques. Offered spring semester of even-numbered years. Prerequisites: CHEM-106a, 206aQ and 352 (or concurrently). Three hours per week. *One semester hour.*

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CHEM-381. Internship Faculty

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 to be approved by both the chemistry faculty and the on-site supervisor. Upon completion of the work, written and oral reports must be presented to the department. Prerequisites: CHEM-205a and 206a. Graded S/U. *Three semester hours.*

CHEM-390. Summer Research in Chemistry Faculty

Intensive investigation in an area of chemistry with a minimum of 240 hours of full-time laboratory and library work. Upon completion of the work, written and oral reports must be presented to the department. Prerequisites: CHEM-205a and 206aQ, and written permission of the research adviser. *Three semester hours.*

CHEM-391. Research/Focused Inquiry Faculty

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. Upon completion of the work, written and oral reports must be presented to the department. This course may be taken more than once. Prerequisites: CHEM-205a or 291, and permission of the research adviser. Six hours of laboratory per week. *Two semester hours.*

CHEM-401W. Advanced Inorganic Chemistry Dr. Price

A study of bonding theories, point groups, structure, stereochemistry, and reactivity of inorganic and organometallic materials with an emphasis on transition metal compounds. Other topics include superconductivity, catalysis, and bioinorganic chemistry. Short papers on these topics will be assigned and a major paper on the chemistry of a transition element along with an oral presentation will be required. This course must be taken concurrently with CHEM-401a.* Prerequisites: CHEM-222 (or permission of the instructor), 309 (or concurrently), 313, and 314a. 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. Co-requisite: CHEM-401W. Three hours per week. *One semester hour.*

CHEM-480. Off-Campus Research Faculty

An approved, off-campus laboratory research experience supervised by an on-site adviser and faculty liaison involving a minimum of 10 hours per week for one semester or four weeks of full-time work. Upon completion of the work, written and oral reports must be presented to the department. At the time of registration, written consent of the research adviser and the department is required. Co- or Prerequisites: CHEM-309a or 314a. Graded S/U. *Three semester hours.*

CHEM-491W. Research/Independent Work Faculty

Independent laboratory and library investigation in chemistry. Instruction in oral and written technical communication will be given. A variety of written exercises will be required. Oral presentations and a final research paper will be presented to the department faculty. At the time of registration, written consent of the research adviser and the department is required. Prerequisites (or concurrently): CHEM-205a, 206aQ, and 309a or 314a. One hour of lecture and nine hours of laboratory per week. *Four semester hours.*

CHEM-492W. Research/Independent Work

A continuation of CHEM-491W, 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: CHEM-491W. One hour of lecture and nine hours of laboratory per week. *Four semester hours.*

Departmental Honors in Chemistry

Students successfully completing CHEM-491W and CHEM-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 (Chair).

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; Art 211, 212, 213; 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 structure, cogency, and style. 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

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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 Ursinus College Education Department.

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).

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

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

Greek

GRK-101. Elementary Greek *Dr. Wickersham*

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

GRK-102. Elementary Greek *Dr. Wickersham*

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

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: GRK-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.*

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-315. New Testament *Dr. Wickersham*

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

GRK-317. Selected Topics *Dr. Wickersham*

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

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: ENGL-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 *Faculty*

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: ENGL-100. *Four semester hours.*

GRK-492. Research/Independent Work *Faculty*

A continuation of Greek 491. Prerequisite: GRK-491. *Four semester hours.*

Latin

LAT-101. Elementary Latin *Dr. Wickersham*

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

LAT-102. Elementary Latin *Dr. Wickersham*

Review of elementary Latin. Readings depict life in the High Empire. Four 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 sequences LAT-101-102 or 201-202 are 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.*

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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: ENGL-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 *Faculty*

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: ENGL-100. *Four semester hours.*

LAT-492. Research/Independent Work *Faculty*

A continuation of LAT-491. Prerequisite: LAT-491. *Four semester hours.*

Computer Science (*See Mathematics and Computer Science*)

Dance (*See Theater and Dance*)

East Asian Studies

Professors Clark (Coordinator), Hood; Assistant Professors Iwakuma, Mizenko.

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, government, or teaching. The major and minor in East Asian Studies are interdisciplinary programs drawing on offerings in several departments, but emphasizing history, culture, politics, literature and language. The programs are designed to provide an introduction to the cultures of China and Japan; in reflection of Ursinus' relationship with our sister school, Tohoku Gakuin University (TGU), located in Sendai, Japan, offerings emphasize the latter.

In addition to the courses offered on the Ursinus campus, students either majoring or minoring in East Asian Studies are encouraged to consider off-campus study-abroad options, including the Ursinus Summer Study in Japan (EAS-301) and the Semester in Japan (EAS-399), both offered in conjunction with TGU. Students seeking intensive language experience should consult with the language faculty about appropriate overseas or summer-intensive programs.

Teacher Certification

Ursinus is one of only a small number of institutions in Pennsylvania to offer certification for secondary-school teaching in Japanese language. For requirements, candidates should consult the Ursinus College Education Department as well as their Japanese language instructor. Certification requires passing a language competency examination.

Requirements for Majors

- 1) A minimum of 12 hours of Japanese language study beyond the introductory 101/102 level (Note: EAS majors are encouraged to complete all or some of this requirement either through study abroad or summer-intensive programs, including the college-sponsored Semester Study in Japan program [EAS-399]; regarding major credit, see Note below). Students may satisfy this requirement through equivalent off-campus study — including study abroad — of Chinese or Korean);
- 2) 12 credits from History 241, 243; Politics 346, 347; EAS 299, 314; or English 223, 224;
- 3) A capstone experience either in an approved seminar in History, Politics, Modern Languages, or other department as appropriate, EAS-400W, or EAS-491W/492W;
- 4) An appropriate methodology course (i.e. Business and Economics 212, English 200W, History 200W, Politics 252 or 300Q, ANSO 300, or other approved course);
- 5) 12 additional credits from the following courses (Note: at least eight credits must be at the 300-level): Anthropology-232, 351, 371, 372 (Note: except for 232, Anthropology courses must have the permission of the East Asian Studies coordinator), Communication Studies and Theater 350 (with permission of EAS coordinator), EAS-299, 301, 314, 398, 399, English 223, 224, History 241, 243, 341, 342, 344, 345, 361, Politics 346, 347, 353, 358, and Philosophy and Religion 211, or approved topics courses in Anthropology and Sociology, Business and Economics, Communication Studies and Theater, East Asian Studies, English, History, Politics, or Philosophy and Religion.

Note: For the purposes of the EAS major, students who complete EAS 398-399 will receive 3 credits toward the appropriate level of Japanese language, to be determined by the Ursinus faculty, and full credit toward number 5 above.

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: EAS-299, 301, 314, 398, 399; Japanese 100, 111, 112, 211, 212, 301, 328; History 241, 243, 341, 342, 343, 344, 361; Philosophy and Religion 211; or Politics 346, 347, 353.

EAS/ENG-224. Japanese Literature in Translation *Dr. Mizenko*

Critical reading of representative Japanese literary texts in English translation. This survey begins with ancient texts and concludes with mid-20th century fiction. The focus is on tracing the development of the lyrical and expressive tradition in poetry, and its influence on such genres as drama, essays, diaries and fictional narratives. Three hours per week. *Four semester hours.*

EAS-299. Topics in East Asian Studies *Faculty*

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-301. Summer Study in Japan Faculty

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.*

EAS-314. Japanese Culture and Society Faculty

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-398. Study in Japan Pre-Departure Program Faculty

A introduction to basic themes of Japanese history, culture, society. This is a required course for all Ursinus students participating in either EAS-399, Semester in Japan, or EAS-301, Summer Study in Japan. Enrollment by permission of the instructor. The course meets 75 minutes/week for six weeks after spring break. *One semester hour.*

EAS-399. Semester in Japan Faculty

Ursinus College has a long-standing tradition of exchange programs with Tohoku Gakuin university, our sister university in Sendai, Japan. The fall semester exchange program provides Ursinus students with the opportunity to spend the fall semester at Tohoku Gakuin. In addition to intensive Japanese language training, classes are offered in a variety of topics. Except for the language classes, courses are taught in English. The program is open to all majors, Admission is competitive. Note: Grades (Pass/Fail) earned in the Semester in Japan program will not count in the student's cumulative GPA at Ursinus. Prerequisite: EAS-398 and two semesters of Japanese language. *Fifteen semester hours.*

EAS-400W. Research in East Asian Studies Faculty

A capstone course for East Asian Studies majors only, involving a supervised independent research project and an oral presentation to EAS faculty. Prior approval of the East Asian Studies coordinator and supervising faculty required. *Four semester hours.*

EAS-491W. Research/Independent Work Faculty

This course is open to candidates for honors in East Asian Studies and to other students with the permission of the East Asian Studies coordinator. *Four semester hours.*

EAS-492W. Research/Independent Work Faculty

A continuation of EAS-491W. Prerequisite: 491W. *Four semester hours.*

Education

Associate Professor Engstrom (Chair); *Assistant Professors* Sconzert, Skulnick.

The Education Department offers an interdisciplinary approach into the study of the history, philosophy, psychology, and methodology of teaching and learning in public and private schools of the United States. Seminal educational texts, such as those of Rousseau, Emerson and Dewey, are studied and analyzed in the context of more recent educational theorists and reformers. Field experiences in every course help students to ground theory into the logistics and realities of the present day classroom. With an emphasis on action research, reflectivity, and social agency, coursework entails inductive, collaborative, and active learning through student-generated interests, readings, projects, and presentations.

The Education Department is a service department which does not offer a major in education, but does offer teaching certification in thirteen disciplines, a minor in elementary ed., and a minor in secondary ed. Students who are considering careers in educational settings or who seek to broaden their liberal arts knowledge base often enroll in the introductory or elective education courses to ascertain the extent of their interest in pursuing additional coursework.

Teaching Certification

The Teaching Certification program prepares students for entry-level knowledge and skills for public or private school positions in the following disciplines:

Biology (7-12)	German (K-12)	Mathematics (7-12)
Chemistry (7-12)	Health and Physical	Physics (7-12)
English (7-12)	Education (K-12)	Social Studies (7-12)
French (K-12)	Japanese (K-12)	Spanish (K-12)
General Science (7-12)	Latin (K-12)	

All students seeking teaching certification must fulfill all of the following requirements before they can be officially admitted into the Ursinus College Teacher Certification Program:

- Completion of 48 hours of college-level study;
- Completion of ENG 100 and LSS 100;
- Completion of one course in Mathematics; and one four-credit Q course, or two four credit courses in mathematics;
- Completion of EDUC- 202;
- Attainment of passing scores on Praxis I (Reading, Writing, Math exams);
- Attainment of an overall GPA of 3.00 for admission into the program.

Teacher candidates must maintain the required overall GPA every semester thereafter, to be able to student teach and to be eligible for recommendation for teaching certification.

One year prior to student teaching, teacher candidates must schedule an interview with the Education Department for approval to register for EDUC-405 (Student Teaching) for the following year. Teacher candidates are required to file a Pennsylvania state police background check and a child abuse history clearance. They must also provide verification of a negative TB tine test for the calendar year in which they are enrolled in student teaching. Out-of-state residents must also obtain an FBI security check. These forms may be obtained from the Education Department.

In addition to maintaining an overall GPA to be eligible to student teach, candidates must meet all of the following criteria:

- A 3.00 average in EDUC- 202, EDUC- 344, EDUC- 441, EDUC- 443, and EDU/PSYC 265;
Note: Students seeking certification in Health and Physical Education are required to complete ESS 355 and ESS 356 instead of EDUC- 441 and EDUC- 443.
- Specified major departmental GPA in the candidate's certification area;
- Recommendation by the candidate's major department;
- Attain at least a grade of B in student teaching;
- Pass the PDE 430 Evaluation;
- Pass Praxis II (Content Area) exams;
- Demonstrate good moral character.

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The Pennsylvania Department of Education will certify candidates for the provisional Instructional I certificate upon recommendation of the Education Chair who serves as the State Certification Officer for the College. (Pennsylvania requires U.S. citizenship for certification, except for the teaching of foreign languages.) Reciprocal agreements extend certification eligibility to most states, but some states require additional certification tests. Candidates who wish to teach outside Pennsylvania should contact state Education Departments for further information. Eligibility for permanent certification in any state depends upon successful full-time teaching and professional development requirements which vary among individual states.

Teacher Certification Course Sequence

Students interested in certification should contact both the major adviser and the Education Department.

Typical schedules are listed below. The courses are four credits unless noted otherwise.

- Year 1**
- PSYC-100 General Psychology
 - MCS-102 Public Speaking (3 credits)

Note: Public Speaking must be taken prior to student teaching.

- Year 2**
- EDUC-202 Introduction to Education
 - EDUC/PSYC-265 Educational Psychology

Note: Field experience is required in EDUC 202, EDUC 344 and EDUC 443. (Students must arrange transportation.)

- Year 3**
- EDUC-443 Special Methods (2 credits) spring only
 - EDUC-344 Foundations of Education
 - EDUC-441 General Methods (General Methods should be completed during the semester prior to student teaching. If a student elects to complete student teaching in the spring of his/her senior year, EDUC 441 should be completed during the fall semester.)

Note: Teacher candidates are required to file a Pennsylvania state police background check and a child abuse history clearance. They must also provide verification of a negative TB tine test for the calendar year in which they are enrolled in EDUC 441 and in student teaching. Out-of-state residents must also obtain an FBI security check. These forms may be obtained from the Education Dept.

- Year 4**
- EDUC-405 Student Teaching (12 credits)
 - EDUC-406 Professional Applications (2 credits)

Note: These two courses are taken concurrently. No other courses, day or evening, may be scheduled.

Requirements for Minors

Students from any major who wish to broaden their knowledge about the educational history and current trends in the public school system may choose to minor in Education. Though certification students do not need to minor in Education, they may elect to take the two additional courses which would earn a minor, either in elementary or secondary education.

Minor in Elementary Education

Students who expect to pursue careers in which they will work with pre-school or elementary school-age children may minor in Elementary Education. This option can strengthen eligibility for admission to graduate school in such areas as elementary school teaching, school guidance or psychology, speech pathology, etc. Since certification students in ESS or modern languages become certified K-12, they often elect to complete this minor, particularly if they would prefer to teach younger grades. Course requirements include EDUC-202, ED/PSYC-265, EDUC-344, ED/PSYC-345, and one from EDUC-402, 434, or 446. (PSYC-330 is recommended.)

Minor in Secondary Education

Students who express interest in working with adolescents often decide to minor in Secondary Education. Course requirements include EDUC-202, ED/PSYC-265, EDUC-344, ED/PSYC-355, and one from EDUC-402, 434, or 446. (PSYC-330 is recommended.)

EDUC-202. Introduction to Education Faculty

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. This course is not open to first year students. Field experience required. Students must arrange transportation. Three hours per week. *Four semester hours.*

EDUC/PSYC-265. Educational Psychology Faculty

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 (the same course as Psychology 265). Prerequisite: PSYCH-100. Three hours per week. *Four semester hours.*

EDUC-344. Foundations of Education Faculty

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

EDUC-351. Research Faculty

Readings and fieldwork designed to introduce students to research methods in education. Students select topics and write a proposal which must be approved by an education adviser. Regular meetings and progress reports and a final paper are required. Prerequisites: EDUC-202 and EDUC-265. *One semester hour.*

EDUC-352. Research Faculty

Same as EDUC-351 but offered in spring. *One semester hour.*

EDUC/GWMS-402. Identity and Diversity Faculty

Analysis and exploration of individual influences and filters regarding racial and gender identity issues through examining and exchanging multiple viewpoints and perspectives in preparation for diversity in the professions, with particular emphasis on teaching. Spring semester only. Three hours per week. *Four semester hours.*

EDUC-405. Student Teaching Faculty

A laboratory course consisting of observation and student teaching. Supervision is provided by faculty in the department of education and normally 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. 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. Prerequisites: EDUC-202, 344, 441, 443; PSYC-265; MCS-102. Taken with EDUC 406, as part of the Professional Semester. *Twelve semester hours.*

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EDUC-406. Professional Applications Faculty

This course is taken concurrently with student teaching, and gives students an opportunity to engage in guided practice during their student teaching experience. Lesson planning, classroom management and student assessment will all be addressed. Two hours per week. *Two semester hours.*

EDUC-434. Curriculum Seminar Faculty

A study of selected topics relevant to reforming education in today's schools, with special attention to curriculum development. Includes field research. Three hours per week. *Four semester hours.*

EDUC-441. General Teaching Methods Faculty

Principles of secondary school teaching; general methods of instruction; challenges of the beginning teacher; function and use of instructional materials. Taken in the semester just prior to student teaching. Prerequisites: EDUC-202, 344; PSYC- 265. Field experience required. Three hours per week. *Four semester hours.*

EDUC-443. Special Teaching Methods Faculty

This course, which complements 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]; (X) Citizenship Education. Sections are taught by experts in the subject fields from the public schools. Prerequisites: EDUC-202, 344; PSYC-265. Taken in the year prior to student teaching. Two hours per week. *Two semester hours.*

EDUC-446. Issues and Trends in Contemporary Education Faculty

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. Includes some field research. Three hours per week. *Four semester hours.*

EDUC-491. Research/Independent Work Faculty

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 faculty must be presented at the time of registration. *Four semester hours.*

EDUC-492. Research/Independent Work Faculty

Same as EDUC-491, but offered in the spring semester. *Four semester hours.*

English

Professors Dole (Chair), Lionarons, Perreten, Schroeder, Volkmer, Wickersham;
Assistant Professors Kozusko, Jaroff, Keita, Weight, Zwerling; *Instructor* Fritz.

Requirements for Majors

Majors must complete at least ten courses in English beyond English 100, including: 200W, 201, 202, and 203; at least three 300-level colloquia, including one covering literature before 1800 and one covering literature after 1800 (English 301 may count as the third colloquium); and a 400-level seminar or an honors paper. Students planning to do honors also need English 301. MCS 207 may also be included in the major.

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; MCS-102 and either Eng/MCS-280, MCS-105, or MCS-281. Students are strongly recommended to take either English 240 or a 300-level colloquium on Shakespeare and either IDS-101 or English 226. It is also strongly recommended that the candidate participate in student journalism or theater activities. Students and their advisers should consult the Ursinus College Education Department.

Requirements for Minors

A minor concentration in English consists of at least five courses in English beyond English 100, including English 200W, Introduction to Literary Studies. One writing course (English 205-210) may be included in the English minor; at least three courses (aside from English 200W) must be literature, film, or language courses. A minor concentration in Creative Writing consists of at least five English courses beyond English 100, including English 402 and at least three of the following writing courses: 205, 206, 208, 209 (one or more sections), or MCS-207. One literature course may count toward the creative writing minor. Participation in student publications (*The Grizzly* or *The Lantern*) for a minimum of two semesters is also required.

ENGL-100. First-Year Composition Faculty

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-200W. Methods in Literary Studies Faculty

Normally, the first course for an English major, designed for English majors and minors. Includes an introduction to critical vocabulary; study of the genres of poetry, prose, and drama; critical reading practices; a general introduction to literary theory; conventions of the literary research paper; and frequent practice of careful critical writing. Enrollment limited to 16. Prerequisite: ENGL-100 or LS-100. Four hours per week. *Four semester hours.*

ENGL-201. British Literature to 1800 Dr. Kozusko, Dr. Lionarons, Dr. Perreten

Survey of British literature from the Medieval and Renaissance periods through Neoclassicism. Covers Chaucer, Shakespeare, Milton, Pope, and others, presented in historical context. Prerequisite: ENGL-100. Four hours per week. *Four semester hours.*

ENGL-202. British Literature Since 1800 Dr. Dole, Dr. Perreten

Survey of British literature from Romanticism and Victorianism through Modernism and Postmodernism. Covers Wordsworth, Keats, Tennyson, Yeats, Joyce, Woolf and others, presented in historical context. Prerequisite: ENGL-201. Four hours per week. *Four semester hours.*

ENGL-203. American Literature Survey Dr. Schroeder

Survey of American literature from the Puritans to the present, with attention to minority and women writers as well as more traditional figures. Prerequisite: ENGL-100. 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: ENGL-100. Three hours per week. *Four semester hours.*

ENGL-206. Poetry Writing Dr. Volkmer, Ms. Keita

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

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ENGL-208. Advanced Expository Writing Prof. Fritz, Dr. Perreten, Dr. Schroeder

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

ENGL-209. Special Topics in Creative Writing Faculty

A workshop course in an area of creative writing not normally covered in ENGL-205 and 206. Topics will vary. Enrollment limited to 12 students. Prerequisite: ENGL-100. Three hours per week. *Four semester hours.*

ENGL-211. Shakespeare on Stage Dr. Kozusko

A comparative study of productions and interpretations of a selection of Shakespeare plays through textual examination, oral presentation, and critical viewing. This course is also listed as MCS-211. Prerequisite: ENGL-100. Three hours per week. *Four semester hours.*

ENGL-212. Special Topics Faculty

This course will focus on a special topic not covered elsewhere in the curriculum. Prerequisites: LS -100 or ENGL-100. Three hours per week. *Four semester hours.*

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

ENGL-222. African-American Literature 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: ENGL-100; LS-100. Three hours per week. *Four semester hours.*

ENGL-223. Chinese Literature in Translation Faculty

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

EAS/ENG-224.* Japanese Literature in Translation Dr. Mizenko

Critical reading of representative works from Japanese literature in modern translation. 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 not offered in 2004-2005.*

ENGL-226. 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: ENGL-100; LS-100. Three hours per week. *Four semester hours.*

ENGL/GWMS-228. Women's Literature Dr. Dole, Dr. Kelley, 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: ENGL-100; LS-100. Three hours per week. *Four semester hours.*

ENGL-230. 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-232. Studies in Satire Dr. Perreten

An interdisciplinary (multimedia/intertextual) study of the modes of satire and critical commentary on satire, concentrating on the 18th and 20th centuries. Prerequisites: English 100 and LS 100. Three hours per week. *Four semester hours.*

ENGL-234. King Arthur *Dr. Lionarons*

A course in medieval and modern literature and film dealing with King Arthur and the legends that surround him. Prerequisite: ENGL-100. Three hours per week. *Four semester hours.*

ENGL-240. Shakespeare *Dr. Kozusko*

The reading of Shakespeare's principal plays, and the study of their background. Prerequisites: English-100, LS-100. Three hours per week. *Four semester hours.*

Note: Students who have taken ENG-309 or 310 will not receive credit for ENGL-240.

ENGL/ENV-262. The Environment in Literature *Dr. Perreten*

Students in this course will study literature inspired by a variety of environments. Readings will range from classic essays "Nature" by Emerson and "Walking" by Thoreau to Terry Tempest Williams' 1991 environmental/autobiographical study, "Refuge: An Unnatural History of Family and Place." "Ecocriticism," the study of the relationship between literature and the physical environment will provide the theoretical framework for the course. Writing for the class will be half-analytical (critical responses to texts and a research paper), and half-original, creative student writings about their own environments. Prerequisites: ENG-100; LS-100. Three hours per week. *Four semester hours.*

ENGL/MCS-280. Film Studies *Dr. Dole*

A study of films as texts, including an introduction to the vocabulary of the medium. Topics change yearly. This course is also listed as MCS-280. Prerequisite: ENG-100. Four hours per week. *Four semester hours.*

Advanced Colloquia in English

These advanced courses are designed for junior and senior English majors, or for minors or other students with a serious interest in literary studies. Each colloquium will be limited to 16 students, will build on knowledge gained in lower-level courses, and will give the student opportunity for substantive research. To assure that students are prepared to work on an advanced level, each colloquium will have as prerequisites both English 200W and the appropriate survey course (from the series 201-203), or permission of the instructor.

English majors must take at least three colloquia, including one covering literature before 1800 and one covering literature after 1800.

In order to provide students with as many choices as possible in course selection, the English Department will let student and faculty interest dictate the topics of each semester's colloquia. Descriptions of the upcoming colloquia will be published each semester, along with the prerequisites for each colloquium.

Colloquia will cover topics such as these:

- Imag(in)ing America through Literature and Photography
- Women Writers of the Middle Ages
- Blues and Literature
- Before the Conquest: Old English Literature in Translation
- Modern British Poetry
- The Beats
- Renaissance Tragedy: Shakespeare and Other Playwrights
- Women and Theater
- African-American Drama
- Turning Literature into Film
- The Harlem Renaissance
- Werewolves and other Shapeshifters
- Chaucer

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- Biography and Autobiography
- War Literature
- Coming of Age Stories from Around the World
- Upward Mobility: A study of the American Novel
- Postmodern Fictions
- Novels of the night: The Gothic Novel in Britain and America
- Ekphrastic Literature
- Ulysses' Journey from Homer to Joyce

ENGL-301. Literary Theory *Dr. Kozusko*

The study of theoretical approaches to literary texts, such as feminism, poststructuralism, and cultural studies. Recommended for all English majors, but especially for students considering teaching or graduate studies in English; required for English honors candidates. Prerequisites: ENG-200W and one of 201-203; or permission of the instructor. *Four semester hours.*

ENGL-381A. Internship *Faculty*

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 or senior standing and the approval of an internship adviser. *Three semester hours.*

ENGL-381B. Internship *Faculty*

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 or senior standing and the approval of an internship adviser. *Four semester hours.*

ENGL-391. Independent Study in English *Faculty*

Independent work, either scholarly or creative, under the supervision of a faculty adviser. A substantial final written project is required. Prerequisites: at least three English classes beyond 100; a written project proposal; and permission of a department faculty member who will serve as adviser. *Four semester hours.*

ENGL-402. 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 12 students. Prerequisite: at least two of the following: ENG-205, 206, 209 (one or more sections), MCS-207; or permission of the instructor. Three hours per week. *Four semester hours.*

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

A study of a genre, a major figure, or a special topic. Prerequisites: ENG-200W; 221W or 301; 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 *Faculty*

This course is open to candidates for departmental honors and to other students with the permission of the department chair. Pre- or co-requisite: ENG-301 or 221W. *Four semester hours.*

ENGL-492. Research/Independent Work *Faculty*

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. *Four semester hours.*

Environmental Studies

Professors E. Dawley, R. Dawley, Oboler, Perreten, Rideout, Sidie, Small; Associate Professors Goddard, Kane, McLennan, Price; Assistant Professors Joseph, Wallace (Director).

Human relationships with the natural world range across disciplines, from the cultural, philosophical, ethical, and aesthetic to the scientific, economic and political. The Ursinus College Environmental Studies Program offers students an opportunity to study and experience environmental issues from multiple perspectives. Students may either major or minor in environmental studies (ENV). Majors are required to complete a minor in another discipline. Independent research is an integral part of the program, allowing students to pursue a topic of their interest in a more detailed and self-directed fashion. Ursinus students are active on campus, working with members of the faculty, staff, and administration on campus greening projects involving recycling, energy efficiency, water resource management, purchasing and contracting policies, landscape management, and other issues. Ursinus students also undertake volunteer and internship positions in local and regional organizations involved in all facets of conservation science and policy, with groups such as the Pennsylvania Department of Environmental Protection, Nature Conservancy, Perkiomen Valley Watershed Conservancy, Philadelphia Zoo, Elmwood Park Zoo, Academy of Natural Sciences, Schuylkill Center for Environmental Education, environmental consulting groups, law offices, and other organizations. These professional positions add to experiences fostered by the program's relationships with local conservation organizations and which permeate both the curriculum and extracurricular opportunities provided at the college (including courses, speaker series, local ecosystem restoration efforts, and other activities undertaken with local conservation groups). The environmental studies major offers both a breadth of environmental education and the opportunity to focus attention on an area of expertise relevant to promoting critical thinking and an environmentally sustainable society. Students majoring in environmental studies at Ursinus prepare for successful graduate study and careers in environmental sciences, policy, law, journalism, government service, and many other areas.

Requirements for Majors

All students majoring in Environmental Studies must take a minimum of 10 courses from among four categories: ENV core courses, ENV electives in the natural sciences, ENV electives in the social sciences and humanities, and "tools" courses from among several disciplines. All ENV majors must also complete a minor in another field of study.

The ENV curricular requirements are as follows:

ENV core courses (must take all four):

1. ENV-100, Issues in Environmental Studies
2. ENV/BIO-250, Environmental Biology
3. One synthesis course that requires completion of ENV-100, from among the following:
 - ENV-272, Marine Mammal Conservation and Management
 - ENV-360, Conserving Biological Diversity
 - ENV-362, Managing Parks and Protected Areas
4. ENV-470W, Senior Seminar: Advanced Environmental Problem Solving

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ENV courses in the natural sciences (must take two of the following courses):

Biology:	ENV/BIO-310, Biological Oceanography ENV/BIO-320, Biology of the Neotropics ENV/BIO-330, Marine Biology ENV/BIO-415W, Ecology
Chemistry:	ENV/CHEM-352 and 352a, Environmental Chemistry
Geology:	ENV/GEOL-105Q, Environmental Geology

ENV courses in the social sciences and humanities (must take courses in two of the following disciplines):

Anthropology/Sociology:	ENV/ANTH-252, Peoples and their Environments
Economics:	ENV/BE-231, Economics of Environment and Natural Resources
English:	ENV/ENGL-262, The Environment in Literature
Philosophy:	ENV/PHIL-348, Environmental Ethics
Politics:	ENV/POL-326, Environmental Law
Psychology:	ENV/PSYC-282, Environmental Psychology

Tools courses (must take courses in at least two of the categories):

Communication and Composition:	MCS-102, Public Speaking MCS-207, Journalism 1: Writing for the Print Media MCS-208, Journalism 2: Writing for the Electronic Media MCS-250, Advocacy and Argument ENGL-208, Advanced Expository Writing
Economics:	BE-100, The Global Economy
Fields and Laboratory Methods in the Natural Sciences:	BIO-334, Vascular Plants BIO-345, Microbiology BIO-442W, Mammalogy
Statistics and Research Methods:	ANSO-300, Methods in Anthropology and Sociology BE-220, Business Statistics MATH-241Q, Statistics I POL-300Q, Introduction to Political Science Research Methods PSYC-110, Research and Statistical Methods

In consultation with the ENV program director, students may petition to have ENV-350 (Topics in Environmental Studies), ENV-481W or 482W (independent research), ENV-491W and ENV-492W (honors research), or an internship satisfy requirements in the synthesis, natural science, or social science/humanities categories. For independent or honors research or an internship to fulfill the major requirements students must have completed 12 semester hours of environmental studies courses, including ENV-100, and receive permission of the ENV program director.

Requirements for Minors

All students minoring in Environmental Studies must complete a minimum of six courses in environmental studies, including ENV-100, an ENV synthesis course from those specified above, and at least one course each from the ENV/Natural Science, ENV/Social Science & Humanities, and tools categories. Students minoring in ENV are encouraged to take ENV-470W, the senior seminar, as one of their electives.

ENV-350 (Topics in Environmental Studies) courses, independent research, or internships may satisfy the requirements of the minor. Students must receive permission of the ENV program director for independent research or an internship to fulfill requirements of the minor.

ENV-100. Issues in Environmental Studies *Faculty*

An introductory interdisciplinary course with readings and research on topics across all fields of environmental studies. This course examines environmental issues through many lenses, including ecology, economics, ethics, policy analysis, and the arts. Issues explored include (but are not limited to) population, energy, biodiversity and ecosystem conservation, food and agriculture, global warming, ozone depletion, air pollution, water resources management, and solid waste. Student projects include investigations of local environmental issues and applied conservation activities within the Ursinus and surrounding communities. Four hours per week. *Four semester hours.*

ENV/GEOL-105Q. Environmental Geology *Faculty*

An introduction to environmental geosciences. Includes a study of the earth's environmental systems: lithosphere, hydrosphere, atmosphere, plate tectonics, rock types, mineral resources, volcanism, earthquakes, weathering, soils, surface water, ground water, climate, weather, oceans, energy, environmental change. Same as GEOL-105Q. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

ENV/ECBA-231. Economics of Environment and Natural Resources *Dr. McLennan*

Economic analysis is used to inform, analyze, and evaluate current environmental and natural resource policy decisions. Analyses of environmental problems use cost-benefit or efficiency criteria. Topics include externalities, public goods, common property rights, and sustainability. Prerequisite: BE-100. Three hours per week. *Four semester hours.*

ENV/BIO-250. Environmental Biology *Dr. Sidie*

A study of the biological basis of environmental issues. Includes ecosystems, communities, populations, water, energy, geologic resources, biodiversity, weather/climate, pollution, agriculture/hunger, soil resources/pests, solid/toxic hazardous waste, toxicology, land use. Prerequisite: BIO-100 or BIO-111WQ; or permission of the instructor. Three hours of lecture. Three hours of lab/discussion/simulations/writing per week. *Four semester hours.*

ENV/ANTH-252. Peoples and Their Environments *Dr. Oboler*

Human cultural patterns and social institutions are adaptations to particular physical and social environments, and also have impacts on those environments. This course is concerned with the relationship between environments and subsistence systems on the one hand, and social/political institutions and belief systems on the other, using case studies from a variety of traditional societies. We will also consider the relationship between the global ecosystem and problems of Third World development, patterns of peasant production, causes and consequences of rapid population growth, and the fate of indigenous peoples. Prerequisites: ANTHRO-100 or permission of the instructor. Same as ANTHRO-252. Three hours per week. *Four semester hours.*

ENV/ENGL-262. The Environment in Literature *Dr. Perreten*

Students in this course will study literature inspired by a variety of environments. Readings will range from classic essays "Nature" by Emerson and "Walking" by Thoreau to Terry Tempest Williams' 1991 environmental/autobiographical study, "Refuge: An Unnatural History of Family and Place." Ecocriticism, the study of the relationship between literature and the physical environment will provide the theoretical framework for the course. Writing for the class will be half-analytical (critical responses to texts), and half-original, creative student writings about their own environments. Same as ENGL-262. Prerequisites: ENGL-100, LS-100. Three hours per week. *Four semester hours.*

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ENV-272. Marine Mammal Conservation and Management *Dr. Wallace*

This course addresses historical and current issues concerning the conservation and management of marine mammals, their habitats, and related marine resources. It integrates the biological sciences, policy, law, economics, and humanities (in the form of ethics and values) in presenting and engaging the students in discussions about the history of human-marine mammal interactions, changes in human values and attitudes about the marine environment, the role of human-marine mammal interactions in societal changes, and the policy arena that has developed around marine mammals in the past century.

Prerequisite: ENV-100. Three hours per week. *Four semester hours.*

ENV/PSYC-282. Environmental Psychology *Dr. Rideout*

Study of the interrelationship between human behavior and experience and the manmade and natural environments. Topics include: influences of weather, climate, noise, crowding, and stress; personal space and territoriality; work, leisure, and learning environments; the natural environment and behavioral solutions to environmental problems. Same as Psychology 282. Prerequisite: PSYCH-100. Three hours per week. *Four semester hours.*

ENV/BIO-310. Biological Oceanography *Dr. Goddard, Dr. Sidie*

A study of the biological bases of ocean science. Topics discussed include: ocean basins, seawater physics and chemistry, currents, waves, tides, upwelling zones, tidal rhythms in organisms, ocean habitats/biota, marine virology, marine microbiology, plankton, trophic relationships, hydrothermal vent communities, coral reefs. Prerequisite: BIO-111WQ or permission of the instructor. Three hours of lecture; three hours of laboratory per week. (Course may be conducted in part at a marine field station). *Four semester hours.*

ENV/BIO-320. Biology of the Neotropics *Dr. E. Dawley, Dr. R. Dawley*

A field study of Costa Rican tropical habitats including rain forests, montane forests, seasonally dry forests, and wetlands conducted at research sites throughout the county. Topics include diversity and natural history of key plants and animals, ecological interactions and evolutionary processes, and conservation. May include side trips to cloud forests or coral reefs. Prerequisite: Permission of instructor and BIO-111WQ. Field investigations accompanied by readings, lectures, and a directed research project. Course will meet 15 hours on campus and three weeks in Costa Rica between the Fall and Spring semesters. *Four semester hours.*

ENV/POL-326. Environmental Law *Dr. Kane*

The study of various state, national, and international legal patterns that have arisen to address environmental concerns. The environmental field will be used to examine the nature and effectiveness of civil, criminal, and administrative action to address a complicated and important social issue. Topics will include federal administrative law; international trade and environmental regulation; control of toxic substances and hazardous wastes; the impact of scientific uncertainty on regulation; federal regulatory programs; civil liability under federal regulations; citizen suits; and the preservation of natural areas. Same as POL-326. Prerequisites: POL-218 for Politics and International Relations majors or permission of the instructor. Three hours per week. *Four semester hours.*

ENV/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 marine biodiversity - plants, protists, invertebrates, vertebrates; marine ecology; primary production in the sea; estuaries; plankton; nekton; marine mammals.

Prerequisite: Permission of the instructor and BIO-111WQ. Lecture and field investigations. (Course conducted in part at a marine field station.) *Four semester hours.*

ENV/PHIL-348. Environmental Ethics *Faculty*

The central issue in environmental ethics concerns what things in nature have moral standing and how conflicts of interest among them are to be resolved. After an introduction to ethical theory, topics to be covered include anthropocentrism, the moral status of non-human sentient beings, preservation of endangered species and the wilderness, holism versus individualism, and the land ethic. Three hours per week. *Four semester hours.*

ENV-350. Topics in Environmental Studies *Faculty*

A study of a contemporary issue or specific subject area relating to the environment. Topics are often cross-disciplinary and vary according to the special interests of students and faculty. Potential topics include: energy and the environment; landscape architecture; urban environmental studies; and birds in their habitats. Prerequisite: permission of the instructor. Independent written work required. Lab and field work required in some cases. Three hours of class per week. *Four semester hours.*

ENV/CHEM-352. Environmental Chemistry *Dr. Price*

The study of the atmosphere, the greenhouse effect, ozone depletion and CFCs, air pollution, acid rain, natural and drinking waters, chlorinated organics, and heavy metals in the environment from a regional and global perspective. Other topics include the treatment of wastewater, toxic and nuclear wastes as well as energy production and its environmental consequences. Same as CHEM-352. Prerequisites: CHEM-106 and 206. Three hours per week. *Three semester hours.*

ENV/CHEM-352a. Laboratory in Environmental Chemistry *Dr. Price, Dr. Williamsen*

Laboratory work related to CHEM-352 involving the investigation of local air quality, rain water, natural waters and soil using common analytical techniques. Offered spring semester of even-numbered years. Same as Chemistry 352a. Prerequisites: CHEM-106a, 206aQ and 352 (concurrently). Three hours per week. *One semester hour.*

ENV-360. Conserving Biological Diversity *Dr. Wallace*

A study of the conservation of biological diversity in the United States and abroad. Interdisciplinary analytical methods are used to investigate the loss and conservation of wildlife and habitats, with an emphasis on the development of conservation policy in the United States and comparative international case studies of endangered species protection. Specific topics include current trends in global biodiversity loss; the role of human values in biodiversity conservation; international biodiversity conservation strategies, initiatives at zoos and aquariums; and the protection of forests, rangelands, oceans, and coastal zones, birds, fish, marine mammals, and endangered species in the United States. Prerequisite: ENV-100. Three hours per week. *Four semester hours.*

ENV-362. Managing Parks and Protected Areas *Dr. Wallace*

A study of strategies for managing parks and protected natural areas locally and internationally. Emphasis is on learning the interdisciplinary tools necessary for developing management plans and implementing protected area policies. Case studies will address issues such as urban and suburban sprawl, pollution, natural resource extraction, biodiversity conservation, and the rights and concerns of indigenous peoples. Local field trips will supplement in-class learning by exposing students to protected areas studied in the classroom. Prerequisite: ENV-100. Three hours of lecture plus three hours of field work per week. *Four semester hours.*

ENV-381. Internship

An off-campus academic/work experience under the supervision of a faculty internship adviser and an on-site supervisor. Students must have completed 12 semester hours of environmental studies courses including ENV-100; or have permission of their adviser, to be eligible for an internship. Students must document their experience with a written product. *Four semester hours.*

ENV/BIO-415W. 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: BIO-111Q and 212 and 213, or permission of the instructor. Three hours of lecture, three hours of laboratory per week. *Four semester hours.*

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ENV-470W. Senior Seminar: Advanced Environmental Problem Solving *Dr. Wallace*

This is a capstone seminar in the methodology and application of critical thinking skills in environmental studies. It is designed to help students learn practical problem solving skills, and the theories that underlie them, that will help them to identify, define, and analyze environmental problems and develop responses to them. Methods taught are applicable across disciplines and the seminar is designed to provide a synthesis experience for environmental studies majors. Theory and cases will draw from the natural and social sciences as well as from ethics and the study of rhetoric and will address environmental concerns at the local, regional, national, and international levels. Prerequisites: ENV-100, junior or senior standing, and at least three additional ENV courses. Three hours per week. *Four semester hours.*

ENV-481W. Research/Independent Work *Faculty*

This course of independent research is the capstone experience for Environmental Studies majors. Students may choose a topic from separate academic divisions and work with two mentors from separate academic divisions to conduct independent research. Students must have completed 12 semester hours of environmental studies courses including ENV-100; or have permission of their adviser, to be eligible for independent research. *Four semester hours.*

ENV-482W. Research/Independent Work *Faculty*

See course description for ENV-481W.

ENV-491W. Research/Independent Work *Faculty*

Students who are eligible for departmental honors can complete independent research work in this course. The course qualifies as a capstone experience for Environmental Studies majors. Students work closely with two mentors from separate academic divisions to conduct independent research. Students must have completed 12 semester hours of environmental studies courses including ENV-100; or have permission of their adviser, to be eligible for independent research. *Four semester hours.*

ENV-492W. Research/Independent Work *Faculty*

See course description for ENV-491W.

Exercise and Sport Science

Professors Borsdorf, Davidson; *Associate Professors* Chlad, Engstrom, Wailgum (*Chair*);
Lecturers Moliken, Wright.

The Department of Exercise and Sport Science offers a comprehensive curriculum of study in the field of Exercise Science (e.g., pre-physical therapy, pre-nursing, pre-physician assistant, pre-occupational therapy and pre-athletic training graduate school preparation; corporate fitness/personal training certifications, graduate school preparation in exercise physiology, health promotion) and Pennsylvania teacher certification (K-12) in Health and Physical Education.

ESS majors gain valuable clinical experiences working in a variety of exercise related settings (e.g., athletic training room, fitness center, and intramural sports program).

The educational goals of the department are to introduce students to current concepts in the field of Exercise Science, to expose them to a variety of work-related experiences, and to involve them in various aspects of research. These experiences will foster a sense of responsibility and develop critical, independent thinking consistent with the objectives of a liberal arts education.

Requirements for Majors

Students majoring in the ESS Department must take the following courses:

I. Required Courses

All ESS majors must complete the following ESS courses: 100, 161W, 220, 265, 334, 351, and 352, BIO 305 and BIO 306 (prerequisites: BIO 111WQ, BIO 212WQ, and permission of the instructor).

II. Capstone Courses

All ESS majors must complete a capstone experience by taking ESS 412 or 491W, or the combination of ESS 465W and EDUC 405.

III. Elective Course Requirements

A. Exercise Science (ES) Concentration

All ES students must complete the following courses:

- Two of the following ESS courses: 232W, 300, 333, 347, or 464
- Two of the following ESS courses: 262, 278, 340, or 346
- It is highly recommended ES majors elect to take ESS 267
- It is highly recommended ES majors select three of the following ESS courses: any 209, any 210, 240, 247, 270, any Dance course, or any Aquatics course

It is highly recommended that students obtain graduate catalogs no later than the end of their sophomore year to determine individual pre-requisite needs for graduate school. Students seeking admission to graduate allied health programs need to elect to take two or more upper level BIO courses (300/400 level) in addition to Anatomy and Physiology; CHEM-105/105a, 106/106a or 206/206a; MATH-111 and/or 241Q; PHYS-111Q, 112; and various courses from the Humanities and Social Science Divisions.

B. Teaching Concentration (TC)

All TC students must complete the following courses:

- ESS courses: 232W, 333, 355, 356, 462, and 464
- ESS courses: 235 or 267
- ESS 221/DANC 200, ESS 209 or 224, 223, 235, and 245

Note: Students wishing to obtain PA teacher certification for grades K-12 must take: EDUC 202, 265, 344, 405, 406, and MCS 102. In addition, students must successfully complete the appropriate Praxis examinations.

Students must earn a cumulative 3.0 GPA (Pennsylvania Department of Education Standard) and a 3.0 GPA within the ESS Department to receive the departmental recommendation to be eligible to student teach. Students and their advisers should consult the Education Department Program Guide on the Ursinus College website for further information.

Minor Concentrations

A minor concentration in coaching consists of ESS-100, 220, 267, 365; 278 or 366W; select two of the following courses: 223, 224, 225, 226 or 234; ESS 270 is strongly recommended (23 credits).

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A minor concentration in wellness education consists of ESS 100, 220, 340; select three of the following courses: 300, 333, 334, 346, 347, 464; ESS 209 and 270 are strongly recommended (23 credits).

A minor concentration in human performance assessment consists of ESS 100, 262, 267, 352; BIO 305 or ESS 280 and 282; and Human Physiology (24 credits).

Activities Courses

Students may elect activity courses listed at the 100 level. Students wishing to elect activity courses may not register for more than one activity course in any given semester and no more than 3 hours of activity courses may count toward the 128 semester hours required for graduation. The intent of 100 level 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. Analysis and movement courses are designed for ESS majors and will focus on movement analysis and teaching progression. Non-ESS majors may elect to take these courses with the permission of the ESS Department.

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. Graded S/U. *One semester hour.* (Offered odd year fall semesters.)

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. Graded S/U. *One semester hour.* (Offered even year fall semesters.)

ESS 150. Special Activities *Staff*

This course will focus on an activity not included in the current curriculum. Two hours per week. Graded S/U. *One semester hour.* (Offered occasionally in fall semesters.)

Theory Courses

ESS-100. Concepts of Wellness and Fitness *Dr. Borsdorf*

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 examined. Three hours per week. *Four semester hours.* (Offered spring and fall semesters.)

Note: This course should be completed by ESS majors in either the freshman or sophomore year

ESS-161W. Introduction to Research Writing *Ms. Wright*

This course will introduce ESS majors to the APA writing style. Research writing style, proper citation of referenced works, and proper APA formatting of written assignments will be emphasized. Two hours per week. *One semester hour.* (Offered spring and fall semesters.)

ESS-209. Special Topics in Complementary Medicine and Holistic Health *Staff*

An examination of a different holistic health or alternative medicine form will be studied each time this course is offered. Emphasis will be given to the relationship(s) between the identified health/wellness topic and traditional Western medical and wellness procedures. Topics may include Yoga, Tai Chi, Accupressure, Accupuncture, Therapeutic Massage. Three hours per week. *Two semester hours.* (Offered spring and fall semesters.)

ESS-210. Special Topics in Exercise Science *Faculty*

This course will be periodically offered in an area of special interest to students by a staff member or adjunct professor. Three hours per week. *Two semester hours.* (Offered occasionally in fall or spring semesters.)

ESS-220. Critical Components of Conditioning *Faculty*

This course is designed to introduce students to the concepts of conditioning as it relates to muscular strength and endurance as well as various forms of cardiovascular training. The course will emphasize the identification and analysis of the critical elements of weight training exercises, teaching progressions involved in conditioning, and safety and organizational implications of conditioning. Three hours per week. *Three semester hours.* (Offered spring and fall semesters.)

ESS-221/DANC-200. Fundamental Dance Technique *Mr. Aiken, Ms. Young*

This course is designed as an introduction into dance and movement techniques, and will prepare the student for the 200 level technique courses. The class will focus on the basic principles of dance movement, including alignment, coordination, musicality, and locomotion through space. Students will develop increased body awareness, flexibility and strength, and ease with a broad movement vocabulary. This course is open to all, no previous experience necessary. Students may take this course twice for credit. Four hours per week. *Two semester hours.* (Offered spring semesters.)

ESS-223. Teaching Games for Understanding: Team Sports *Dr. Engstrom*

This course will provide an introduction to teaching team sports. Skill analysis, teaching progressions, coaching strategies, organizational and safety considerations will be emphasized during this course. Lesson plan design and video analysis of performance skills will be utilized to enhance each student's teaching skills. Three hours per week. *Two semester hours.* (Offered spring semesters.)

ESS-224. Theory and Analysis of Teaching Individual/Dual Sports *Ms. Wright*

This course will provide an introduction to teaching individual/dual sports. Skill analysis, teaching progressions, coaching strategies, organizational and safety considerations will be emphasized. Lesson plan design and video analysis of performance skills will be utilized to enhance each student's teaching skills. Three hours per week. *Two semester hours.* (Offered spring semesters.)

ESS-225. Basic Movement Techniques in Individual and Team Sports *Ms. Moliken*

This course analyzes the basic concepts of movement and decision-making that are crucial to athletic success in all the most popular sports. Basic principles such as spatial awareness, timing, visual skills, angles of movement, and reading cues will be thoroughly discussed and practiced. The students will learn the importance of consistently including these concepts when coaching youngsters in drills, small games and full scrimmages and games. The class will equally consist of practical participation, discussions and video analysis. Three hours per week. *Two semester hours.* (Offered odd year fall semesters.)

ESS-226. Effective Coaching Strategies *Ms. Moliken*

This course analyzes the more complex concepts of movement and decision-making that young athletes need to learn as they move up the competitive ladder. The students will learn to teach the movement and decision-making that is required for "off the ball" play, to understand the subtleties of deception and to learn how to make more complex "reads." The class will consist of practical participation, discussions and a great deal of video analysis. Prerequisite: ESS 225 or by permission of the instructor. Three hours per week. *Two semester hours.* (Offered even year fall semesters.)

ESS-232W. Current Trends in Health *Dr. Davidson*

This course will focus on the promotion of health education as it relates to the individual and the community at large. Special emphasis will be placed upon family and community health, consumer health, human sexuality and environmental health issues. This course will function as one of the writing intensive courses for students in the ESS Department. Prerequisite: English 100 and the permission of the department. Three hours per week. *Four semester hours.* (Offered fall semesters.)

ESS-234. Water Safety Instructor *Dr. Davidson*

Course leads to the American Red Cross certification as a Water Safety Instructor (WSI). Three hours per week. *Two semester hours.* (Offered even year spring semesters.)

ESS-235. Lifeguarding *Dr. Davidson*

This course leads to certification in American Red Cross standard first aid, CPR for Professional Rescuers, Lifeguard and Lifeguarding Instructor. Three hours per week. *Two semester hours.* (Offered odd year spring semesters.)

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ESS-236. SCUBA Staff

This course is designed to provide the student with the skills and knowledge to skin and SCUBA dive safely in an open water environment. Emphasis will be placed on an understanding of scientific principles and theory related to SCUBA diving. The course will provide a brief introduction to a variety of diving activities and locations available to recreational divers. Special emphasis will be placed on North and Mid-Atlantic shipwreck diving techniques. Students who satisfactorily complete this course and two days of open water diving (additional certification fee) will receive the National YMCA SCUBA Program's Open Water Certification. Students will be required to provide their own mask, fins, snorkel, weight belt, and booties. Three hours per week. *Two semester hours.* (Offered spring semesters.)

(A lab fee of \$140/student is required for the rental of SCUBA tanks and related equipment)

ESS-240. Stress Management Staff

Problem-solving principles that underlie stress management will be introduced, coping strategies for managing stress will be explored, and a personal stress management plans for a variety of populations will be developed. Three hours per week. *Two semester hours.* (Offered odd year spring semesters.)

ESS-245. Leadership in Adventure Activities Dr. Engstrom

Students will learn 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 activities, group initiatives, and adventure activities in high-risk and adventure programming. Three hours a week. *Two semester hours.* (Offered spring semesters.)

ESS-247. Body Recall Dr. Borsdorf

The course focus will be on the needs of special populations, especially the needs of elders and the very sedentary. How to develop safe and effective physical fitness programs for the more fragile populations will be explored. Activities will utilize a variety of recreation and physical therapy incentives such as chairs, ropes, balls, music, and wands to enhance muscular strength, flexibility, balance and coordination. Students preparing to work with geriatric populations and other special populations are encouraged to enroll in this course. Three hours per week. *Two semester hours.* (Offered odd year spring semesters.)

ESS-261W. Research Methods in Health and Human Performance Dr. Wailgum

This course will provide an introduction to research methodologies in health and human performance. Research design, problem selection, literature review; and acquisition, analysis, and presentation of data will be explored. Prerequisites: ENGL-100 and ESS-100. Three hours per week. *Four semester hours.* (Offered odd year spring semesters.)

ESS-262. Exercise Assessment Dr. Wailgum

Students will be introduced to a variety of measurement tools and evaluation protocols in the field of Exercise Science to gain practical clinical experience in assessing all domains of wellness. Three hours of lecture and three hours of laboratory. *Four semester hours.* (Offered even year spring semesters.)

ESS-265. Technology Application in ESS Dr. Borsdorf, Dr. Davidson

Students will be introduced to a variety of assessment and technological applications utilized in exercise and sport science. Students will learn how to successfully integrate wellness assessment instruments with software programs to aid in data collection and analysis. Three hours per week. *Two semester hours.* (Offered spring and fall semesters.)

ESS-267. Advanced Skills in Emergency Care Dr. Davidson

Students will earn their instructor certification from the American Red Cross for both CPR and First Aid & Safety Training courses. Concepts for the care and prevention of athletic injuries will be reviewed. This course is specifically designed for students wishing to obtain coaching certification or for students (e.g., lifeguards, fitness supervisors) wishing to obtain advanced life support skills. Three hours per week. *Four semester hours.* (Offered fall semesters.)

ESS-270. Ergogenic Aids *Dr. Wailgum*

The effect of nutritional supplements, performance enhancing drugs, and common over-the-counter/prescription drugs on human performance will be the focus of this course. Students will examine the relationship between an ergogenic aid's benefits versus its adverse health side effects. Students will also explore the ethical implications pertaining to the use of ergogenic aids in sports. Prerequisite: ESS 100. Two hours per week. *Two semester hours.* (Offered spring semesters.)

ESS-278. Current Trends in Sports Medicine *Ms. Chlad*

A survey of the various types of injuries/illnesses associated with participation in competitive athletics will be identified by age groups and gender. Current NATA sports medicine treatment standards will be introduced to expand awareness of proper care of athletic-related injuries. Prerequisite: ESS 267 or permission of the instructor. Three hours per week. *Four semester hours.* (Offered even year spring semesters.)

ESS-280. Surface Anatomy: Lower Extremity *Ms. Chlad*

This course focuses on the lower extremity. It will identify selected anatomical landmarks, examine the dermatome scheme, and demonstrate proper muscle function testing for the hip, knee, ankle, and foot joints. The lumbar-sacral plexus and its peripheral innervations will be reviewed. Prerequisite: permission of the instructor. Two hours of lecture, one hour of lab. *Two semester hours.* (Offered odd year spring semesters.)

ESS-282 Surface Anatomy: Upper Extremity *Ms. Chlad*

This course focuses on the upper extremity. It will identify selected anatomical landmarks, examine the dermatome scheme, and demonstrate proper muscle function testing for the trunk, shoulder girdle, shoulder, elbow, wrist, and hand joints. The brachial plexus and its peripheral innervations will be reviewed. Prerequisite: Permission of the instructor. Two hours of lecture and one hour of lab. *Two semester hours.* (Offered odd year spring semesters.)

ESS-300. Death, Dying, and Grief: A Wellness Perspective *Dr. Borsdorf*

This course will provide students the opportunity to openly examine a variety of grief situations and to learn strategies to better cope with such events. A wellness perspective will be utilized to study the various types of decisions healthcare professionals and laypersons formulate relative to death, dying and bereavement. Three hours per week. *Four semester hours.* (Offered even year spring semesters.)

ESS-333. Drugs and Alcohol — Use and Abuse in Modern Society *Faculty*

The significance of drug and alcohol use, misuse, and abuse in society is analyzed. Drugs and drug use today are addressed from several perspectives—historical, psychological, physiological, pharmacological, sociological, and legal. Prevention, intervention, treatment, and rehabilitation of drug and alcohol abuse is also discussed. Prerequisite: ESS 100. Four hours per week. *Four semester hours.* (Offered fall semesters.)

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: ESS 100 or the permission of the instructor. Three hours per week. *Four semester hours.* (Offered fall semesters.)

ESS-340. Exercise Psychology *Dr. Borsdorf*

An in-depth examination of methods used when helping people change from sedentary to active living. Topics will include the psychological antecedents and consequences of physical activity relationships, intervention programs for individuals and groups in a variety of settings, gender and age differences in motivation and exercise behaviors, communication skills, goal setting, and addictive and unhealthy behaviors. Prerequisite: ESS 100 or permission of the instructor. Three hours week. *Four semester hours.* (Offered even year fall semesters.)

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

A general survey of fitness, wellness, recreational movements, and programming theories relevant to these areas and their interrelationships will be explored. Particular attention will be given to methods and techniques of marketing, American College of Sports Medicine's facilities guidelines, the American Disabilities Act, and strategies for developing and implementing wellness and fitness programs. Prerequisites: ESS 100 or the permission of the instructor. Three hours per week. *Four semester hours.* (Offered spring semesters.)

ESS-347. Wellness and Fitness Throughout Adulthood *Dr. Borsdorf*

An analysis of wellness/fitness service techniques used to confront the problems and needs of various adult populations. The course will focus on the adult life cycle and its relationship to physical fitness and other wellness dimensions. Special emphasis will be placed upon identifying alterable psychological, sociological, and physiological aging processes and developing strategies for improving overall wellness during the different stages of adulthood. Three hours per week. *Four semester hours.* (Offered odd year fall semesters.)

ESS 351. Structural Kinesiology *Dr. Wailgum*

This course will examine how the neuromuscular and skeletal systems create volitional movement patterns. The execution of various sports skills will be utilized to identify types of joint motion, types of muscle tension, and agonist vs. antagonist muscle groups. Prerequisite: Human Anatomy or permission of the instructor. Three hours of lecture and two hours of laboratory. *Four semester hours.* (Offered fall semesters.)

ESS-352. Exercise Physiology *Dr. Wailgum*

The study of the physiological alterations and adjustments which occur in response to physical performance. Prerequisite: BIO 306 or permission of the instructor. Three hours lecture and two hours laboratory. *Four semester hours.* (Offered spring semesters.)

ESS-355. Methods of Teaching Secondary Health and Physical Education *Dr. Engstrom*

This course will examine various philosophies of teaching health and physical education. Students will be introduced to various curriculum models in the discipline with special emphasis on outdoor and adventure education designs. Principles, methods, and strategies of teaching health and physical education at the secondary level will be established. Students will explore assessment strategies, unit and lesson planning, and classroom management intervention. Three hours of lecture and two hours of laboratory. *Four semester hours.* (Offered spring semesters.)

ESS-356. Methods of Teaching Elementary Health and Physical Education *Dr. Engstrom*

This course will investigate the history and development of teaching health and physical education. Principles, methods and strategies of teaching health and physical education at the elementary level will be established. This course includes analysis of the fundamental motor skills, examining elementary health issues and establishing developmentally appropriate instructional strategies for elementary games and gymnastics. Students will explore the spectrum of teaching styles, unit and lesson planning, and process-product analysis of learning experiences. Three hours of lecture and two hours of laboratory. *Four semester hours.* (Offered fall semesters.)

ESS-365. Philosophy and Principles of Coaching *Ms. Moliken*

This course is designed to develop a wholesome and positive philosophy for coaching young players. Students will learn how to teach techniques, tactics and strategies to various age groups. Organizing practices, setting individual and personal goals, evaluating players and basic administrative responsibilities will be covered. Prerequisite: ESS 100. Three hours per week. *Four semester hours.* (Offered spring semesters.)

ESS-366W. Sport Psychology *Faculty*

An examination of the critical elements of human excellence and the development of plans for obtaining maximum performance and goals. Topics will include self-perceptions, moral reasoning levels, enhancing dedication, goal setting, stress management, personality, motivation, social relations and group dynamics. Prerequisite: ESS 100. Three hours per week. *Four semester hours.* (Offered spring semesters.)

ESS-381. Exercise Science Practicum *Faculty*

A practicum experience in a hospital, business, coaching position, clinic and/or geriatric care center under the supervision of a practicum adviser and an on-site supervisor. An inservice project is required. Each student is expected to be on-site a minimum of 160 hours per semester. Graded S/U. *Four semester hours.* (Offered spring and fall semesters.)

ESS-391. Independent Study *Faculty*

Introduction to fundamental research procedures and data manipulation in Exercise and Sports Science under the direction of a faculty member. Prerequisite ESS 100 and permission of the faculty supervisor. *One semester hour.* (Offered spring and fall semesters.)

ESS-412. Exercise Science Internship *Faculty*

A work-related experience within a Wellness/Allied Health setting, at a staff-approved site. A research paper, one oral presentation, and a minimum of one in-service presentation are required. Each student is expected to be on-site a minimum of 160 hours per semester. Prerequisite: ESS 265. Open to senior ESS majors with permission of his/her adviser. Graded S/U. *Four semester hours.* (Offered spring and fall semesters.)

ESS-462. Administration in Exercise and Sport Science *Dr. Davidson*

A study of the administrative theory, principles, and problems in exercise and sports science. Three hours per week. *Four semester hours.* (Offered odd year spring semesters.)

ESS-464. Adapted Physical Education *Dr. Davidson*

An analysis of conditions affecting the development of children with special needs. Methods for selecting and classifying such individuals will be explored, and strategies for adapting activities to meet the needs of differently-challenged individuals will be addressed and experienced. ESS major or permission of instructor. Three hours per week. *Four semester hours.* (Offered even year spring semesters.)

ESS-465. Health and Physical Education Teaching Seminar *Dr. Engstrom*

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.* (Offered fall semesters.)

Note: ESS-465 would be an elective course taken concurrently with EDUC-405. Students in the teaching track not selecting ESS-465 could complete the capstone requirement by scheduling.

ESS-491W. Research/Independent Work *Faculty*

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; ESS-265 and the permission of the departmental chair and project adviser. *Four semester hours.* (Offered spring and fall semesters.)

ESS-492W. Research/Independent Work *Faculty*

A continuation of ESS-491. Prerequisite: ESS-491. *Four semester hours.* (Offered spring and fall semesters.)

Gender and Women's Studies

Professors Czubaroff, Dole, E. Dawley (*Advisory Council*), Hemphill, Lionarons, Novack, Oboler, Trout; *Assistant Professors* Evans (*Advisory Council Chair*), Florka (*Advisory Council*); *Instructor* Ussery.

Gender and Women's Studies is an interdisciplinary minor which places the study of women and gender at the center of the curriculum. It is designed to include a cross-cultural perspective in an examination of the experiences and contributions of women, as well as to explore the challenges and limitations due to gender.

Requirements for Minors

A minor concentration in Gender and Women's Studies consists of 16 credits. All students must take GWMS-200 Gender and Women's Studies. The remaining credits must come from the following: GWMS/ANTH-225, GWMS/SOC-227, GWMS/SOC-263, GWMS/EDUC-402, GWMS/ENG-228, GWMS/ESS-301, GWMS/HIST-328, GWMS/HIST-366, GWMS-381, or GWMS-382. (Credit for only one internship, either WMS-381 or WMS-382, counts toward the minor.) Seminars, special topics courses, and up to four credits of independent study projects above the 100 level which deal with Gender and Women's Studies may be substituted for the courses listed above with the approval of the course instructor and the coordinator of Gender and Women's Studies.

GWMS-200. Gender and Women's Studies *Faculty*

An interdisciplinary course to promote an awareness and understanding of women's and men's potential and options in our society. Readings and discussion 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.*

GWMS/ANTH-225. Gender and Kinship Cross-Culturally *Dr. Gallagher, Dr. Oboler*

The structure of sex and gender roles has important implications for marriage, the family, and kinship in all societies. This course examines sex and gender roles, sexuality, mate selection, marriage customs, divorce, childbearing, parenting, spousal and other kin relations, across the spectrum of world cultures. Prerequisite: any 100-level course in anthropology and sociology or written permission of the instructor. *Four semester hours.*

GWMS/SOC-227. Marriage and the Family *Dr. Gallagher, Dr. Oboler*

This course examines transitions, continuity, and variations in marriages and families in the 20th century United States, with some historical, cross-cultural, and cross-national comparisons. The implications of shifts in public policy for "traditional" and non-traditional families are considered, as well as possible and probable future change in family patterns. Prerequisite: ANTH-100 or Sociology 100 or written permission of the instructor. Three hours per week. *Four semester hours.*

GWMS/ENGL-228. 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: ENGL-100; LSS-100. Three hours per week. *Four semester hours.*

GWMS/SOC-263. Gender in Contemporary Society *Dr. Oboler*

After initial examination of the causes of sex differences, focus is placed on the modern American sex/gender role system: socialization and education; economic, political, religious, and family roles; sexual inequality; and gender-based public policy issues. Some cross-cultural and cross-national comparisons are made. Prerequisite: ANTH-100 or SOC-100 or written permission of the instructor. Three hours per week. *Four semester hours.*

GWMS/SOC-264. Gender, Race and Work *Prof. Ussery*

This course examines the intersection of race and class relations as they affect the work trajectories and experiences of women in the United States. According to various social indicators, women and their children remain disproportionately poor, and many women are undereducated and unemployed. These facts have led some social scientists to posit that poor women and children in the U.S. are becoming a seemingly permanent urban underclass. This course explores the way in which the intersection of systems of social organization (race, class, work and gender) operates as a "containment field" so that certain workers do not have legitimate access to power. Prerequisite: any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.*

GWMS/ESS-301. Gender Issues in Health and Sport *Dr. Borsdorf*

This course will allow students to examine gender differences and the ramifications on health and sports. Topics to be explored will include: gender effects on body composition and weight control, bone mineralization patterns, cardiorespiratory function, thermoregulation, personal and sexual dimensions of health, chronic conditions, and aging influences/repercussions. Four hours per week. *Four semester hours.*

Note: Offered even year fall semesters.

GWMS/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. Three hours per week. *Four semester hours.*

GWMS/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.*

GWMS-370. Research Independent Study *Faculty*

Directed readings and research on a topic in Gender and Women's Studies. A student wishing to register for this course must present to a member of the faculty a proposal outlining research to be completed, and submit the instructor's written agreement to supervise the project to the chair of the GWMS Advisory council. Prerequisites: GWMS-200 and status as a GWMS minor. *Four semester hours.*

GWMS-375. Readings in Gender and Women's Studies *Faculty*

In this directed readings course a student can further develop an interest begun in another course or explore an interest within the field of Gender and Women's Studies not otherwise covered in the curriculum. A student may do independent readings with any member of the GWMS faculty, but must submit in advance the instructors written agreement to supervise the project to the GWMS Advisory Council. Prerequisite: GWMS-200. *Two semester hours.*

GWMS-381. Gender and Women's Studies Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the Gender and Women's Studies Advisory Committee Chair for further details. Prerequisites: Junior standing, GWMS-200, and approval of a faculty internship adviser. One hundred and twenty (120) hours. *Three semester hours.*

GWMS-382. Gender and Women's Studies Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the Gender and Women's Studies Advisory Committee Chair for further details. Prerequisites: Junior standing, GWMS-00, and approval of a faculty internship adviser. One hundred and sixty (160) hours. *Four semester hours.*

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GWMS/EDUC-402. Identity and Diversity Faculty

Analysis and exploration of individual influences and filters regarding racial and gender identity issues through examining and exchanging multiple viewpoints and perspectives in preparation for diversity in the professions, with particular emphasis on teaching. Spring semester only. Three hours per week. *Four semester hours.*

Geography

GEOG-102. Geography Faculty

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

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.

GEOL-105Q (ENV/GEOL). Environmental Geology Faculty

An introduction to environmental geosciences. Includes a study of earth's environmental systems: lithosphere, hydrosphere, atmosphere, plate tectonics, rock types, mineral resources, volcanism, earthquakes, weathering soils, surface water, ground water, climate, weather, oceans, energy, environmental change. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

History

Professors Clark, Doughty, Hemphill, Strassburger; Associate Professor King (Chair); Assistant Professor Greason.

History at Ursinus explores the dynamic interplay between the past and the present. Rather than simply master facts, students of history learn to think critically, including questioning how history itself is constructed. Our goals are to provide a solid foundation in research methodology; to foster comprehensive reading, writing, and analytical skills; and to cultivate the global and multicultural perspectives that are necessary to understand the human condition and contemporary world affairs.

Moreover, emphasizing history's connection to the present enables our majors and minors to enter a variety of career fields. Equipped with superior communication skills and internship experiences, graduates from our program have gone on to pursue careers in law, business, government, the foreign service and journalism.

Those who wish to continue in history find opportunities in high school and college teaching as well as historical preservation in museums, historic sites, archives and libraries. In pursuing these careers, the majority of history alumni go on to graduate degrees. The History Department seeks to endow all students, whatever their path, with a consciousness of history and its critical skills. We view this as a vital part of a truly liberal education.

Requirements for Majors

History majors must take a minimum of ten courses in history, at least four of which must be at the 300 level. The following requirements must be fulfilled: History 200W; two courses in United States history (213, 214, 220, 320, 321, 322, 323, 324, 327, 328, 329); two courses in European history (205, 206, 207, 304, 305, 306, 308); two courses in non-Western history (231, 241, 243, 253, 341, 342, 343, 344, 345, 353); two courses in comparative history (261, 262, 361, 365, 366, and 368); and one 400-level capstone course.

All history majors are strongly encouraged by the department to participate in an approved study abroad program or to take History 381 (History Internship) or other internship course. History courses taken abroad may be counted to fulfill department requirements.

Special Career Interests

Graduate Study in History

Students seeking admission to graduate programs in history should consider undertaking independent research and specializing in an area or period in addition to the requirements of the history major. Possible area specializations include: African-American history; American history; Comparative or World history; East Asian history; and European history.

Careers in the Law

Students who plan to seek admission to law school should acquire a faculty Pre-legal adviser. There are no specific course requirements, but prospective law students should choose electives that sharpen their reading, writing, speaking, and reasoning skills. They should also consider independent research.

Careers in Teaching

Students interested in teaching history or social studies at the secondary school level should inform their faculty advisers and consult the Ursinus College Education Department. Students seeking secondary school teaching certification in social studies must include HIST-262 in their curriculum. In addition, teaching candidates must take BE-100; MCS-102; PSYC-100 and PSYC-265; POL-218 and one additional Politics course; two additional social studies elective courses; five Education courses; and EDUC-405 (Student Teaching).

Careers in Public History

Students wishing to pursue a career in public history, including historical preservation and museum studies, should take Art-330 and pursue historic site internships. They should also consider an area or period specialization in addition to the requirements of the history major.

Requirements for Minors

Students seeking a minor in history must take a minimum of five courses in the department, at least one of which must be at the 300 or 400-level. Students interested in a history minor must register with the department chair to discuss their particular interests and goals and plan a course of study.

Note: All 200-level History courses are open to first-year students. First-year students may also be admitted to 300-level courses, with the permission of the History Department. History 200W, 207, 213, 214, 261 and 262 are offered annually, while History 381 (History Internship) is offered every semester. Other history courses are offered every other year.

URSINUS COLLEGE CATALOGUE

HIST-200W. Historiography Faculty

An introduction to the craft and discipline of History. The course combines readings by great historians on their method with a focused excavation of at least one historical topic of the instructor's choosing through close reading of primary and secondary sources. Students will be required to do extensive writing and revision of papers. Three hours per week. *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. *Four semester hours.*

HIST-206. Europe in Revolution Dr. Doughty

A study of the origins, nature and consequences of the English, French and Industrial Revolutions and their impact on Europe and the Americas. Topics include the English Civil War, Louis XIV; Napoleon; the social effects of industrialization and the development of parliamentary democracy in Britain. Significant time will be devoted to historiography. Four hours per week of discussion of assigned reading. *Four semester hours.*

HIST-207. The Global Era Dr. Doughty

A survey of international relations and their domestic political, social and economic background, c/ 1890 to the present, with particular emphasis on the origins and consequences of the two World Wars, the Cold War and the problems of the emerging global economic and political system of the post-Cold War era. Four hours per week. *Four semester hours.*

HIST-213. American History, 1500-1877 Dr. Hemphill

A survey of American history from the collision of Indian, African and European cultures in the sixteenth and seventeenth centuries through the formation of the United States of America from thirteen British colonies, to the maturation and testing of that nation in the Civil War era. Emphasis will be on the diversity of American experience and historical debates on key issues. Three hours per week of discussion of readings. *Four semester hours.*

Note: Not open to students who have taken History 221.

HIST-214. Modern American History, 1877-Present Faculty

A survey of modern American history that emphasizes "history from the bottom up." Notions of race, gender, and labor will be used as means to examine the historical experiences of everyday Americans. This course also studies how everyday people shaped the development of the United States. Readings will draw from primary and secondary material. Three hours per week. *Four semester hours.*

Note: Not open to students who have taken History 221.

HIST-220 Philadelphia Story: The City as Text Dr. Hemphill

This course uses the city of Philadelphia as a laboratory for examining the American experience. Among other issues, it considers Philadelphia as the locus for the founding of the American political system, as a primary destination for European and African-American migrants, and as a place to examine the urban challenges of poverty, crime, epidemics, and racial or ethnic conflict. In addition to discussing a variety of primary and secondary source readings, we will attempt to read the city itself- its buildings, murals, market-stalls and neighborhoods- for clues to the American urban experience. Three hours per week, plus field trips. *Four semester hours.*

HIST-231. Race Relations in the African Diaspora Faculty

A survey of the African Diaspora, this course examines the development of race relations across a broad platform historically and geographically. Students will investigate the nature of race on the African continent as well as how race takes meaning through the migration of African peoples in the Americas. Four hours per week. *Four semester hours.*

HIST-241. Society and Culture of China *Dr. Clark*

A survey of Chinese history from the Song dynasty to the present, with particular emphasis on social and cultural developments, the growth of the traditional order, consequences of European contact, and the trials and revolutions of the twentieth century. Readings will draw on a mixture of primary and secondary material, including contemporary monographs, novels, and other forms of literature. Four hours per week. *Four semester hours.*

HIST-243. Society and Culture of Japan *Dr. Clark*

A survey of Japanese history from the origins of the Japanese state through World War II and the American Occupation. Particular attention will be devoted to economic, social and cultural developments of the late traditional period (1600-1868) as precursors to the twentieth-century transformations. Readings will draw on a mixture of primary and secondary material, including contemporary monographs, novels, and other forms of literature. Four hours per week. *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. *Four semester hours.*

HIST-261. The Pre-Modern World *Dr. Doughty, Dr. King*

A comparative survey of the origins, development and achievements of the world's major civilizations, to c. 1500 C.E., with emphasis on the study of their ideas and institutions; the cultural, economic and social interactions among their respective peoples; and environment on their development. Three hours per week. *Four semester hours.*

Note: Not open to students who have taken History 101.

HIST-262. The Modern World *Dr. Doughty, Dr. King*

A comparative survey of the development and transformation of the world's major civilizations in the modern era (c. 1500 to the present), 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 influence of geography, climate and environment on the history of the modern world. Three hours per week. *Four semester hours.*

Note: Not open to students who have taken History 102.

HIST-299. History Tutorial *Faculty*

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.* Offered as requested.

HIST-300. Special Topics in History *Faculty*

An elective course dealing with special subject areas and periods. Three hours per week. (Not offered on a regular basis.) *Four semester hours.*

HIST-304. European Religious Wars, 1054-1648 *Dr. King*

This course examines religious conflict in Europe and its impact on political, social, economic, and cultural developments from the Schism of 1054 through the Thirty Years' War. Among the conflicts that will be studied in depth are the Crusades, medieval heresies and social reform movements, and the Protestant and Catholic Reformations. Significant time will be devoted to the historiography of the period. Three hours per week. *Four semester hours.*

HIST-305. The Devil in Europe: Witchcraft and Society, c. 1450-1750 *Dr. Doughty*

A study of the origins and dynamics of the witch-hunt in Europe, as a vehicle for examining early modern society and culture. Topics to be studied will include the origins of village and learned witchcraft beliefs; the effects of religious and economic change; the role of gender in accusations and trials; Devil-worship and the witches' sabbat; and the reasons for the decline of the persecutions. Significant time will be devoted to the historiography of the topic. Three hours per week. *Four semester hours.*

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HIST-306. 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-308. Nazi Germany and the Holocaust *Dr. Doughty*

A study of the rise of Adolf Hitler and the National Socialist Party, the structure and dynamics of 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 historiographical questions concerning the social and political background of Nazism, the role of Adolf Hitler in the Nazi state, the status of women in Nazi Germany, anti-Semitism in European society, and the planning and implementation of the Holocaust. Three hours per week. *Four semester hours.*

HIST-320. From the Gallows to the Penitentiary: Criminal Justice in America *Faculty*

Examining the criminal justice system, this course maps changes in punishment, definitions of crime, and judicial praxis in America. Spanning the colonial period to the modern era, this class investigates how the history of criminal justice reflects social transitions in the nation. Three hours per week. *Four semester hours.*

HIST-321. Colonial America *Dr. Hemphill*

This course will explore the colonial experience in North America. The settlement and evolution of the British colonies in a larger Atlantic world provides the primary framework for the study of the experience of the many peoples—Indian, African, and European—who met and struggled in this context. Readings will draw on a mixture of primary and secondary material. Three hours per week of discussion. *Four semester hours.*

Note: This course will be offered every third year, in rotation with 322 and 323.

HIST-322. Revolutionary America *Dr. Hemphill*

This course will examine the American War for Independence from Great Britain and the political, social and economic revolutions that accompanied it. Using both primary documents and recent scholarship, we will examine the transformation of American society from 1750 to 1820. Three hours per week of discussion of the readings. *Four semester hours.*

Note: This course will be offered every third year, in rotation with 321 and 323.

HIST-323. Civil War America *Dr. Hemphill*

This course on America's "testing time" will begin with an exploration of conditions in American society after c. 1820 that gave rise to the American Civil War (especially the institution of slavery and the cultural, economic and political divergence of the North and South). It will then consider the war experience from military, political and home front perspectives, concluding with the aftermath of war in the Reconstruction era. Readings will draw on a mix of primary and secondary material. Three hours per week. *Four semester hours.*

Note: This course will be offered every third year, in rotation with 321 and 322.

HIST-324. American Slavery *Faculty*

This course is a rigorous examination of slavery and its representations in the United States. Using primary sources, secondary sources, art and film clips, this class investigate the relationship between history, memory and the impact of social, political and gendered imagination. Three hours per week. *Four semester hours.*

HIST-327. The Lost Decade, 1940s America *Faculty*

Against the backdrop of WWII, this class will examine social transformation in the United States. Exploring changing notions of gender, race relations, employment, and the family, the course will unearth how the 1940s laid the framework for future social movements that occur in the 1950s and 1960s. Three hours per week. *Four semester hours.*

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. Three hours per week. *Four semester hours.*

HIST-329. Reading Between the Lines: African-American History, 1877-Present *Faculty*

Were black men the only victims of lynching? Was Rosa Parks the first woman to challenge segregated busing? Were black women the only victims of rape? Was Malcolm X a misogynist? Through comparison of primary and secondary sources, this course examines the impact of gender and sexuality on African-American history and the creation of specific historical legacies. Three hours per week. *Four semester hours.*

HIST-341. An Historical Introduction to East Asian Thought *Dr. Clark*

An introduction to the great texts of the East Asian philosophical tradition. Readings will focus on the original texts of Confucianism, Daoism, Legalism, and the other traditions, as well as later commentaries, and will be supplemented with appropriate contemporary monographs. Three hours per week. *Four semester hours.*

Note: Not open to students who have taken History 343.

HIST-342. An Historical Introduction to East Asian Religion *Dr. Clark*

An introduction to the religious traditions of China and Japan, including China's pre-imperial religious heritage, Buddhism, Daoism, and Shinto. Readings will emphasize primary source texts and will be supplemented with appropriate contemporary monographs. Three hours per week. *Four semester hours.*

HIST-344. The Vietnam Wars *Dr. Clark*

An examination of post-colonial conflict in Vietnam from the mid-19th century through 1975. We will approach the narrative from the perspective of the Vietnamese 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-345. Women in East Asian Culture *Dr. Clark*

An historical overview of the position of women in East Asian culture from the early modern era to the recent past. Attention will be devoted to topics such as marriage, motherhood, family structure, economic opportunity, women's writing, women and religion, etc. In addition to contemporary monographs, readings may include novels, plays, poetry, as well as movies. Three hours per week. *Four semester hours.*

HIST-353. The Arab-Israeli Conflict *Dr. King*

This course will examine the origins and historical development of one of the most bitter and long-lasting disputes of the last century. Using a combination of primary sources and scholarship, we will investigate the impact that this conflict has had on Middle Eastern politics, on international relations, and on the problem of human rights. 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-365. Empires and Nations *Dr. King*

A comparative history of the emergence of nationalism among the subject peoples of multinational empires in the nineteenth and twentieth centuries: Western Europe's overseas empires, the Russian/Soviet empire, the Austrian Empire, and the Ottoman Empire. The course will focus on theories of imperialism and of nationalism, and on the perspective of the societies struggling for national independence. Three hours per week. *Four semester hours.*

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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-368. Warfare and Society *Dr. Doughty*

A comparative study of military organization and warfare, in its social and cultural context, from c. 500 BCE to the present. The interrelationships between warfare, technology, government and society will be studied, using case studies from ancient Greece to the Gulf War and modern terrorism. Europe, North America, Japan and the Middle East are areas which will be studied in detail. Three hours per week. *Four semester hours.*

HIST-381. History Internship *Faculty*

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: 12 credits in history and approval of a faculty internship adviser. *Four semester hours.*

HIST-400W. Research *Faculty*

Independent research, under the guidance of an adviser, directed toward the production and oral presentation of a historical project or paper. Prerequisite: HIST-200W or equivalent. (Offered as needed) *Four semester hours.*

HIST-401W. Seminar in European History *Faculty*

Readings and individual research on topics of European history, leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: History 200W or equivalent. Three hours per week. *Four semester hours.*

HIST-421W. Seminar in American History *Faculty*

Readings and individual research on topics of American history, leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: History 200W or equivalent. Three hours per week. *Four semester hours.*

HIST-442W. Seminar in East Asian, Middle Eastern, or African History *Faculty*

Readings and individual research on topics of non-Western history, leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: History 200W or equivalent. Three hours per week. *Four semester hours.*

HIST-462W. Seminar in Comparative History *Faculty*

Readings and individual research on topics in comparative history leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: History 200W or equivalent. Three hours per week. *Four semester hours.*

HIST-491W. Research/Independent Work *Faculty*

This course is open to candidates for departmental honors and to other students with the permission of the department chair. Prerequisites: History 200W and the permission of the department. *Four semester hours.*
Note: HIST-491 does not fulfill the capstone requirement.

HIST-492W. Research/Independent Work *Faculty*

A continuation of course 491. Open only to candidates for honors. Prerequisites: HIST-491 and permission of the department. *Four semester hours.*

Interdivisional Studies

IDS-101. World Literature I: The Literary Tradition Faculty

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.* (See also URSINUS IN SEVILLA program.)

IDS-102. World Literature II: Topics in Comparative Literature Faculty

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.*

IDS-110. Topics in Interdivisional Studies Faculty

This course will focus on a topic that is interdisciplinary in nature and is not covered in a similar fashion in other courses in the curriculum. Topics will vary, and students may repeat course when topics differ. Four hours per week. *Four semester hours.*

IDS-151Q. Interdisciplinary Science: Life's A Risk Faculty

A study of risk analysis for living in a hazardous world. Of interest to anyone who hopes to eat, breathe, travel or reproduce, and live to tell the tale. Readings from the scientific and popular literature; laboratories on risk assessment. This course may be used to satisfy the laboratory science requirement. Three hours of lecture; three hours of laboratory per week. *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 Interdisciplinary Independent Study Committee. *Four semester hours.*

IDS-290. Writing Fellows Prof. Fritz

This course will prepare students to work as Writing Fellows, either in the writing center or as aides to faculty in Writing Intensive courses. Prerequisites: ENGL-100, LSS-100 and permission of the instructor. Three hours per week. *Four semester hours.*

IDS-301. Directed Readings

This course can be taken either as an individualized tutorial or as a group readings course. Students and faculty collaborate in designing a reading list of interdisciplinary materials and writing projects appropriate to the number of semester hours for which the course is being taken (eight to ten pages of formal and informal writing per credit hour). Permission of instructor required. *Two to four semester hours.*

IDS-332. Latin American Studies (see also Spanish) Dr. Cameron

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 upper class students. Four hours per week. *Four semester hours.*

IDS-350. Human Sexuality Faculty

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 per week. *Four semester hours.*

IDS-491. Research/Independent Work Faculty

Individual investigation of an interdisciplinary topic. Open to candidates for interdepartmental honors and to other students. Permission of two department chairs required. *Four semester hours.*

IDS-492W. Research/Independent Work Faculty

Continuation of IDS-492. *Four semester hours.*

Liberal Studies

The goals of the two Liberal Studies Seminars 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 three broad questions relevant to the human condition; 4) to enable the student to make connections across the traditional disciplines; and 5) to promote a shared intellectual endeavor for all entering students.

All students are required to enroll in LSS 100 during the fall of their first year. All students are required to enroll in LSS 200 during the spring of their freshman or sophomore year. Transfer students may be exempted from one or both semesters with the approval of the dean of the college.

While Liberal Studies Seminars have an enrollment limited to 16 students to provide an atmosphere conducive to discovery and inquiry, the small sections meet together, from time to time, for common events. Faculty members from all disciplines lead students to reflect about significant issues that introduce them to the intellectual climate of the College. Reading assignments consist of seven or eight books or equivalents. Frequent writing and oral assignments are required throughout the course.

LSS-100. Common Intellectual Experience I *Faculty*

The first of a two-semester course introducing inquiry into the central questions of a liberal education: what does it mean to be human? How should we live our lives? What is the universe and how do we fit into it? The course will explore these questions through the study of foundational texts in a variety of disciplines. The first semester begins with ancient times and concludes with the advent of modern science. Four hours per week. *Four semester hours.*

LSS-200. Common Intellectual Experience II *Faculty*

This course brings the inquiry of LSS-100 (CIE I) into the modern era. Specifically, the semester begins with the Enlightenment and concludes with a consideration of contemporary situations. The main questions of LSS-100 will continue to be explored through the study of foundational and contemporary texts from many disciplines. Four hours per week. *Four semester hours.*

Mathematics and Computer Science

Professors Coleman (Chair), Jessup; Associate Professor Neslen; Assistant Professors Berman, Goebeler, Kontostathis, Liston, Yahdi; Instructor Wait.

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, 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.

Note: Students who major in mathematics or computer science 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.

Computer Science

Requirements for Computer Science Majors

A student majoring in computer science is required to take Math 112, 236W; CS 173, 174, 273, 274; one of CS 373 or 374; CS 350; and at least four other computer science courses at the 300- or 400-level, one of which must be 400-level capstone course. Internships (CS 381, 383) and one-credit and two-credit research/independent work courses (CS 391-394) do not fulfill any requirements for the major. A student who is not prepared to take Math 112 will need to take Math 111 or Math 107-108 first.

Recommendations for Computer Science Majors

Additional recommended mathematics courses are Math 211, 235, 310, 241, 341 and 413. Recommended ancillary courses are Physics 111, 112, 209 and Economics 100.

Requirements for Computer Science Minors

A minor concentration in computer science consists of Math 112, 236W; CS 173, 174; and two courses from CS 273, 274, 373, 374, at least one of which must be at the 300 level.

CS-100. Computer Science for the Liberal Arts Faculty

Broad introduction to topics in computer science. Introductory programming in a computer language. For students who do not intend to take other computer science courses. Three hours per week. *Four semester hours.*

Note: Students who have taken CS 173 or CS 271 may not enroll in CS 100. The course CS 100 does not fulfill the College mathematics core requirement.

CS-173. Introduction to Computer Science Prof. Liston

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. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

CS-174. Data Structures Faculty

A continuation of CS 173. Introduction to algorithm analysis and data structures. Classes and instances, vectors, and lists. Larger programs and/or team projects. Prerequisite: CS 173. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

CS-270. Computational Statistics (SAS) Faculty

Statistical analysis using statistical software. Design, collection, organization, and storage of data sets. Statistical programming, debugging, analysis of output and interpretation of results. Prerequisites: Math 242 or Math 243. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

CS-273. Design and Analysis of Algorithms Dr. Jessup

Complexity of algorithms, searching and sorting algorithms, tables, hashing, recursion, tree and graph algorithms. Prerequisites: Math 111 or equivalent, and CS 174. Offered in the fall semester. Three hours per week. *Four semester hours.*

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CS-274. Computer Architecture and Organization *Dr. Jessup*

Hierarchical structure of computer architecture, number systems, arithmetic operations, codes, switching algebra, logic gates, assembly language programming. Prerequisite: CS 174. Offered in the spring semester. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

CS-350. Oral Presentation *Faculty*

A computer science oral presentation. This course will satisfy the College requirement for an oral presentation in the major. Prerequisite: written consent of a department faculty member. Graded S/U. *Zero semester hours.*

Note: This course is usually taken in conjunction with internships (CS 381, 383) and research/independent work (CS 391-394, 491, 492).

CS-373W. Theory of Computation *Prof. Liston*

Principles of formal languages, automata, computability and computational complexity. Emphasis on writing proofs of theorems. Prerequisites: Math 236W, CS 174. Offered in the fall of odd years. Three hours per week. *Four semester hours.*

CS-374. Principles of Programming Languages *Faculty*

Syntax, processors, representations and styles of programming languages. Study and comparison of several modern programming languages. Offered in the spring of odd years. Prerequisite: CS 174. Three hours per week. *Four semester hours.*

CS-375. Object Oriented Design and Systems Development *Dr. Kontostathis*

Topics integral to the design, implementation and testing of a medium-scale software system combined with the practical experience of implementing such a project as a member of a programming team. Object-oriented design principles and design experience using Unified Modeling Language (UML) or another modeling language. Prerequisite: CS 173. Offered in the fall of even years. Three hours per week. *Four semester hours.*

CS-376. Operating Systems *Faculty*

Fundamental concepts of operating systems. Sequential processes, concurrent processes, processor management, memory management, scheduling algorithms, and computer security. Projects include writing of a program to simulate major components of an operating system. Prerequisites: CS 273 and CS 274. Offered in the spring of even years. Three hours per week. *Four semester hours.*

CS-377. Database Design *Dr. Kontostathis*

The concepts involved in designing and using a database management system. Logical and physical database design. Entity-Relational Modeling. Various types of database structures, manipulations of a database structure through applications, query techniques, and programming in a database language. Prerequisite: CS 174. Offered in the fall of odd years. Three hours per week. *Four semester hours.*

CS-381. Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Prerequisites: junior standing, three courses in computer science and approval of a faculty internship adviser. Eight to ten hours per week. Graded S/U. *Three semester hours.*

CS-383. Internship *Faculty*

An off-campus academic / work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Prerequisites: junior standing, three courses in computer science and approval of a faculty internship adviser. Eleven to 14 hours per week. Graded S/U. *Four semester hours.*

Note: Students may receive credit for two internships that meet the conditions described in this catalogue.

CS-391. Research/Independent Work Faculty

Independent investigation of an area of computer science not covered in regular courses.
Prerequisite: Written consent of a department faculty member. Offered in the fall semester. Graded S/U.
One semester hour.

Note: This course may be taken more than once.

CS-392. Research/Independent Work Faculty

Independent investigation of an area of computer science not covered in regular courses.
Prerequisite: Written consent of a department faculty member. Offered in the fall semester. Graded S/U.
Two semester hours.

Note: This course may be taken more than once.

CS-393. Research/Independent Work Faculty

Independent investigation of an area of computer science not covered in regular courses.
Prerequisite: Written consent of a department faculty member. Offered in the spring semester. Graded S/U.
One semester hour.

Note: This course may be taken more than once.

CS-394. Research/Independent Work Faculty

Independent investigation of an area of computer science not covered in regular courses.
Prerequisite: Written consent of a department faculty member. Offered in the spring semester. Graded S/U.
Two semester hours.

Note: This course may be taken more than once.

CS-471. Seminar in Computer Science I Faculty

A detailed study of an advanced topic in computer science, such as computational geometry, compilers, data mining, robotics or distributed technology. This course will satisfy the College requirement for a capstone experience in the major. Prerequisites: CS 174 and written permission of the instructor. Usually offered in the fall semester of even years. May be repeated for credit. Three hours per week. *Four semester hours.*

CS-472. Seminar in Computer Science II Faculty

The course will cover topics similar to those listed in CS 471. This course will satisfy the College requirement for a capstone experience in the major. Prerequisites: CS 174 and written permission of the instructor. Offered in the spring semester as needed. May be repeated for credit. Three hours per week. *Four semester hours.*

CS-475. Computer Networks Faculty

Architecture and protocols of computer networks. Protocol layers; network topology; data-communication principles, including circuit switching, packet switching and error control techniques; sliding window protocols, protocol analysis and verification; routing and flow control; local and wide area networks; network interconnection; client-server interaction; emerging networking trends and technologies; topics in security and privacy. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite or co-requisite: CS 274. Offered in the spring of odd years. Three hours per week. *Four semester hours.*

CS-476. Computer Graphics Faculty

Software and hardware for interactive computer graphics. Implementation of device drivers, 3-D transformations, clipping, perspective, and input routines. Data structures, hidden surface removal, color shading techniques, and some additional topics. This course will satisfy the College requirement for a capstone experience in the major. Prerequisites: CS 273 and Math 235. Offered fall of even years. Three hours per week. *Four semester hours.*

CS-477. Artificial Intelligence Faculty

Goals and methods of artificial intelligence. Methods of general problem solving. Mechanical theorem proving. Game playing. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: CS 273. Offered in the fall of odd years. Three hours per week. *Four semester hours.*

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CS-478. Parallel Algorithms and Computing Faculty

Concurrent and parallel programming, with an emphasis on language constructs. Major topics include: exceptions, coroutines, atomic operations, critical sections, mutual exclusion, semaphores, high-level concurrency, deadlock, interprocess communication, process structuring, shared memory and distributed architectures. Students will learn how to structure, implement and debug concurrent programs. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: CS 273. Offered in the spring of even years. Three hours per week. *Four semester hours.*

CS-491. Research/Independent Work Faculty

Independent investigation of an area of computer science not covered in regular courses. An oral presentation to the department is required. Prerequisites: Written consent of a member of the Faculty to serve as an adviser. *Four semester hours.*

CS-492. Research/Independent Work Faculty

Content and prerequisites as in CS 491. *Four semester hours.*

Mathematics

Requirements for Mathematics Majors

A student majoring in mathematics is required to take CS173 and 36 credits in mathematics.

1. The following courses are required: CS173 and Math 112, 211, 235, 236W, 311W, 335, and 350.
2. In addition, one of the capstone courses is required: Math 413, 421, 434, 442, or 492W.
3. The remaining eight credits must be selected from 300-400 level mathematics courses, excluding internships (Math 381, 383, 384) and one credit and two credit research/independent work courses (Math 391-394). A student who is not prepared to take Math 112 will need to take Math 111 or Math 107-108 first.

Recommendations for Mathematics Majors

Economics 100 and Physics 111, 112, are recommended. Students planning to do postgraduate work in mathematics should take Math 312 and 421. Students planning to seek jobs in industry should take Math 310, 341, 413, and 442.

Secondary Certification

Students preparing for secondary teaching must major in mathematics, and take Math 322, 341, and 442 to satisfy the mathematics part of certification requirements. As many of the following as possible are recommended: Math 241, 242, 310, 362, 421, 434. If the student can take Math 241-242, they should be taken before Math 341-442. Details may be obtained from the department of mathematics and computer science or education. Those students preparing for secondary teaching should consult the Ursinus College Education Department.

Requirements for Mathematics Minors

A minor concentration in mathematics consists of Math 112, 211, 235; and two additional courses in mathematics chosen from 236W, 310, 311W, 312, 322, 335, 341, 413, 421, 434, 442, 451, 452.

A minor concentration in statistics consists of Math 112, 211, 242 or 243, 341, 442.

A minor concentration in biostatistics consists of Bio 111, 212; Math 241, Math 243, and one of CS 270, Math 384, or Math 441.

Note: Students who have taken Math 242 (Statistics II) may substitute a second course from CS 270, Math 384, or Math 441 for Math 243.

MATH-100. Mathematics for the Liberal Arts Faculty

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. Three hours per week. *Four semester hours.*

MATH-105. Calculus for Economics and Business Faculty

Conceptual understanding of differential and integral calculus. Some classical applications as well as applications to economics and business. Offered both semesters. Four hours per week. *Four semester hours.*

Note: A student may not receive credit for both Math 105 and Math 108. A student who has received credit for Math 105 may not enroll in Math 107. A student who has received credit for Math 111 may not enroll in Math 105.

MATH-107. Calculus with Review I Faculty

Calculus integrated with an extensive review of precalculus. The Cartesian plane; algebraic, exponential and logarithmic functions; limits; continuity; derivatives; applications of derivatives. Use of a computer algebra system. Continued in Math 108. The sequence Math 107-108 is equivalent to Math 111 with precalculus review. Prerequisite: Placement based on the high-school record and a placement test. Offered in the fall semester. Four hours per week. *Four semester hours.*

Note: A student who has received credit for Math 105 or Math 111 may not enroll in Math 107.

MATH-108. Calculus with Review II Faculty

A continuation of Math 107. Calculus integrated with an extensive review of precalculus. Trigonometric and inverse trigonometric functions and their applications; indeterminate forms; the Fundamental Theorem of Calculus. Use of a computer algebra system. The sequence Math 107-108 is equivalent to Math 111 with pre-calculus review. Prerequisite: A grade of C- or better in Math 107. Offered in the spring semester. Four hours per week. *Four semester hours.*

Note: A student may not receive credit for both Math 108 and either of the following courses: Math 105 and Math 111.

MATH-111. Calculus I Faculty

Limits; derivatives; applications of derivatives; trigonometric, inverse trigonometric, logarithmic, and exponential functions; applications of these functions; indeterminate forms; the Fundamental Theorem of Calculus. Use of a computer algebra system. Prerequisite: Placement based on the high-school record and a placement test. Offered both semesters. Four hours per week. *Four semester hours.*

Note: A student may not receive credit for both Math 108 and Math 111. A student who has received credit for Math 111 may not enroll in Math 105 or Math 107.

MATH-112. Calculus II Faculty

A continuation of Math 111. Techniques of integration, applications of integration, improper integrals, polar coordinates, parametric equations, infinite sequences and series. Use of a computer algebra system. Prerequisite: Placement based on the high-school record and a placement test, or a grade of C- or better in Math 108 or Math 111. Offered both semesters. Four hours per week. *Four semester hours.*

MATH-211. Multivariate Calculus Faculty

Functions of several variables, including three-dimensional geometry and vectors, space curves and motion in space, partial differentiation, multiple integration, line and surface integrals, and the theorems of Green, Gauss, and Stokes. Use of a computer algebra system. 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.*

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MATH-235. Linear Algebra *Dr. Berman*

Systems of linear equations, matrix theory, real vector spaces, linear transformations, eigenvectors and eigenvalues, inner products, orthogonal transformations, least-squares solutions, applications. The computer as a computational tool. Prerequisite: Math 111 or equivalent, or permission of the instructor. Offered in the fall semester. Four hours per week. *Four semester hours.*

MATH-236W. Discrete Mathematics *Faculty*

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 writing projects. Topics studied may include axiomatic systems. Logic, set theory, function, mathematical induction, graph theory and trees. Prerequisite: Math 111. Offered in the spring semester. Three hours per week. *Four semester hours.*

MATH-241Q. Statistics I *Faculty*

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 or Math 442 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 442. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

MATH-243. Biostatistics *Dr. Coleman*

Statistical techniques appropriate to the biological sciences. Topics such as experimental design, hypothesis testing, nonparametric methods, chi-square tests, simple and multiple regression, analysis of variance. Prerequisite: Math 241 or 442. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

Note: Students may not receive credit for both Math 242 and Math 243.

MATH-260. Logic *Dr. Florka, Dr. Goetz*

(Same as PHIL-260.) An introduction to the concepts and techniques used in symbolic reasoning, primarily through the study of first-order logic, the translation of sentences of ordinary English into a formal language, and the construction of derivations. Topics include: formalization, proofs, mathematical induction, propositional and predicate logic, quantifiers, and sets. (Formerly PHIL-202.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for MATH-236 or the former PHIL-202 may not enroll in MATH-260.

MATH-310. Differential Equations and Mathematical Models *Dr. Yahdi*

Mathematical methods for developing models in the physical, biological, and social sciences. Emphasis on models involving differential equations. Solutions, visualizations, and interpretations of first order, second order, and systems of linear and non-linear differential equations. Numerical, graphical and analytic methods, with extensive qualitative analysis approaches. Laplace transforms. Independent projects. Additional topics chosen from forcing and resonance, discrete dynamical systems, and power series solutions. Use of a computer algebra system. Prerequisite: Math 112. Offered in the fall of even years. Three hours per week. *Four semester hours.*

MATH-311W. Analysis I *Dr. Yahdi*

An introduction to the real number system and set operations; theoretical treatment of supremum, infimum, countability, sequences, limits, continuity, and differentiability. Additional topics may include series, structure of point sets and abstract metric spaces. Emphasis on writing mathematical proofs. Prerequisite: Math 211 and 236W. Offered in the fall semester. Three hours per week. *Four semester hours.*

MATH-312. Analysis II *Dr. Yahdi*

A continuation of Math 311. The Riemann and Riemann-Stieltjes integral; infinite series, sequences and series of functions; introduction to metric spaces. Additional topics may include Lebesgue measure and integration, orthogonal functions and Fourier series. Prerequisite: Math 311. Offered in spring of odd years. Three hours per week. *Four semester hours.*

MATH-322. Modern Geometry *Dr. Berman*

Topics in Euclidean and non-Euclidean geometry, including some of the following: geometry from an axiomatic viewpoint, synthetic Euclidean geometry, transformation geometry and symmetry, affine and projective geometry, inversive geometry, spherical geometry, and hyperbolic geometry. Prerequisites: Math 235 and 236W. Offered in the spring of odd years. Three hours per week. *Four semester hours.*

MATH-335. Abstract Algebra *Faculty*

An introduction to algebraic structures, with emphasis on groups: Subgroups, quotient groups, homomorphisms, isomorphism theorems, Cayley's theorem, permutation groups. Prerequisites: Math 235 and 236W. Offered in the spring semester. Three hours per week. *Four 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-350. Oral Presentation *Faculty*

A mathematics oral presentation. This course will satisfy the College requirement for an oral presentation in the major. Prerequisite: written consent of a department faculty member. Graded S/U. *Zero semester hours.*

Note: This course is usually taken in conjunction with internships (Math 381, 383, 384, 441) and research/independent work (Math 391-394, 441, 491, 492W).

MATH-381. Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Prerequisites: junior standing, three courses in computer science and approval of a faculty internship adviser. Eight to ten hours per week. Graded S/U. *Three semester hours.*

MATH-383. Internship *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Prerequisites: junior standing, three courses in computer science and approval of a faculty internship adviser. 11 to 14 hours per week. Graded S/U. *Four semester hours.*

Note: Students may receive credit for two internships that meet the conditions described in this catalog.

MATH-384. Internship in Biostatistics *Faculty*

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, Math 242 or Math 243, and approval of a faculty internship adviser. Eleven to 14 hours per week. Graded S/U. *Four semester hours.*

MATH-391. Research/Independent Work *Faculty*

Independent investigation of an area of mathematics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Offered in the fall semester. Graded S/U. *One semester hour.*

Note: This course may be taken more than once.

MATH-392. Research/Independent Work *Faculty*

Independent investigation of an area of mathematics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Offered in the fall semester. Graded S/U. *Two semester hours.*

Note: This course may be taken more than once.

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MATH-393. Research/Independent Work Faculty

Independent investigation of an area of mathematics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Offered in the spring semester. Graded S/U. *One semester hour.*

Note: This course may be taken more than once.

MATH-394. Research/Independent Work Faculty

Independent investigation of an area of mathematics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Offered in the spring semester. Graded S/U. *Two semester hours.*

Note: This course may be taken more than once.

MATH-413. Numerical Analysis Dr. Yahdi

Selected topics from numerical analysis, which may include 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. This course will satisfy the college requirement for a capstone experience in the major. Prerequisite: Math 211. Offered in even year fall semesters. Three hours per week. Four semester hours. Offered in even year fall semesters. Three hours per week. *Four semester hours.*

MATH-421. Topology Faculty

Elementary point set topology; metric spaces; topological spaces, separation axioms, compactness, connectedness. This course will satisfy the College requirement for a capstone experience and an oral presentation in the major. Prerequisite: Math 311W. Offered in odd year fall semesters. Three hours per week. *Four semester hours.*

MATH-434. Theory of Numbers Faculty

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. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: Math 236W. Offered in even year spring semesters. Three hours per week. *Four semester hours.*

MATH-441. Applied Research in Biostatistics Faculty

Directed independent study on current problems in biostatistics. A mentoring program run in conjunction with local industry. The course will introduce students to fundamental research procedures and data analysis in the context of a research problem resulting in a research report. Students should expect to spend at least 12 hours per week working on their research project. Prerequisites: junior standing, Math 242 or Math 243, and written permission of a department faculty member required. *Four semester hours.*

MATH-442. 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. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: Math 341. Three hours per week. *Four semester hours.*

MATH-451. Topics in Advanced Mathematics I Faculty

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. *Four semester hours.*

MATH-452. Topics in Advanced Mathematics II Faculty

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. *Four semester hours.*

MATH-491. Research/Independent Work Faculty

Independent investigation of an area of mathematics not covered in regular courses. An oral presentation to the department is required. Prerequisite: Written consent of a member of the Faculty to serve as an adviser. *Four semester hours.*

MATH-492W. Research/Independent Work Faculty

Content and prerequisite as in Math 491. This course will satisfy the college requirement for a capstone experience and an oral presentation in the major. *Four semester hours.*

Media and Communication Studies

Professors Czubaroff (Chair), Miller; Associate Professor Edwards; Assistant Professors Goodman, Iwakuma, Woodstock.

The Media and Communication Studies Department offers an interdisciplinary course of study in which students examine the aesthetic, cultural, economic, legal, political and ethical implications of communication in society. Based in the liberal arts and drawing upon social scientific and humanistic traditions, our program focuses on the creation, structure, criticism and impact of messages. This course of study aims to increase awareness of the centrality of communication to identity, social order and democratic processes.

In an era of rapidly altering media technologies and delivery systems, this program specifically emphasizes the role of the media in contemporary American culture. With a wide range of theoretical and applied courses, students are encouraged to work with their major adviser to develop a course of study that best meets their individual goals and challenges them to consider the relationship between theory and practice.

Majors are encouraged to consider a study abroad program and to complete an internship as part of their department and college requirements. The College's proximity to Philadelphia, one of the nation's largest media markets, offers our students a range of internship opportunities in print, broadcast, cable, film, advertising, public relations and digital media. Majors are expected to participate actively in and to assume leadership roles with campus organizations associated with the field of communication. These include The Grizzly, the campus newspaper; WVOU, the campus radio station; The Forensics Society, the campus speech and debate team; and UCTV, the campus cable station.

A degree in Media and Communication Studies prepares students for graduate work in media and communication studies, for careers in the communication and information industries as well as for leadership positions in business, law, politics, and education.

Requirements for Majors

A major in Media and Communication Studies consists of 39 semester hours of credit, including three introductory courses: MCS 102 or 250*, MCS 105, and MCS 200W; one course selected from MCS 207-250*; two 4 credit courses selected from MCS 251-370 (one of which must be between 300 and 370); one senior seminar selected from MCS 460W-464W, and at least three additional MCS courses. Students may fulfill the senior seminar requirement with MCS 491 and 492W. Majors are strongly encouraged to complete an internship (MCS 381, 382, 383, or 384) and are strongly encouraged to complete a minor in another field of study. Up to four credits from MCS 001-016 may be considered as one elective course towards the

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major. Students are encouraged to take Math 241Q to fulfill part of the college science and mathematics requirement.

**Students who take MCS 250 to fulfill two departmental requirements still must take a total of 39 semester hours in the department.*

Requirements for Minors

A minor in media and communication studies consists of 20 semester hours, including MCS 105 or 110; two courses between MCS 251 and 370 (one of these must be between 300-370), and two additional courses.

MCS-102. Public Speaking *Dr. Czubaroff, Faculty*

The theory and practice of formal speaking in public forums. Students are introduced to fundamental genres of public discourse and the fundamentals of rhetorical thinking. Three hours per week. *Three semester hours.*

Note: Students who have received credit for MCS 201 may not receive credit for MCS-102.

MCS-105. Media and Society *Dr. Edwards, Dr. Miller*

A critical and historical survey of the media industries in the United States. Print, film, radio, television, and the new communication technologies are examined with regard to organization, content, control, economics, and effects on their audiences. Specific attention is given to media research methods and media effects on the individual and on audiences. Three hours per week. *Four semester hours.*

MCS-110. Interpersonal Communication *Dr. Goodman*

A study of theories of interpersonal communication related to the development of identity and self presentation, gender, culture, communication style, relationship development and termination, and conflict. Students will conduct a discourse analysis to examine one of the interpersonal theories studied in class. Three hours per week. *Four semester hours.*

MCS-200W. Communication Theory and Research *Dr. Czubaroff, Dr. Goodman*

An exploration of the concepts and models of communication common to a wide range of communication contexts. Students are introduced to theories, research methods, and writing conventions common to media, rhetoric and interpersonal communication. Prerequisites: MCS 105 or 110. Three hours per week. *Four semester hours.*

MCS-207. Journalism I: Writing for the Print Media *Dr. Edwards*

An introduction to methods of factual reporting, reviewing, interviewing, and editing of journalistic material. Students are expected to enter the course with basic word-processing skills. Classes are conducted in the college computer lab. Prerequisites: Eng 100, MCS 105 or permission of instructor. Four hours per week. *Four semester hours.*

MCS-208. Journalism II: Writing for the Electronic Media *Dr. Edwards, Dr. Miller*

The principles and techniques of writing and editing for the electronic media. Research techniques, writing conventions, interviewing techniques, and presentation styles are included. Prerequisite MCS 105. Three hours of lecture and two hours of lab per week. *Four semester hours.*

MCS-210. Video I — Studio Production *Dr. Miller*

An overview of the principles and techniques of studio television production. Emphasis is placed on translation of ideas into a visual format, program conceptualization, preproduction planning, script writing, critical analysis of the visual image, group work and peer review of programs. Prerequisite: MCS 105. Three hours of lecture and two hours of lab per week. *Four semester hours.*

MCS-212. Video II — Field Production and Editing *Dr. Miller*

An overview of the principles and techniques of single camera, electronic field production. Emphasis is placed on program conceptualization, pre-production planning, single-camera script development and post-production techniques including linear and non-linear editing, and audio mixing. Prerequisites: MCS 105, MCS 210. Three hours of lecture and two hours of lab per week. *Four semester hours.*

MCS-250. Advocacy and Argument *Dr. Czubaroff*

A study of advocacy and argument principles and processes with an emphasis on applying this knowledge in social, political, and legal contexts. Students work with various communication models including the formal persuasive speech, two-person debate, and the public forum. Prerequisite: MCS -102 or permission of instructor. Three hours per week. *Four semester hours.*

MCS-264. Group Communication *Dr. Goodman*

A study of communication processes in group settings. Emphasis on principles of leadership, teamwork, problem solving, conflict, and negotiation. Students work with observational methodologies. Prerequisite: MCS 110. Three hours per week. *Four semester hours.*

MCS-266. Communication and Health *Dr. Iwakuma*

This course examines communication within health contexts. In addition to interpersonal health care interactions between patients and their health care providers, the course deals with other broad communication issues, including aging and communication, intergenerational communication, culture and health, as well as disability/illness and health. Prerequisite: MCS 110 or permission of the instructor. Three hours per week. *Four semester hours.*

MCS/ENG-280. Film Studies *Dr. Dole*

A study of films as texts, including an introduction to the vocabulary of the medium. Topics change yearly. This course is also listed as ENG 280. Prerequisite: ENG-100. Four hours per week. *Four semester hours.*

MCS-281. Media Criticism *Dr. Edwards*

A critical study of mass-mediated messages in television, radio, and new media, including the issues of gender, ethnicity, violence, and ideology. Prerequisite: MCS 105. Three hours per week. *Four semester hours.*

MCS-290. Special Topics in Media and Communication Studies *Faculty*

This course will focus on a specific topic not covered in the other courses in the curriculum. Three hours per week. *Four semester hours.*

MCS-298. Readings in Media and Communication Studies *Faculty*

Individual student-initiated study within the field on a selected topic culminating in the preparation of a critical bibliography of the works read, or other final product as determined by the faculty member supervising the readings. Prerequisites: MCS 200W, major or minor in media and communication studies, a written project proposal, and permission of a department faculty member to serve as adviser. This course is limited to second and third year majors or minors who want to explore an area of research with the expectation of continuing that research in an upper division independent study. *One semester hour.*

MCS-350. Intercultural Communication *Dr. Goodman, Dr. Iwakuma*

An examination of face-to-face communication between people of different cultural backgrounds. Case studies are analyzed to identify differences in expectations, practices, and interpretations. Topics include cross-cultural comparisons of conversational style, power relations, language, and perception in educational, organizational, and social settings. This course may be a particular interest to students preparing to study abroad as well as those planning to work in international business, education, and politics. Prerequisite: MCS 110, or permission of the instructor. Three hours per week. *Four semester hours.*

MCS-352/BE-331. Organizational Communication *Dr. Goodman*

A study of communication in organizational settings including an examination of theories of management, organizational culture, power, and emotional labor. Field research is required. Prerequisite: MCS 110 or 264 or permission of the instructor. Three hours per week. *Four semester hours.*

MCS-355. Media, Culture, and New Communication Technologies *Dr. Edwards, Dr. Miller*

Examines the social, cultural, and political impact of new communication and information technologies on public and private communication. Traditional forms of mediated communication are examined historically for their role in shaping our society. Newer communication technologies are analyzed for their impact on and ability to transform contemporary culture. Prerequisite: MCS-105. Three hours per week. *Four semester hours.*

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MCS-358. Persuasion: The Power of Language and the Visual Image *Dr. Czubaroff*

Using classical and contemporary concepts of rhetoric, students examine a number of genres of strategic persuasion, including propaganda, political campaign communication, and advertising. The goal is to discover and evaluate the persuasive resources relied upon. Prerequisite: MCS 102 or 250 or permission of instructor. Three hours per week. *Four semester hours.*

MCS-360. News Analysis *Dr. Edwards, Dr. Miller*

A critical study of U.S. news culture. Students work with quantitative and qualitative methodologies to explore issues related (but not limited) to race, gender, class, and nationality in the production and consumption of American news. Prerequisite: MCS-105 or permission of the instructor. Three hours per week. *Four semester hours.*

MCS-364. Communication Campaigns *Dr. Edwards*

A study of communication processes and principles in public communication campaigns. Campaign case studies are drawn from political, health, and social movement contexts. Emphasis on persuasion and diffusion theories, campaign research and evaluation, methodologies, and audience analysis. Prerequisite: MCS 105. Three hours per week. *Four semester hours.*

MCS-370. Advanced Special Topics in Media and Communication Studies *Faculty*

This course will focus on a specific topic at an advanced theoretical or critical level within media and communication studies not covered in the other courses in the curriculum. Prerequisite: MCS 105 and four additional credit hours in MCS, or permission of the instructor. Three hours per week. *Four semester hours.*

MCS-381. Internship *Faculty*

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research project. Prerequisite: major or minor in MCS and three courses completed in the department, junior standing, and approval of a faculty internship adviser. Must complete a minimum of 120 hours. Offered in the fall semester. Graded S/U. *Three semester hours.*

MCS-382. Internship *Faculty*

Content, prerequisites, and requirements are the same as MCS 381. Offered in the spring semester. Graded S/U. *Three semester hours.*

MCS-383. Internship *Faculty*

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research project. Prerequisite: major or minor in MCS and three courses completed in the department, junior standing, and approval of a faculty internship adviser. Must complete a minimum of 160 hours. Offered in the fall semester. Graded S/U. *Four semester hours.*

MCS-384. Internship *Faculty*

Content, prerequisites, and requirements are the same as MCS 383. Offered in the spring semester. Graded S/U. *Four semester hours.*

Note: Only two of the internship courses (MCS 381-384) can count towards the major or towards graduation. Students considering an internship should read the college policy on internships in this catalog and review MCS department requirements.

MCS-391. Research in Media and Communication Studies *Faculty*

Readings and independent research under the supervision of a faculty adviser. A final product and an oral presentation to the department on a specific topic in media and communication studies is required. Prerequisites: eight credits of course work (MCS 251-370) in media and communication studies, demonstrated competence in the specific area of a study, a written project proposal, and permission of a department faculty member who will serve as project adviser. Offered in the fall semester. *Four semester hours.*

MCS-392. Research in Media and Communication Studies *Faculty*

Content, prerequisites, and requirements are the same as MCS 391. Offered in spring semester. *Four semester hours.*

MCS-411. Projects in Media and Communication Studies *Faculty*

Advanced individual work on a project related to media and communication studies. Prerequisites: eight credits of 251-400 level course work in media and communication studies, demonstrated competence in the specific area of study, a written project proposal, and permission of a department faculty member who will serve as project adviser. Offered in fall semester. *Four semester hours.*

MCS-412. Projects in Media and Communication Studies *Faculty*

Content, prerequisites, and requirements are the same as MCS-411. Offered in spring semester. *Four semester hours*

MCS-420. Digital Media Production *Dr. Miller*

An advanced level production course for students interested in developing additional expertise in digital editing and multi-media production techniques. Emphasis will be placed on newer computer-based technologies. Prerequisite: MCS 105, 210, 212 or permission of instructor. Three hours of lecture and two hours of lab per week. *Four semester hours.*

MCS-460W. Seminar in Rhetoric *Dr. Czubaroff*

Focus on the analysis of the persuasive dimensions of texts, such as popular songs, films, news stories and fictional television programming. Students engage in research and writing and make an oral presentation of their findings. Prerequisites: ENG 100, MCS 102, MCS 200W and one 300 level course between 300 and 370. Three hours per week. *Four semester hours.*

MCS-462W. Seminar in Communication and Culture *Dr. Goodman*

Students work with ethnographic methods as a means to explore the communicative patterns and processes of groups, organizations, and institutions. Students will conduct fieldwork, analyze data, and write a research paper as well as make an oral presentation of their findings. Prerequisites: ENG 100, MCS 102, MCS 200W and one 300 level course between 300 and 370. Three hours per week. *Four semester hours.*

MCS-464W. Seminar in Media Analysis *Dr. Edwards, Dr. Miller*

Using quantitative and qualitative research methods, students analyze messages embedded in the entertainment, persuasive and information media. Focus is on the content and effects of television, film, recordings, and the internet. Students complete a research paper and make an oral presentation of their findings. Prerequisites: ENG 100, MCS 102, MCS 200W and one 300 level course between 300 and 370. Three hours per week. *Four semester hours.*

MCS-491. Research/Independent Work *Faculty*

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

MCS-492W. Research/Independent Work *Faculty*

A continuation of MCS-491. Prerequisite: MCS-491. *Four semester hours.*

MCS 001-008. Newspaper Practicum *Dr. Edwards*

A learning experience in which students assume primary responsibility for editorial positions related to the publication of *The Grizzly*. Prerequisites: MCS 207 or permission of the instructor. Graded S/U. *One semester hour.*

MCS 009-016. Video Practicum *Dr. Miller*

A learning experience in which students assume primary responsibility for cable-related programming, or an editing or multimedia project. Student project proposals must be approved by the instructor. Prerequisites: MCS 210 or 212 and permission of the instructor. Graded S/U. *One semester hour.*

Modern Languages

Professors Cameron (*Chair*), Clouser, Lucas, Novack, Trout; *Assistant Professors* de Arana, Hardin, Iwakuma, Mizenko, Shuru; *Instructor* Steyaert.

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, and to explore the foreign literature in order to develop faculties of analysis and aesthetic judgment. Courses are offered in French, German, Italian, Japanese, Spanish and ESOL.

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, German, or Spanish to suit their goals. The varied activities of the language clubs add to the department's offerings.

Requirements for Majors (*see individual languages*)

Secondary School Certification: Students planning to obtain certification for secondary-school teaching in French, German or Spanish must take a minimum of 24 credit hours in French, German or Spanish at the 200, 300 and 400 levels. The following courses are required: French 251; 252 or 254; 313 or 314; 328, and at least two 300- or 400-level courses; German 251 and 252; 313 or 314; 328 and at least two 300- or 400-level courses; Spanish 251, 252, 317, 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; 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 Ursinus College Education Department. 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 department chair. 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 251 and 16 additional credits of French at the 200, 300 or 400 level.

A minor concentration in German consists of German 251 and 16 additional credits of German at the 200, 300 or 400 level.

A minor concentration in Japanese consists of 20 semester hours, including JPN 211, 212, eight additional credits at the 300-level, and one of the following: EAS/ENG 224, EAS 311, EAS-314, EAS-399, HIST 243 or another non-language course on Japan.

A minor concentration in Spanish consists of Spanish 208 or Spanish 251 or 252, and 16 additional credits of Spanish at the 200, 300 or 400 level, excluding Spanish 332.

A minor concentration in Latin American studies consists of Spanish 252, 317, 332, and eight additional credits from the following courses: Spanish 200, 203 and 209, 351, 352, Politics 242, 344, 355.

German Studies Minor

A minor concentration in German Studies consists of six courses, two of which must be taken in the History department and two in the German Section of Modern Languages. Two additional courses, one in German, one in History or an independent study project addressing a topic either in History or German, may be taken through the Ursinus in Tübingen Summer Program or other approved study abroad program. Students may choose from among the following courses at Ursinus: History 207, 304, 305, 306, 308, 401W; German 201, 202, 251, 252, 314, 315; in Germany students may choose either two German courses or one German course and History 400W. Students who cannot afford to spend a summer in Germany because of financial hardship may fulfill the requirement for this minor by taking all six courses at Ursinus.

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 *Faculty*

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.*

ML-100, 101, 102, 111, and 112. Modern Languages *Faculty*

Individualized study of languages, such as Hebrew, Arabic, Danish and others. Prerequisite: Permission of the instructor. *Four semester hours.* (These courses do not satisfy the College language requirement for graduation.)

French

French majors are required to take at least 36 credit hours in French language, literature, and civilization above the 100 level. French 251, 252 or 254 and at least one 400-level W course are required, as well as a study abroad experience as approved by the department.

FREN-101. Elementary French I *Faculty*

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week plus one hour of language lab. *Four semester hours.*

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FREN-102. Elementary French II *Faculty*

Continuation of FREN-101. Four hours per week plus one hour of language lab. *Four semester hours.*

FREN-111. Intermediate French I *Dr. Novack*

Conversation and vocabulary development; grammar review, written work and discussions are based on cultural, social and literary selections. Prerequisite: FREN-102 or equivalent. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

FREN-112. Intermediate French II *Dr. Novack*

Continued emphasis on comprehension and speaking. Reading in literary and cultural texts and longer writing assignments. Prerequisite: FREN-111 or equivalent. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

FREN-201. Conversation and Composition *Dr. Trout*

Intensive review of grammar to perfect oral and written communication. Topics of discussion will focus on contemporary French society using newspaper articles, films and literary texts. Writing will be both formal and informal. Prerequisite: FREN-112 or equivalent. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

FREN-202. Film and Literature *Dr. Trout*

A study of French culture as reflected through its literature and film. A special emphasis will be put on the adaptation of literary works into films. Prerequisite: FREN-201 or permission of instructor. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

FREN-203. Studies of Senegal *Dr. Novack*

Study of contemporary Senegal, especially the indigenous and European influences which have contributed to modern Senegalese culture, as concrete preparation for future study abroad in Senegal. French 203 includes essential information on Senegalese geography, history, politics, customs, languages, society, literature, and the arts. Readings come from works of major Senegalese writers and authentic cultural documents. Class discussion in French, guest speakers, Senegalese films. Fall semester. Prerequisite: FREN-112 or permission of instructor. This course does not satisfy the language requirement unless it is taken with FREN-209. Two hours per week. *Two semester hours.*

FREN-209. Winter Study in Senegal *Dr. Novack*

A two-week language course, including 30 hours of classroom study, homestay with a Senegalese family, afternoon excursions and weekend travel directed by Ursinus faculty. Offered during winter break. Students may register for French 209 as part of the regular load for either semester. Prerequisite: FREN-203 or permission of the instructor. This course may be used to fulfill the language requirement only if taken twice or in conjunction with FREN-203. *Two semester hours.* May be taken for credit twice.

FREN-251. Introduction to French Literature *Dr. Lucas, Dr. Novack*

A selection of major French writers from the Middle Ages to the present. Special attention will be given to the socio-cultural context from which their narratives emerged. Students will also be introduced to literary analysis and to formal writing. Prerequisite: FREN-201 or permission of the instructor. Four hours per week. *Four semester hours.*

FREN-252. Le Monde francophone *Dr. Lucas, Dr. Novack, Dr. Trout*

A study of major writers from Francophone countries from the 19th and 20th centuries. This team-taught course will examine how colonization and its aftermath have shaped the issues of language, identity, class and gender in French-speaking literature of Canada, Africa and the Caribbean. Prerequisite: French 201 or permission of instructor. Four hours per week. *Four semester hours.*

Note: This course will be offered in the Spring term of odd-numbered years and will alternate with FREN-254.

FREN-254. Contes et nouvelles *Dr. Lucas, Dr. Novack*

A study of various short texts, "contes," "nouvelles" and "récits" from French-speaking authors from the 18th century to the present. Emphasis will be placed on the development of the genre as influenced by historical, social and gender issues. Authors selected include Voltaire, Maupassant, Mérimé, Colette, Mandiargues, Roy, Camus, Beauvoir, Hébert, Birago Diop, Sembene and others. Prerequisite: FREN-201 or permission of the instructor. Four hours per week. *Four semester hours.*

Note: This course will be offered in the spring term of even-numbered years and will alternate with FREN-252. 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. Trout*

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. Commercial and Economic French *Dr. Novack*

Study of the economy, business organization and commercial practices of France and French-speaking countries with special attention to France's role in the European Union. Prerequisite: FREN-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 *Faculty*

Individual study of topics in French literature and civilization. May also be used in preparation for research or internship abroad. Prerequisites: Two 200-level courses and permission of instructor. *Two to four semester hours.*

FREN-340. 20th-Century Novel *Dr. Trout*

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: FREN-251; 252 or 254, or permission of the instructor. Three hours per week. *Four semester hours.*

FREN-345. Topics in French *Faculty*

The course focuses on a specific topic or theme not otherwise treated in the curriculum. Topics will vary from year to year. Recent topics have included *Education and Literature* and *Love and Passion in Classic and Romantic Literature*. Independent written work is required. 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: FREN-251; 252 or 254, 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, Laclot and others. Prerequisites: FREN-251; 252 or 254, 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, Molière and Racine. Prerequisites: FREN-251; 252 or 254, or permission of the instructor. Three hours per week. *Four semester hours.*

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FREN-381. Internship Faculty

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. Twelve to sixteen hours per week. *Four semester hours.*

FREN-440W, 441W. Seminar in Francophone Literature and Culture Faculty

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 and topics may include the following: "In Search of French Identity," "La condition féminine: Pisan, Sand," "Colonizers and Colonized in French-speaking Africa." These courses satisfy the College requirement of a capstone experience. Prerequisites: FREN-340, or 350, or 360, or 370 or permission of the instructor. MCS-102 is highly recommended. Three hours per week. *Four semester hours.*

FREN-491. Research/Independent Work Faculty

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

FREN-492W. Research/Independent Work Faculty

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: ENGL-100, FREN-491 and permission of the department chair. MCS-102 is highly recommended. *Four semester hours.*

German

German majors are required to take a minimum of 36 credit hours in German beyond the 100 level. GER-251, 252 and at least one 400-level W course are required, as well as a study abroad experience as approved by the department.

GER-101. Elementary German I Faculty

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

GER-102. Elementary German II Faculty

Continuation of GER-101. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

GER-111. Intermediate German I Dr. Clouser

A review of basic grammar concepts and development of listening and communication skills. Texts of social and cultural interest provide the focus for class discussion and writing exercises. Prerequisite: GER-102 or equivalent. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

GER-112. Intermediate German II Dr. Clouser

A continuation of German 111. A review of selected advanced grammar concepts and further development of listening and communication skills. Prerequisite: GER-111 or equivalent. Four hours plus one conversation hour per week with the language assistant. *Four semester hours.*

GER-201. Conversation and Composition I Faculty

Intensive review of grammar to perfect oral and written communication. Literary texts, newspaper articles, and German films will be discussed. Course includes formal and informal writing exercises and student presentations. Prerequisite: GER-112 or equivalent. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

GER-202. Conversation and Composition II *Faculty*

Intensive review of grammar to perfect oral and written communication. Course includes formal and informal writing exercises and student presentations. Prerequisite: GER-201 or permission of instructor. Four hours per week plus one conversation hour with the language assistant. *Four semester hours.*

GER-251. Introduction to German Literature *Dr. Clouser*

A survey of the works of major German writers from the Middle Ages to the 18th century. Special emphasis will be given to the socio-cultural context in which their writing is embedded. Students will also be introduced to literary analysis and formal writing. Prerequisite: German 202 or permission of instructor. Four hours per week. *Four semester hours.*

GER-252. German Literature and Film *Dr. Clouser*

The works of such 20th-century authors will be discussed in the context of the times in which they were written. Students will analyze these works and familiarize themselves with the politics, art, and film of Germany. Prerequisite: GER-202 or permission of instructor. Four hours per week. *Four semester hours.*

GER-253. Das deutsche Märchen *Dr. Clouser*

A study of the German Fairy Tale from the Brothers Grimm through the 20th century. Oral antecedents, the literary fairy tale, and satirical fairy tales will be treated. Prerequisite: GER-251. Three hours per week. *Four semester hours.*

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

GER-310. Summer Study in Tübingen *Dr. Clouser*

Intensive language study for three to six weeks. Includes classroom study, homestay with a German family, and weekend cultural excursions. Prerequisite: GER-112 or permission of instructor. Open to all majors. *Four to eight semester hours, depending on length of study.*

GER-312. Research or Internships in Tübingen *Dr. Clouser*

Independent research projects or internships in conjunction with Tübingen University or local businesses. Students select projects or research according to their interests and preparation. Previous projects include biological fieldwork, lab internship in polymer chemistry, the economics of post-unification Germany, radical right-wing politics, and theater. Prerequisite: GER-112 or permission of the resident faculty. Open to all majors. *Four semester hours.*

GER-313. German Studies in Literature *Dr. Clouser*

Topics vary. Recent topics have included "Early German Cinema" and "Readings in WWII German Literature." Prerequisite: Two of the following courses: GER-201, 202, 251, 252 or permission of instructor. Three hours per week. *Four semester hours.*

GER-314. German Studies in Literature and Culture *Dr. Clouser*

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: GER-201, 202 or permission of instructor. Four hours 4 per week. *Four semester hours.*

GER-315. Germany Today *Dr. Clouser*

A study of contemporary German politics, economics and society. Special emphasis will be given to social and political changes before and after Reunification. Prerequisites: GER-201, 202 or permission of the instructor. Four hours per week. *Four semester hours.*

GER-318. Commercial and Economic German *Dr. Clouser*

Study of the economy, business organization and commercial practices of Germany with special attention to Germany's role in the European Union. Prerequisite: GER-201, 202 or permission of the instructor. Four hours per week. *Four semester hours.*

GER-319. Contemporary German Literature *Dr. Clouser*

The 20th-century German short story. Representative short stories from Naturalism to the present with emphasis on the literature since 1945. Prerequisites: GER-251, 252, or permission of the instructor. Three hours per week. *Four semester hours.*

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GER-320. German Novelle *Dr. Clouser*

History and development of the German Novelle from Goethe to the 20th century. Prerequisites: GER-251, 252, or permission of instructor. Three hours per week. *Four semester hours.*

GER-328. Advanced German Grammar *Faculty*

In-depth study of German phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisites: GER-201, 202 or permission of instructor. Four hours per week. *Four semester hours.*

GER-335. Independent Study in German *Dr. Clouser*

Individual study of topics in German literature and civilization. Prerequisites: Two 200-level courses and permission of instructor. *Two to four semester hours.*

GER-381. Internship *Faculty*

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. Twelve to sixteen hours per week. *Four semester hours.*

GER-401W. German Medieval Studies *Faculty*

Works include Parzival, Tristan, the Nibelungenlied and Minnesang. This course satisfies the College requirement of a capstone experience. Prerequisites: GER-251, 252, or permission of instructor. MCS-102 is strongly recommended. Three hours per week. *Four semester hours.*

GER-402W. Classical Literature of the 18th and 19th Centuries *Dr. Clouser*

Writers include Lessing, Goethe, Schiller, Kleist, Keller and Hauptmann. This course satisfies the College requirement of a capstone experience. Prerequisites: GER-251, 252, or permission of the instructor. MCS-102 is strongly recommended. Three hours per week. *Four semester hours.*

GER-403W. Advanced Seminar *Dr. Clouser*

Topics vary. This course satisfies the College requirement of a capstone experience. Prerequisites: GER-251, 252, or permission of instructor. MCS-102 is strongly recommended. Three hours per week. *Four semester hours.*

GER-491. Research/Independent Work *Faculty*

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

GER-492W. Research/Independent Work *Faculty*

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: GER-491 and permission of the department chair. MCS-102 is strongly recommended. *Four semester hours.*

Japanese

The Japanese language courses are designed to develop linguistic skills and an understanding of Japanese culture. The study of Japanese is recommended for students interested in majoring in East Asian Studies or International Relations. Students may also pursue a student-initiated major that includes the study of Japanese. In language labs, which are required for all classes, students work with computers, authentic video and audio materials, as well as native speakers. Ursinus is one of two institutions in Pennsylvania to offer a teacher certification program in Japanese.

JPN-101. Elementary Japanese I *Dr. Mizenko*

An introduction to the Japanese language. The course is designed to introduce the student to the basic rules of spoken and written Japanese while providing basic communicative skills. Four hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-102. Elementary Japanese II *Dr. Iwakuma, Dr. Mizenko*

Continuation of Japanese 101. The focus is placed on situation-sensitive language use and the systematic introduction of basic grammar and sentence patterns. Basic kanji characters are introduced. Prerequisite: JPN-101 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-111. Advanced Elementary Japanese I *Dr. Iwakuma, Dr. Mizenko*

Continued introduction of the fundamental structures of spoken and written Japanese. Development of interpersonal communication skills beyond the functional level. Prerequisite: JPN-102 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-112. Advanced Elementary Japanese II *Dr. Iwakuma, Dr. Mizenko*

Continuation of JPN-111. Development of more sophisticated structures and patterns, moving towards conversational fluency. Continued study of reading and writing, with knowledge of 200-300 kanji characters by end of course. Four hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-211. Intermediate Japanese I *Dr. Iwakuma, Dr. Mizenko*

Review of basic structures combined with further enhancement of oral and written communication skills. Continued expansion of knowledge of kanji characters, plus development of ability to handle complicated situations. Prerequisite: JPN-112 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-212. Intermediate Japanese II *Dr. Iwakuma, Dr. Mizenko*

Continuation of JPN-211. Completion of study of fundamentals of Japanese language. Development of ability to read and discuss authentic texts, and to handle a wide range of conversational situations. Prerequisite: JPN-211 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-311. Advanced Japanese I *Dr. Iwakuma, Dr. Mizenko*

Study of complex linguistic structures in the context of the development of an analytical understanding of the Japanese language. Reading and viewing of advanced-level authentic materials in written and video texts, with an emphasis on a nuanced understanding and an ability to discuss and write about the texts in depth. Three hours per week plus one hour of practice with the language assistant. Prerequisite: JPN-212 or equivalent. *Four semester hours.*

JPN-312. Advanced Japanese II *Dr. Iwakuma, Dr. Mizenko*

Continuation of Japanese 311. Upon completion of this course, students should have developed the resources to handle virtually any conversational situation or modern text. By this point, there will also have been some introduction to pre-modern structures and orthography. Three class hours per week plus one hour of practice with the language assistant. *Four semester hours.*

JPN-328. Advanced Japanese Grammar *Faculty*

In-depth study of Japanese phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite: JPN-312 or permission of the instructor. Four hours per week. *Four semester hours.*

JPN 335. Independent Study in Japanese *Faculty*

Individual study of topics in Japanese literature, society or culture. Prerequisite: JPN-312 and permission of the instructor. *Two to four semester hours.*

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JPN-381. Internship Faculty

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 Japanese, and approval of a faculty internship adviser. Twelve to sixteen hours per week. *Four semester hours.*

JPN-491. Research/Independent Work Faculty

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

JPN-491W. Research/Independent Work Faculty

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: JPN-491 and permission of the department chair. MCS-102 is strongly recommended. *Four semester hours.*

Italian

ITAL-101. Elementary Italian I Ms. Steyaert

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week plus one hour of language conversation or lab work. *Four semester hours.*

ITAL-102. Elementary Italian II Ms. Steyaert

Continuation of Italian 101. Prerequisite: ITAL-101 or permission of the instructor. Four hours per week plus one hour of language conversation or lab work. *Four semester hours.*

Note: This course will be offered to the students returning from the Semester in Florence program with sufficient enrollment.

Spanish

Spanish majors are required to take a minimum of 36 credit hours in Spanish at the 200, 300 and 400 levels, excluding SPAN-332. SPAN-251, 252, and at least one 400-level W course are required, as well as a study abroad experience as approved by the department.

SPAN-101. Elementary Spanish I Faculty

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week plus one hour of language laboratory. *Four semester hours.*

SPAN-102. Elementary Spanish II Faculty

Continuation of SPAN-101. Four hours per week plus one hour of language laboratory. *Four semester hours.*

SPAN-111. Intermediate Spanish I Faculty

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: SPAN-102. Four hours per week plus one hour of language laboratory. *Four semester hours.*

SPAN-112. Intermediate Spanish II Faculty

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: SPAN-111 or equivalent. Four hours per week plus one hour of language laboratory. *Four semester hours.*

SPAN-117. Spanish for Business and Economics Faculty

Designed for students interested in the field of international business. Emphasis will be put on the development of the specialized vocabulary of business and the study of cultural differences between the U.S. and the Hispanic world that may play a role in business relations. This course may be used toward fulfillment of the language requirement. Prerequisite: SPAN-111 or equivalent. Four hours per week. *Four semester hours.*

SPAN-200. Spanish Summer Study Abroad Faculty

A four-week total immersion experience abroad, this language-intensive course includes a minimum of 60 hours of classroom study, family residence and travel in a Spanish-speaking country, and is directed by a member of the Ursinus faculty. Offered annually provided there is sufficient enrollment. Possible destinations include Chile, Costa Rica, Mexico, Puerto Rico, and Spain. Prerequisites: SPAN-112, 118 or permission of instructor. Must be taken in conjunction with SPAN-203 when the destination is Mexico. *Four semester hours.*

SPAN-201. Conversation and Composition Dr. de Arana, Dr. Cameron, Dr. Hardin

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. Four hours per week plus one hour of conversation with the language assistant. Prerequisite: SPAN-112 or 118 or equivalent. *Four semester hours.*

SPAN-202. Topics in Hispanic Literature and Culture Dr. Cameron, Dr. de Arana

Continuation of SPAN-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 literature and/or film, and others. Prerequisite: SPAN-201 or permission of the instructor. Four hours per week. *Four semester hours.*

Note: Course can be taken for credit twice but may be counted only once toward the major.

SPAN-203. Mexican Studies Faculty

Study of contemporary Mexico, especially the European and indigenous influences, which have contributed to 20th century Mexican culture. SPAN-203 includes essential information on Mexican geography, history, politics, customs, society, literature, and the arts. Readings include the works of major Mexican writers. Class discussions in Spanish, guest speakers, Mexican Films. Must be taken concurrently with Spanish Summer Study Abroad (SPAN-200) when offered in Mexico. Prerequisite: SPAN-112 or permission of the instructor. *Two semester hours.*

SPAN-204.

(See Ursinus in Sevilla Program.)

SPAN-207.

(See Ursinus in Sevilla Program.)

SPAN-208.

(See Ursinus in Sevilla Program.)

SPAN-251. Survey of Spanish Literature Dr. Cameron, Dr. de Arana

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: SPAN-202 or equivalent. Four hours per week. *Four semester hours.*

SPAN-252. Survey of Latin American Literature Dr. Shuru

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: SPAN-202 or equivalent. Four hours per week. *Four semester hours.*

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SPAN-281. Community Practicum Faculty

Offered in conjunction with an Ursinus College faculty-directed study abroad program, the community practicum allows eligible students to collaborate with a local organization or business in the target language. Placements will be based on availability, student interest and qualifications. Students will report to an onsite supervisor and the faculty director, keep a journal of their activities, and write a final paper based on their experience. Must be taken in conjunction with or after completion of an intensive language course (such as SPAN 200 or SPAN 204). This course counts toward the total number of credits required for the major or minor in Spanish. Prerequisites: Sophomore status and permission of instructor. A minimum of 80 contact hours are required. *Two semester hours.*

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

SPAN-308. Culture and Medicine Dr. Cameron, Dr. Shuru

This course is designed for students interested in medicine or allied health fields. Students will use Spanish by engaging in specialized vocabulary and a variety of cultural and technical texts. The content of the course will emphasize traditional medical and non-traditional healing practices. Prerequisite: SPAN-201 or the equivalent. Three hours per week. *Four semester hours.*

SPAN-317. The Hispanic World Dr. Shuru

The development of the Hispanic Culture as a conjunction of Eastern and Western experiences and its subsequent expansion and transformation in the Americas. The creation of the American republics, the political and socio-economic crisis of the 20th century and the challenges of the future. Prerequisite: Two of the following: SPAN-201, 202, 251, 252 or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-318. Commercial and Economic Spanish Faculty

This course aims to develop cultural sensitivity and to further linguistic competence through the study of the economic situation, business organization and commercial practices of the Hispanic world. Prerequisite: SPAN-201 or 202 or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-328. Advanced Spanish Grammar Dr. de Arana

In-depth study of Spanish phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite: SPAN-201 or equivalent. Four hours per week. *Four semester hours.*

SPAN-332. Latin American Studies Dr. Cameron, Dr. Shuru

(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-335. Independent Study in Spanish Faculty

Individual study of topics in Spanish or Latin American literature or culture. Prerequisites: two 200-level courses and permission of the instructor. *Two to four semester hours.*

SPAN-340. Topics in Hispanic Studies Faculty

The course explores topics in linguistics, literary, and cultural studies in the Hispanic world. Recent topics have included *Love, Sex and Marriage in Nineteenth-century Spanish Literature* and *Performance and Literature*. Prerequisite: SPAN-251 or 252, or permission of the instructor. Three hours per week. *Four semester hours.*

SPAN-350. Translation Faculty

The theory and practice of translation. The course will cover different types of translation: literary, technical, advertising, from English to Spanish and vice versa. It will have a class project consisting of the translation of a short novel, a play, a collection of short stories or the subtitling of a film. Prerequisites: SPAN-328, or permission of the instructor. Three hours per week. *Four semester hours.*

SPAN-351. Contemporary Hispanic Theater: History, Text and Performance Faculty

Study of Spanish and Spanish-American theater from the end of World War II to the present. The course will address 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. Prerequisite: SPAN-251, 252 or permission of the instructor. Three hours per week. *Four semester hours.*

SPAN-352. Contemporary Hispanic Novel Dr. Cameron, Dr. de Arana, Dr. Shuru

Close readings of texts from a variety of perspectives (including gender, race, class), representing major trends in contemporary fiction (Spain and Latin America). Prerequisite: SPAN-251, 252, or permission of the instructor. Four hours per week. *Four semester hours.*

SPAN-381. Internship Faculty

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. Twelve to sixteen hours per week. *Four semester hours.*

SPAN-401W. Golden Age Literature Dr. Cameron

The picaresque and the Comedia of the 16th and 17th centuries. This course satisfies the College requirement of a capstone experience. Prerequisite: ENGL-100, SPAN-251, 252, or permission of the instructor. *Four semester hours.*

SPAN-402W. Cervantes Dr. Cameron, Dr. de Arana

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: ENGL-100, SPAN-251, 252 or permission of the instructor. MCS-102 is highly recommended. Four hours per week. *Four semester hours.*

SPAN-440W. Senior Seminar in Hispanic Studies Dr. Cameron, Dr. de Arana, Dr. Shuru

This course satisfies the College requirement for a capstone experience. It will explore topics in linguistic, literary, and cultural studies in the Hispanic world. Prerequisites: ENGL-100, SPAN-251, 252 and senior status or permission of the instructor. MCS-102 is highly recommended. Three hours per week. *Four semester hours.*

SPAN-491. Research/Independent Work Faculty

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours.*

SPAN-492W. Research/Independent Work Faculty

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: SPAN-491 and permission of the department chair. MCS-102 is highly recommended. *Four semester hours.*

Ursinus in Sevilla

A program for students interested in continuing the study of Spanish beyond the language requirement. Offered during the Fall semester at the Instituto Universitario de Sevilla (I.U.S., Sevilla, Spain). Students will obtain 12 to 16 credits in Spanish at the 200 level, and perhaps 4 more credits in the Liberal Studies (Core) Curriculum. The semester will be preceded by a 10-day orientation/travel program in Spain.

Sophomores are particularly encouraged to participate, but juniors are also welcome. Completion of at least SPAN-102 or its equivalent is required. Not open to first year students or seniors. A member of the Ursinus faculty will accompany the group from/to the United States, and will teach the World Literature and the Spanish Civilization courses. The language

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course will be taught by a member of the faculty of I.U.S. While in Sevilla, the students will be housed with families carefully chosen by I.U.S. They will have their meals with those families also. The college reserves the right to cancel this program in any given year if a reasonable number of students do not enroll.

IDS-101. World Literature I: The Literary Tradition Faculty

[This section of IDS 101 will have a special emphasis on Spanish literature.]

The following courses are offered only in Sevilla.

SPAN-204. Intensive Spanish Faculty

An intensive review of Spanish grammar and further development of reading, writing and speaking skills in the language. Eight hours per week. *Eight semester hours.*

SPAN-207. Introduction to Spanish Civilization Faculty

An introduction to Spanish history, culture and civilization from its beginnings to the present time. The course will make extensive use of the opportunities of Sevilla's metropolitan area: stone age archeological sites, Roman ruins, medieval Spain's Christian, Jewish and Moorish sites, museums, etc. Four hours per week. *Four semester hours.*

SPAN-208. Introduction to Hispanic Literature Faculty

A thematic introduction to the literature of Spain and Latin America. Readings will include contemporary short-stories and short plays as well as selections of masterpieces from Spain and the Americas. Four hours per week. *Four semester hours.*

Music

Professor French (Chair); Assistant Professor Gaines; College Organist Alan Morrison.

Requirements for Minor

A minor concentration in music consists of a minimum of five courses in music. Two courses must be selected from 100, 205, 206, 207, 208 and 307. An additional two courses must be selected from 121, 222, 225 and 308.

MUS-100. Introduction to Music Dr. Gaines

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.*

MUS-121. Fundamentals of Music Dr. French

An introductory course in music theory which presents essential basic concepts, from standard notation and scales to harmonization and motivic structure. Additional emphasis on the acquisition of aural skills through ear-training exercises. Music reading ability suggested. Three hours per week. *Four semester hours.*

MUS-205. History of Music I Dr. French

A study of music from its early origins through 1800. Intensive listening assignments and research projects are required in the course. Three hours per week. *Four semester hours.*

Note: Students may not receive credit for MUS-205 and MUS-201 or 202.

MUS-206. History of Music II Dr. French

A study of music from 1800 to the present. Intensive listening assignments and research projects are required in the course. Three hours per week. *Four semester hours.*

Note: Students may not receive credit for MUS-206 and MUS-203 or 204.

MUS-207. History of Jazz *Dr. Gaines*

A survey of the development of jazz from its African origins through the present. The course will include intensive listening and research assignments, video presentations, and a final research paper. Three hours per week. *Four semester hours.*

Note: Students may not receive credit for MUS-104 and MUS-207.

MUS-208. World Music *Dr. Gaines*

This course traces the development of world musics by examining significant works of music and the cultural and political milieu in which the works were composed. Students will develop an understanding of musical terminology and will develop skills needed to listen to and better understand music of varying cultures. Students will participate in a variety of activities, including singing, playing instruments and dancing. This course has an intensive listening component, which requires students to listen to music both in and out of class, and to report responses to this listening. Three hours per week. *Four semester hours.*

MUS-222. Harmony *Dr. French*

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: MUS-121 or by permission. Three hours per week. *Four semester hours.*

MUS-225. Jazz Theory *Faculty*

A study of the melodic, harmonic and rhythmic practices in jazz and how these principles are also applicable to various genres of contemporary music. The course includes analysis of representative chord progressions and compositions. Emphasis will be placed on student projects in jazz composition. Prerequisite: MUS-121 or by permission. Three hours per week. *Four semester hours.*

MUS-307. Topics in Music History *Dr. 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 *Faculty*

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 *Faculty*

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 *Dr. 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. Graded S/U. Two to three hours per week. *One semester hour.*

MUS-011-018. Meistersingers *Dr. French*

A small choral ensemble open by audition to all students. The repertoire represents diverse styles and cultures suitable to a smaller ensemble. Graded S/U. Three to four hours per week. *One semester hour.*

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MUS-021-028. Ursinus College Concert Band *Dr. Gaines*

A large instrumental ensemble open to everyone in the College community. Members perform works from the standard band repertoire, transcriptions of important orchestral works, and new compositions. The Concert Band presents two major concerts each year and may appear at campus functions. Graded S/U. Two to three hours per week. *One semester hour.*

MUS-031-038. Ursinus College Jazz Ensemble *Dr. Gaines*

A big band open by audition to all students. The ensemble performs arrangements and original compositions in a variety of jazz styles. The Jazz Ensemble presents two major concerts each year and may appear at campus functions. Graded S/U. Two to three hours per week. *One semester hour.*

MUS-041-048. Applied Music Lessons *Faculty*

This course provides private music instruction for one hour each week, focusing on technique and performance practice. The course will give students the opportunity to continue their growth as musicians. One hour per week. *One semester hour.* Music lessons fee.

Neuroscience

Professors E. Dawley (*Biology*), Fago (*Psychology*), Rideout (*Psychology*), Sidie (*Biology*); *Associate Professors* Bailey (*Biology*), Rutledge (*Chemistry; BCMB*); *Assistant Professors*, Cellucci (*Physics*), Florka (*Philosophy*), Kohn (*Biology*), Principe (*Psychology*).

Neuroscience is a rapidly expanding multidisciplinary field devoted to understanding the complex functioning of the nervous system. Neuroscience attempts to understand the neural substrates of both normal and abnormal patterns of behavior as well as mental events and mental states.

The Neuroscience major is designed for students interested in exploring how the nervous system contributes to thought, emotion, neuropathology, and behavior. This major integrates the multidisciplinary nature of the field by providing students with an interdisciplinary approach to the study of brain function, behavior, and the mind.

The courses in the neuroscience curriculum are selected from an array of disciplines. The following areas of study contribute to the interdisciplinary perspective of the major: biology, biochemistry and molecular biology, chemistry, computer science, exercise and sports science, philosophy, psychology, and physics.

Neuroscience majors will graduate with a Bachelor of Science that will prepare them for a career in government, industry, biomedical and medical settings or some combination of these. Neuroscience majors often pursue graduate work (at the M.A. or Ph.D. level) in behavioral neuroscience, biology, biochemistry, cognitive science, experimental psychology, neuroanatomy, neurobiology, neuropharmacology, neurophysiology, occupational therapy, physical therapy, toxicology, or medicine (e.g. M.D., D.O., D.P.M., M.D./Ph.D., D.V.M., Pharm.D., D.D.S., O.D., etc.). More recently, graduates with a B.S. in Neuroscience have found career paths in the field of human factors, academic research, pharmaceutical research, and with government agencies.

Requirements for Major

To fulfill the requirements of the major, all students must complete a minimum of 56 semester hours in the neuroscience curriculum as outlined below.

I. Required Neuroscience Core: (16 semester hours)

NEUR/PSYC-325, NEUR/PSYC-335, NEUR/BIO-431W or NEUR/BCMB/BIO 433W, NEUR-499.

II. Interdisciplinary foundation: (20 semester hours)

PSYC-100, BIO-111, BIO-212, and choose either a Chemistry Foundation (CHEM-105 and CHEM-105a and either CHEM-106 and CHEM-106a, or CHEM-206 and CHEM-206a) or a Physics Foundation (PHYS-111 and PHYS-112).

Students interested in a more traditional background to Neuroscience are encouraged to choose the Chemistry Foundation to fulfill the Interdisciplinary Foundation. Students interested in more mathematical aspects of Neuroscience (e.g. modeling, biomechanics, etc.) are encouraged to choose the Physics Foundation to fulfill the Interdisciplinary Foundation.

III. Laboratory Experience: (1 semester hour)

Choice of BIO-232a, NEUR/PSYC-327, or NEUR/PSYC-337.

IV. Neuroscience Electives

Neuroscience majors must take a minimum of 15 credit hours of approved major elective courses. Majors are required to choose one course from each elective group (Psychology, Biology, and Breadth). The remaining credit hours may be filled by courses from any of the three elective groups. Students are encouraged to take advantage of the interdisciplinary nature of the neuroscience major and choose elective courses from the Breadth Group.

V. Research Experience: (four semester hours)

Choose between NEUR-481W, NEUR-482W, NEUR-491W, or NEUR-492W.

VI. Recommended of all majors:

MATH-241 and MATH-243.

Neuroscience Electives***Breadth Group***

NEUR 120	CS 372	PHIL 274
NEUR 350	* CS 473	PHIL 278
BCMB 351	DANC 340	* PHIL 309
+ CHEM 106/106a	ESS 351	PHIL 364
CHEM205/205a	ESS 353	PHIL 374
+ CHEM 206/206a	MATH 235	@ PHYS 111
CS 271	PHIL 260	PHYS 209

Biology Group

BIO 213
BIO 232
BIO 305
Either BIO 306 or BIO 349
* BIO 350

Psychology Group

PSYC 260
PSYC 320
PSYC 330
PSYC 340
PSYC 345
PSYC 450
PSYC 480

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Notes

- * (BIO-350, PHIL-309) may be used as a major elective when the topic(s) covered are related to Neuroscience. Approval of the Neuroscience Coordinator required.
- + A student taking CHEM-106/106a may not use the course to count as credit towards both the chemistry foundation and neuroscience electives.
- + A student taking CHEM-206/206a may not use the course to count as credit towards both the chemistry foundation and neuroscience electives.
- @ A student taking PHYS-111 may not use the course to count as credit towards both the physics foundation and neuroscience electives.

Requirements for Minor

A minor in neuroscience consists of either NEUR-120 or PSYC-100; MATH 241Q or PSYC-110; any three courses from the following list: PSYC-320, NEUR-325, NEUR-335, NEUR-431, NEUR-433, or any one of NEUR-481W, NEUR-482W, NEUR-491W, NEUR-492W. NEUR/PSYC-327 is recommended but not required.

Special Career Interests

- I. Students seeking admission to more experimental psychology related graduate programs should note the following:
 - A. PSYC-110 and 210 are recommended.
 - B. Two additional upper level (300-400) psychology courses germane to their area of interest/specialization are recommended. Students should consult with the Neuroscience Coordinator.
- II. Students seeking admission to more biologically related graduate programs should note the following:
 - A. A second year of chemistry is strongly recommended.
 - B. A fifth course in chemistry is recommended.
 - C. MATH-241; 242 or 243, and CS-173 are recommended.
- III. Students seeking admission to schools of medicine, dentistry, veterinary medicine, optometry and podiatry should note the following:
 - A. Two years of chemistry and one year of general physics for science majors are required by all of the above schools.
 - B. Many schools also require one full year of English and some specify one or two semesters of calculus.
 - C. 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, occupational therapy, or physician's assistant, should consult the allied health adviser.

V. Students who seek employment in a biologically oriented profession should note the following:

- A. MATH 241; 242 or 243, and CS-173 are strongly recommended.
- B. Economics and Business Administration 100 and 105 are recommended.
- C. Additional coursework in communication arts is recommended.
- D. Additional coursework in English composition is recommended.

NEUR-120. The Brain and its Mind Faculty

An introduction to the study of brain and behavior. Topics discussed include brain structure and function and its connection to language, arts, and music as well as the neural basis of consciousness, thought, learning, and locomotion. Prerequisites: Enrollment limited to students with freshmen or sophomore standing. This course may be used to satisfy the laboratory science requirement. Three hours of lecture and three hours of laboratory or demonstration per week. *Four semester hours.*

NEUR-301. Readings in Neuroscience Faculty

Individual study of one or more selected topics in the neuroscience 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 neuroscience faculty to serve as adviser. *One semester hour.*

NEUR/PSYC-325. Behavioral Neurosciences Faculty

A study of the structure and function of the vertebrate nervous system, particularly of the neural substrates of behavior as well as cerebral lateralization of function. Topics include evolutionary, anatomical, and physiological approaches to the nervous system and behavior. Prerequisites: Psychology 100; Biology 100 or 111; or permission of the instructor. Three hours per week. *Four semester hours.*

NEUR/PSYC-327. Neurosciences Laboratory Dr. Rideout

A study of nervous system structure and function emphasizing human electrophysiological signal recording and manipulation. Topics include gross neuroanatomy; electrophysiological signal characteristics, recording and analysis; and biofeedback programming. Prerequisite: Permission of the instructor. Two hours per week. *One semester hour.*

NEUR/PSYC-335. Applied Cognitive Neuroscience Faculty

A review of contemporary neuroscience research and theory with special attention to its interdisciplinary (psychology, biology, medicine, and engineering) and applied nature. Topics include robotics, electronic implants, virtual environments, eye movements, spatial orientation, body posture and balance, multisensory representations of space, and higher order cognitive deficits. Prerequisites: NEUR/PSYC-325 or Biology 305 or permission of the instructor. Three hours per week. *Four semester hours.*

NEUR/PSYC-337. Applied Cognitive Neuroscience Laboratory Faculty

An experimental investigation of higher order cognitive function and the practical application of the experimental results. Topics include virtual and terrestrial navigation, eye movement recordings, three-dimensional analysis of body posture and balance, and object recognition and identification. Prerequisites: Permission of the instructor. Two hours per week. *One semester hour.*

NEUR-350. Special Topics in Neuroscience Faculty

A special course offering intended to familiarize the student with the current trends and special topics in neuroscience. Emphasis will be given to the preparation and oral presentation of papers on selected topics as well as related laboratory experience (when applicable). Prerequisite: Permission of the instructor. Three hours per week. *Four semester hours.*

NEUR-381. Internship Faculty

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact Neuroscience Coordinator for further information. Prerequisites: Junior standing, 9 credit hours in neuroscience, and approval of a faculty internship adviser. Eight to ten hours per week. Three semester hours. Eleven to fourteen hours per week. *Four semester hours.*

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NEUR-391. Directed Research Faculty

An introduction to the nature of neuroscience research. A laboratory experience under the direction of a neuroscience faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. Prerequisites: Permission of a member of the neuroscience faculty to serve as adviser. Three hours of laboratory per week. Graded S/U. *One semester hour.*

NEUR-392. Directed Research Faculty

Content as in Neuroscience 391, but offered in the spring term. Prerequisites: Permission of a member of the neuroscience faculty to serve as adviser. Three hours of laboratory per week. Graded S/U. *One semester hour.*

NEUR/BIO-431W. Cellular Neurobiology Dr. Sidie

A study of neuron structure and function. The course includes excitable cell membranes, ion channels, synapses, sensory receptors, neuronal integration, neuromuscular systems, coding of neural information, and computer simulation of neural systems. Prerequisites: Biology 213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

NEUR-433W. Molecular Neurobiology Dr. Kohn

A study of the cellular and molecular basis of neuronal function. The course includes properties of neurons, release of neurotransmitters, receptors in synaptic transmission, effects of drugs, synaptic plasticity, and neurological disorders. Prerequisites: Biology 213; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours.*

NEUR-481W. Independent Research in Neuroscience Faculty

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 participating neuroscience faculty member to serve as research adviser. Prerequisite: English 100, Junior or senior standing, and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours.*

NEUR-482W. Independent Research in Neuroscience Faculty

Content as in Neuroscience 481, but offered in the spring term. Prerequisite: English 100, Junior or senior standing, and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours.*

NEUR-485. Off-Campus Research Faculty

An approved, off-campus clinical or laboratory research experience supervised by a neuroscience faculty adviser and an on-site supervisor. Approved projects result in the preparation of a final written thesis and an oral presentation of its results before a faculty/student colloquium. Prerequisite: Junior or senior standing and permission of a member of the neuroscience faculty to serve as research adviser. Eleven to fourteen hours per week. Graded S/U. *Four semester hours.*

Note: Students having received credit for Neuroscience 381 may not receive credit for Neuroscience 485.

NEUR-486. Off-Campus Research Faculty

Content as in Neuroscience 485. This course continues the original work begun in Neuroscience 485. Prerequisites: Neuroscience 485, junior or senior standing and permission of a member of the neuroscience faculty to serve as research adviser. Graded S/U. *Four semester hours.*

Note: Students having received credit for Neuroscience 381 may not receive credit for Neuroscience 486

NEUR-491W. Honors Research in Neuroscience Faculty

This course is open to candidates for Neuroscience Honors. The content is the same as in NEUR 481. The preparation of a written and oral scientific report is required. Prerequisite: English 100, Junior or senior standing, and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours.*

NEUR-492W. Honors Research in Neuroscience Faculty

A continuation of Neuroscience 491. Prerequisite: Neuroscience 491 and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours.*

NEUR-499. Neuroscience Capstone Colloquium Faculty

This colloquium is designed as an integrating experience for graduating Neuroscience majors. The neuroscience faculty and students will examine how the foundations of neuroscience weave through the vast array of interdisciplinary courses offered in the major. Special attention will also be paid to current issues from the neuroscience literature and the impact of these research findings on the current and future state of the discipline. Prerequisite: Enroll during fall semester of senior year. Three hours per week. *Four semester hours.*

Pennsylvania German Studies

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 Faculty

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 Faculty

Classroom study and field techniques related to the folklore, folklife, and folk culture of Pennsylvania Dutch country. Prerequisites: PGS-100, ANTH-100, or HIST-213. Three hours per week. *Three semester hours.*

PGS-204. Topics in Pennsylvania German Studies Faculty

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 Faculty

Pattern, symbolism and content in Pennsylvania German folk art. Formal painters of Pennsylvania German origin. Three hours per week. *Three semester hours.*

PGS-310. Religious Experiences of the Pennsylvania Germans Faculty

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 Faculty

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

Professors Goetz (Chair), Stern; Assistant Professors Florka, Rein, Rice, Sorensen.

The purpose of the department of philosophy and religion is to develop the student's ability to think clearly and critically and to understand the major philosophical and religious positions of both the past and the present. As means to accomplishing these goals, the department offers a major in philosophy and a major in philosophy and religion, as well as a minor in philosophy and a minor in religion.

Philosophy

For the student who is interested in a major in philosophy, the department offers the opportunity to think about the nature of things and about the best way in which to live one's life. In pursuing this opportunity, the student of philosophy necessarily considers the most basic questions that an individual can ask: "Why do I exist?," "What am I?," "What is a good life?," and "How do I live with others?" By majoring in philosophy, a student will become proficient in thinking, speaking, and writing about these questions in an informed and coherent manner.

Requirements for Philosophy Major

A major in philosophy requires Philosophy 260 (Logic); and either Philosophy 237 (Political Philosophy) or 240 (Ethics); and any other six courses from the 200 and 300 levels; and one of the following: 404W, 437W.

Requirements for Philosophy Minor

A minor concentration in philosophy requires Philosophy 260 (Logic); and either Philosophy 237 (Political Philosophy) or 240 (Ethics); and any four courses from the 200 and 300 levels.

Philosophy and Religion

For the student who is interested in a major in philosophy and religion, the department provides the opportunity to develop informed awareness and critical appraisal of philosophical perspectives, as well as providing an opportunity for a scholarly and appreciative study of historic and 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.

Requirements for Philosophy and Religion Major

A major in Philosophy and Religion requires Philosophy 211 (World Religions) and 260 (Logic); and either Philosophy 237 (Political Philosophy) or 240 (Ethics); and two courses from the 210s, 220s, 310s or 320s; and any other three courses from the 200 and 300 levels; and 404W. Each major is also encouraged to earn a minor in another field of study.

Requirements for Religion Minor

A minor in religion requires Philosophy 211 (World Religions) and 260 (Logic); and either Philosophy 237 (Political Philosophy) or 240 (Ethics); and any three courses from the 210s, 220s, 310s or 320s.

PHIL-100. Introduction to Philosophy *Dr. Florka, Dr. Goetz*

An introductory examination of many of the central issues in philosophy. Among the topics that may be discussed are: free will and determinism, skepticism about knowledge, the existence of God, the nature of the mind and its relation to the body, the ground of moral judgment, and the relation of language and thought to each other and to the world. Three hours per week. *Four semester hours.*

PHIL-106. The Meaning of Life *Dr. Florka, Dr. Goetz*

A philosophical examination of whether life has a purpose or is absurd and meaningless. Particular attention is given to what it means for something to have a purpose, what are possible sources of a purpose, and the issues of the afterlife and God. Three hours per week. *Four semester hours.*

PHIL-107. Philosophical Issues in Gender and Sexuality *Dr. Florka, Prof. Rice*

A philosophical exploration of gender and sexuality, including an examination of the nature of sexual desire and behavior, of whether gender and sexuality are natural features or social constructions, and of the controversies surrounding same-sex marriages, sexual harassment, pornography and other topics. Three hours per week. *Four semester hours.*

PHIL-140. Applied Ethics *Prof. Rice*

An examination of the virtues of compassion, gratitude, and love, and the application of ethics to concerns of social justice such as just war, animal rights, and capital punishment. The course includes a preparatory overview of major ethical theories. Three hours per week. *Four semester hours.*

PHIL-211. World Religions *Dr. Rein*

An introduction to five major living religions, namely Hinduism, Judaism, Buddhism, Christianity and Islam. An examination of the leading problems of religious traditions, their history and cultural context, and the 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. Rein*

Foundations of the Judeo-Christian tradition in the literature and thought of the Hebrew scriptures (the Christian 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 *Faculty*

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. *Four semester hours.*

PHIL-215. The New Testament: The Gospels *Dr. Rein*

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. Rein*

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-220. Philosophy of Religion *Dr. Goetz, Dr. Rein*

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. (Formerly PHIL-302.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-302 may not enroll in PHIL-220.

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PHIL-221. Religion in American Culture Faculty

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-225. African American Religious Experience Prof. Rice

This historical, theological, and contextual study of religion examines the African American religious experience, including: the African Background, slavery in America, the struggle for freedom and identity, the development of the Black Church, the Black Muslims, the Civil Rights movement, and the emergence of Black and Womanist theologies. Three hours per week. *Four semester hours.*

PHIL-237. Political Philosophy Dr. Stern

(Same as POL-237.) 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: POL-100. Three hours per week. *Four semester hours.*

PHIL-240. Ethics Dr. Florka, Dr. Goetz, Prof. Rice, Dr. Sorensen

A study of the theories of ethical relativism, psychological and ethical egoism, altruism, utilitarianism, Kantian deontology, and virtue theory, and of various views on the human good, virtue, the role of motive and consequences in determining right and wrong conduct, and the like. (Formerly PHIL-204.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-204 may not enroll in PHIL-240.

PHIL-260. Logic Dr. Florka, Dr. Goetz

(Same as MATH-260.) An introduction to the concepts and techniques used in symbolic reasoning, primarily through the study of first-order logic, the translation of sentences of ordinary English into a formal language, and the construction of derivations. Topics include: formalization, proofs, mathematical induction, propositional and predicate logic, quantifiers, and sets. (Formerly PHIL-202.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for MATH-236 or the former PHIL-202 may not enroll in PHIL-260.

PHIL-274. Philosophy of Mind Dr. Florka, 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. (Formerly PHIL-303.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-303 may not enroll in PHIL-274.

PHIL-276. Freedom and Determinism Dr. Florka, 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. (Formerly PHIL-305, Philosophy of Action.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-305 may not enroll in PHIL-276.

PHIL-278. Theory of Knowledge Dr. Florka, Dr. Stern

An examination of competing theories of knowledge and epistemic justification (foundationalism, coherentism, and externalism) with special attention to the problems of skepticism and the riddle of induction. Three hours per week. *Four semester hours.*

PHIL-309. Selected Topics Faculty

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-323. The Christian Religious Tradition *Dr. Rein*

A survey of important thinkers, literature and movements typical of the Christian tradition from the early church period through the 20th century. Careful study of such writers as Clement, Athanasius, Augustine, Anselm, Aquinas, Ockham, Bernard, Luther, Edwards and others is included. (Formerly PHIL-223.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-223 may not enroll in PHIL-323.

PHIL-324. Literature and Religious Idea *Dr. Rein*

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. (Formerly PHIL-224.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-224 may not enroll in PHIL-324.

PHIL-325. The Protestant Reformation *Dr. Rein*

An examination of the sixteenth-century Protestant Reformation through the writings of Luther, Calvin, representatives of the Radical and Catholic reforms, and others, with attention to their social, cultural, and political context. Topics include the crisis of medieval culture, Luther's biography and teachings, the theology of faith and grace, the creation of a Protestant culture, the radical reformers, and international Calvinism. Three hours per week. *Four semester hours.*

PHIL-326. Islam *Dr. Rein*

An introduction to the religious tradition of Islam. Topics to be covered may include, among others, the origins and spread of Islam; the Qur'an; faith and practices of Muslims; theology and law; Islamic art and culture; Sufi mysticism; Islam and the West; and Islamic modernism. Three hours per week. *Four semester hours.*

PHIL-327. Religion and Violence *Dr. Rein*

The turn of the twenty-first century has been accompanied by an alarming global increase in religiously-motivated violence. Historically, religious ideas have been used to justify both war and peace, both violence and reconciliation. This course will examine the relationship between religion and violence in various historical contexts. Topics will include: just war doctrine, crusades and holy wars; sacrificial rituals in traditional cultures; modern revolutionary and terrorist movements; and religious pacifism. Three hours per week. *Four semester hours.*

PHIL-337. Classical Political Philosophy *Dr. Stern*

(Same as POL-337.) 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: POL-237. Three hours per week. *Four semester hours.*

PHIL-338. Modern Political Philosophy *Dr. Stern*

(Same as POL-338.) 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: POL-237. Three hours per week. *Four semester hours.*

PHIL-339. Contemporary Political Philosophy *Dr. Stern*

(Same as POL-339.) 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: POL-237. Three hours per week. *Four semester hours.*

PHIL-340. Advanced Ethics *Dr. Florka, Dr. Goetz*

A close examination of one or more controversial issues and theories in moral philosophy. Among the possible topics are: the nature of moral theory, the foundations of normative judgment, the "internalism" or "externalism" of practical reasoning, realism vs. anti-realism in ethical theory, the roles of reason and emotion in morality, moral skepticism, virtue theory, utilitarianism, and Aristotelian or Kantian moral views. Three hours per week. *Four semester hours.*

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PHIL-346. Biomedical Ethics *Dr. Sorensen*

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. (Formerly PHIL-314.) Three hours per week. *Four semester hours.*

Note: Students who have received credit for the former PHIL-314 may not enroll in PHIL-346.

PHIL/ENV-348. Environmental Ethics *Dr. Sorensen*

The central issue in environmental ethics concerns what things in nature have moral standing and how conflicts of interest among them are to be resolved. After an introduction to ethical theory, topics to be covered include anthropocentrism, the moral status of non-human sentient beings, preservation of endangered species and the wilderness, holism versus individualism, and the land ethic. (Formerly PHIL-315.) Three hours per week. *Four semester hours.*

PHIL-351. Topics in Ancient and Medieval Philosophy *Dr. Florka, Dr. Stern*

An examination of one or more philosophers of the classical and medieval periods (for example, Plato, Aristotle, Augustine, Aquinas, Duns Scotus, Ockham), or a study in a single area such as metaphysics, ethics, or the theory of knowledge in several of the philosophers. Three hours per week. *Four semester hours.*

PHIL-354. Topics in Modern Philosophy *Dr. Florka, Dr. Stern, Dr. Sorensen*

An examination of one or more philosophers of the period from 1600 to 1900 (for example, Descartes, Locke, Leibniz, Hume, Kant, Hegel, Schopenhauer, Nietzsche), or a study in a single area such as metaphysics, ethics, or the theory of knowledge in several of the philosophers. Three hours per week. *Four semester hours.*

PHIL-360. Advanced Logic *Dr. Florka*

A continuation of Phil-260. Includes: further study of the logic of quantifiers and appropriate methods of proof, and working through the proofs of the Completeness and Soundness Theorems for propositional logic and first-order logic. Three hours per week. *Four semester hours.*

PHIL-364. Philosophy of Language *Dr. Florka, Dr. Goetz*

An examination of the notions of truth, meaning, reference, and language use, including the distinctions between sense and denotation, synonymy and analyticity, direct and indirect discourse, and natural and non-natural meaning. Prerequisite: PHIL-260 (Logic) or permission of instructor. Three hours per week. *Four semester hours.*

PHIL-370. Topics in Metaphysics and Epistemology *Dr. Florka, Dr. Goetz, Dr. Stern*

An intensive investigation of a few topics in metaphysics—such as personal identity, possibility and necessity, universals and particulars, causality—or in epistemology—such as skepticism, a priori knowledge, the problem of induction, knowledge as justified true belief. Three hours per week. *Four semester hours.*

PHIL-374. Consciousness and Thought *Dr. Florka*

An exploration of past and present philosophical studies of the nature of conscious awareness and the relation of the mind to the world. May include consideration of problems about perception, intentionality, representation, and rationality. *Four semester hours.*

PHIL-381. Internship *Faculty*

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 or senior standing and approval of a faculty internship adviser. Eleven to 14 hours per week. *Four semester hours.*

PHIL-404W. Senior Seminar: Current Issues and Movements in Philosophy and Religion Faculty

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 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. Open only to philosophy and/or religion majors or by departmental permission. Three hours per week. *Four semester hours.*

PHIL-437W. Seminar in Political Philosophy Faculty

Same as POL-437W. Intensive study of a special topic in political philosophy emphasizing original research and substantial oral and written work. Prerequisites: ENGL-100, junior or senior status and one 300-level course in political philosophy. Three hours per week. *Four semester hours.*

PHIL-491W. Research/Independent Work Faculty

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 Faculty

A continuation of PHIL-491. Prerequisite: PHIL-491. *Four semester hours.*

Physics and Astronomy

Associate Professor Nagy (Chair); Assistant Professors Cellucci, Riley.

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

Physics Track

Students must take the following courses: Chemistry 105, 105a, 206, 206aQ; Mathematics 111 or 108, 112, 211; Physics 111Q, 112, 207, 209, 210, 210a, 212, 308W, 315, either 450 or 492W, and at least two of the following: 301, 304, 309, 316, 401, 410.

Astrophysics Track

Students must take the following courses: Chemistry 105, 105a, 206, 206aQ; Mathematics 111 or 108, 112, 211; Physics 111Q, 112, 207, 209, 210, 210a, 212, 301, 315, 358W, at least two credits of research (from 411, 412, 421, 422, 491) and either 450 or 492W.

Students anticipating graduate study in physics or astrophysics should select additional courses from Physics 304, 309, 316, 401, 410, and from Mathematics 214, 235, 413.

Requirements for Secondary School Teaching Certification

Students must take Biology 100 or 111; Chemistry 105, 105a, 206, 206aQ; Mathematics 111 or 108, 112, 211; Physics 111Q, 112, 101Q or 102Q, 207, 209, 210, 210a, 212, 308W, either 450 or 492W.

Requirements for Minors

A minor concentration in physics consists of Mathematics 111 or 108, 112; Physics 111Q, 112, 207, and a minimum of seven credits selected from 209, 210, 210a, 212, 304, 308W, 309, 315, 316, 401, 408, 410, including at least one of the following: 209, 210a, 308W.

A minor concentration in astronomy consists of Physics 101Q, 111Q, 112, 201, 301, and a minimum of three credits of seminar from the following topics: solar system astronomy, celestial mechanics, galactic astronomy, astrometry.

Students in the pre-engineering program usually take Chemistry 105, 105a, 206, 206aQ; Mathematics 111, 112, 173, 211, 310; Physics 111Q, 112, 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 Faculty

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. Three hours lecture and two hours laboratory per week. *Four semester hours.*

PHYS-101Q. Stars and Galaxies Dr. Nagy

Periodic changes in the sky, physical principles of stellar astronomy, star formation and evolution, galaxies, the creation and evolution of the universe, telescopic observations and CCD astrophotography. Prerequisite: a working knowledge of high school algebra. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

PHYS-102Q. The Solar System Dr. Nagy

Periodic changes in the sky, physical principles of solar system astronomy, the sun and planets, asteroids and other solar system debris, the search for extraterrestrial intelligence, telescopic observations and CCD astrophotography. Prerequisite: a working knowledge of high school algebra. Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

PHYS-111Q. General Physics I Faculty

A study of mechanics and thermodynamics, utilizing mathematics in the presentation and in exercises. Three hours of lecture and two hours of lab per week. *Four semester hours.*

PHYS-112. General Physics II Faculty

A study of waves, electricity, magnetism, and light, utilizing mathematics in the presentation and in exercises. Prerequisite: PHYS-111Q, MATH-107 or equivalent. Three hours of lecture and two hours of lab per week. *Four semester hours.*

PHYS-207. Modern Physics Faculty

Special relativity, origins of quantum theory, physics of atoms, molecules, solids, nuclei, and elementary particles. Class work will include experiments which demonstrate the physical principles. Prerequisite: PHYS-112. Four hours per week. *Four semester hours.*

PHYS-209. Electronics for Scientists Dr. Cellucci

Foundations of analog and digital circuits. D-C and A-C circuits, transistors, operational amplifiers, digital electronics. Prerequisite: PHYS-112. Three hours lecture and three hours laboratory per week. Offered spring semester. *Four semester hours.*

PHYS-210. Intermediate Classical Physics Faculty

Vectors, vector calculus, classical mechanics (statics, kinematics, dynamics of a particle, energy, harmonic motion, moving reference systems, central forces, chaos), electricity and magnetism (electric forces, capacitance, currents, magnetic forces, induction). Prerequisites: PHYS-112, MATH-112. Three hours per week. Offered fall semester. *Three semester hours.*

PHYS-210a. Intermediate Laboratory Faculty

Laboratory work (optional) for PHYS-210. Three hours per week. Offered fall semester. *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 Schrodinger wave equation, one-dimensional quantum mechanical problems, prediction and measurement in quantum mechanics. Class work will include experiments which demonstrate the physical principles. Prerequisites: PHYS-112, MATH-112. Four hours per week. *Four semester hours.*

PHYS-301. Introduction to Astrophysics Dr. Nagy

Astrometry, astronomical photometry, CCD imaging and image processing, spectroscopy. 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: PHYS-112, MATH-111, pre- or co-requisites: MATH-112. Three hours lecture and three hours lab per week. *Four semester hours.*

PHYS-304. Thermodynamics Dr. Nagy

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 PHYS-410). Prerequisites: PHYS-112, MATH-211. Four hours per week. *Four semester hours.*

PHYS-308W. Modern Physics Laboratory Faculty

Experimental investigations of the principles of modern physics, with emphasis on laboratory techniques and the written communication of scientific results. Prerequisites: PHYS-207, 212, ENGL-100. Six hours of laboratory per week. *Three semester hours.*

PHYS-309. Electric and Magnetic Fields Dr. Nagy

Electric and magnetic fields and potentials, Laplace's equation, dielectrics and magnetic materials, Maxwell's equations, electromagnetic waves. Prerequisites: PHYS-112, 210, MATH- 211 (alternates with PHYS-401). Four hours per week. *Four semester hours.*

PHYS-315. Mathematical Physics I Dr. Nagy

Ordinary differential equations, special functions of mathematical physics, linear algebra, coordinate transformations, vector analysis, Fourier series, numerical solution of algebraic equations. Prerequisites: PHYS-112, MATH-211. Four hours per week. *Four semester hours.*

PHYS-316. Mathematical Physics II Dr. Nagy

Complex analysis, partial differential equations, numerical integration and differentiation, numerical solution of ordinary differential equations, Fourier and LaPlace transforms. Prerequisite: PHYS-315. Four hours per week. *Four semester hours.*

PHYS-317. Seminar Faculty

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 Faculty

Same description as PHYS-317. Three hours per week. *Three semester hours.*

PHYS-358W. Seminar in Astrophysics Dr. Nagy

Study and discussion of advanced topics or recent developments in astrophysics, with emphasis on the written communication of scientific results. Prerequisite: PHYS-301. Three hours per week. *Three semester hours.*

PHYS-401. Applications of Quantum Mechanics Faculty

The hydrogen atom, angular momentum, systems of identical particles, perturbation theory, and other applications selected from atomic, molecular, solid-state, and nuclear physics. Prerequisite: PHYS-212 (alternates with PHYS-309). Four hours per week. *Four semester hours.*

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PHYS-405. Computational Physics *Dr. Cellucci*

Sophisticated numerical and nonlinear techniques will be developed and applied to modern and traditional problems in physics. Problems whose solutions are not accessible analytically will be explored through the use of symbolic and compiled languages with visualization. Prerequisites: PHY-315, CS-174, or permission of a member of the physics faculty. Four hours per week. *Four semester hours.*

PHYS-410. Classical Mechanics *Faculty*

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: PHYS-210, MATH-211 (alternates with 304). Four hours per week. *Four semester hours.*

PHYS-411. Research *Faculty*

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 Faculty to serve as the adviser. *One semester hour.*

PHYS-412. Research *Faculty*

Continuation of PHYS-411. *One semester hour.*

PHYS-421. Research *Faculty*

Same as PHYS-411, but more extensive in scope. *Two semester hours.*

PHYS-422. Research *Faculty*

Continuation of PHYS-421. *Two semester hours.*

PHYS-431. Research *Faculty*

Same as PHYS-421, but more extensive in scope. *Three semester hours.*

PHYS-432. Research *Faculty*

Continuation of PHYS-431. *Three semester hours.*

PHYS-450. Senior Seminar *Faculty*

Investigation and discussions of recent developments in physics, with emphasis on oral communication of scientific results. Open to physics majors in their senior year or in their junior year with permission of the departmental chairperson. One hour per week. *One semester hour.*

PHYS-491. Research/Independent Work *Faculty*

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

PHYS-492W. Research/Independent Work *Faculty*

A continuation of PHYS-491. Writing a major paper and giving an oral presentation are required. Prerequisites: ENGL-100, PHYS-491. *Four semester hours.*

Politics and International Relations

Professors Fitzpatrick (Chair), Hood, Melrose (Ambassador in Residence), Stern; Associate Professor Kane; Assistant Professor Evans; Instructor Winslow.

The general objectives of the department of politics and international relations are:

- 1) To challenge students to evaluate their conceptions of the good life for the individual and for society.
- 2) To prepare students for lives of enlightened and responsible citizenship.
- 3) To help students attain knowledge of the theory and practice of politics.
- 4) To help students develop the faculties of expression and critical thinking.

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 Politics Majors

A major in politics requires Politics 218, 237, 242, 252, one seminar at the 400 level, plus five additional courses at the 300 level or above.

Secondary School Teaching Certificate

In addition to the basic requirements of the major, students seeking a teaching certificate in social studies must be enrolled in the College's teacher education program. Substantial further coursework outside of either major 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 Ursinus College Education Department.

Requirements for Politics Minors

A minor in politics consists of two courses from among Politics 218, 237, 242, 252; and three courses at the 300 or 400 level.

POL-100. Introduction to Politics *Dr. Evans, Dr. Fitzpatrick, Dr. Hood, Dr. Kane, Dr. Stern, Prof. Winslow*
An introduction to politics through the examination of contemporary political issues and events. Students will be introduced to the way political scientists study political problems and how these problems relate to political principles such as justice, freedom, liberty, equality, and democracy. 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. 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. Three hours per week. *Four semester hours.*

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POL-242. Comparative Politics *Dr. Evans, 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. Three hours per week. *Four semester hours.*

POL-252. International Politics *Dr. Evans, Dr. Hood*

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. Three hours per week. *Four semester hours.*

POL-299. Tutorial in Politics and International Relations *Faculty*

Individual study and directed reading of a particular topic or book within the discipline. Students will work closely with a member of the department in selecting, reading, and discussing the topic, and in determining a proper written assignment. Prerequisites: POL-100 and prior permission of the instructor. One hour per week. *One semester hour.*

POL-300Q. Introduction to Political Science Research Methods *Prof. Winslow*

Students will gain an understanding of how political scientists utilize various methodologies, such as surveys, case studies and experiments, to answer research questions. Students will also learn the basic statistical techniques utilized to analyze political data. In addition to gaining an understanding of the theoretical basis for the use of elementary statistical procedures, students will develop the ability to use a statistical software package, such as SPSS, to conduct statistical analysis on their own. Some classroom sessions will be conducted in the computer lab. 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: POL-218. Three hours per week. *Four semester hours.*

POL-315. Race and Politics in the United States *Prof. Winslow*

An examination of the politics of the relationships among Americans of African, Asian, Hispanic, and European descent. The major theories concerning the influence of race on policy attitudes will be investigated. Efforts will also be undertaken to identify and evaluate the strategies used by various racial groups in their attempts to gain political power in the United States. Prerequisite: POL-218 or permission of the instructor. Three hours per week. *Four semester hours.*

POL-316. African American Politics in the United States *Prof. Winslow*

A survey of the philosophical perspectives and political strategies adopted by African Americans in their efforts to obtain equality in the United States. In addition to analyzing the approaches and techniques undertaken by African American political leadership, the course will investigate and evaluate mass based political efforts such as protests and voting. Prerequisite: POL-218 or permission of the instructor. 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: POL-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: POL-218. Three hours per week. *Four semester hours.*

POLITICS AND INTERNATIONAL RELATIONS

POL-323. American Local Government *Faculty*

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: POL-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: POL-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: POL-218. Three hours per week. *Four semester hours.*

POL/ENV-326. Environmental Law *Dr. Kane*

The study of various state, national, and international legal patterns that have arisen to address environmental concerns. The environmental field will be used to examine the nature and effectiveness of civil, criminal, and administrative action to address a complicated and important social issue. Topics will include federal administrative law; international trade and environmental regulation; control of toxic substances and hazardous wastes; the impact of scientific uncertainty on regulation; federal regulatory programs; civil liability under federal regulations; citizen suits; and the preservation of natural areas. Prerequisites: POL-218 for Politics and International Relations majors or permission of the instructor. 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: POL-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: POL-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: POL-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: POL-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: POL-237. Three hours per week. *Four semester hours.*

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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: POL-237. Three hours per week. *Four semester hours.*

POL-343. Leadership in the Civil Society of Cuba *Dr. Kane*

This course will be taught in Cuba during four weeks of the summer. The class will meet for ten hours during the following semester to discuss and review research papers. Focus of study will be leadership of the non-governmental groups which are assuming quasi-governmental roles. Prerequisites: POL-399 Leadership Studies. *Two semester hours.*

Note: Students must take both Politics 343 and 348 to receive credit for one elective course in the major.

POL-344. Political Development *Dr. Evans, 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: POL-242. Three hours per week. *Four semester hours.*

POL-345. Democracy and Politics in Latin America *Dr. Kane*

Study of the patterns of government and politics in the Caribbean, and Latin America and of the views of democracy held by Latin American political leaders and theorists. Mexico will be used as a point of departure with each student researching one additional assigned country. Prerequisite: POL-242 or consent of the instructor. Three hours per week. *Four semester hours.*

POL-346. East Asian Democracy *Dr. Hood*

Study of the contemporary democratic regimes of East Asia, including Japan, Korea, and Taiwan. In addition, an examination of democratic theory and East Asian Culture. Prerequisite: POL-242 or permission of the instructor. Three hours per week. *Four semester hours.*

POL-347. Chinese Politics *Dr. Hood*

An examination of the contemporary government and politics of China with special attention paid to contemporary Chinese political thought, culture and policy. Prerequisite: POL-242 or permission of the instructor. Three hours per week. *Four semester hours.*

POL-348. Politics and Government of Cuba *Dr. Kane*

A study of the politics and government of Cuba, with an emphasis upon the characteristics and themes that will contribute to the direction of politics in the first decades of the 21st century. Prerequisites: Politics 242 or consent of the instructor. *Two semester hours.*

POL-349. European Politics *Faculty*

An examination of modern European economic and political systems and the different ways in which various European countries have sought to preserve social stability, promote economic prosperity and guarantee democracy in the post-WWII period. The course also focuses on European integration and democratization in Southern and Eastern Europe. Prerequisite: POL-242 or permission of the instructor. Three hours per week. *Four semester hours.*

POL-350A. International Organizations and Diplomacy *Prof. Melrose*

A study of governmental international organizations and diplomacy with particular emphases on functions of the United Nations and other intergovernmental and non-governmental organizations and multilateral political affairs. Prerequisite: Politics 252 or permission of the instructor. Students must take both Politics 350 A and B to receive credit for one elective course in the major. Two hours per week. *Two semester hours.*

POLITICS AND INTERNATIONAL RELATIONS

POL-350B. International Organizations and Diplomacy *Prof. Melrose*

A continuation of POL-35A. This course also prepares students to participate in the National Model United Nations conference. Prerequisite: Politics 350A or permission of the instructor. Students must take both Politics 350 A and B to receive credit for one elective course in the major. Two hours per week. *Two semester hours.*

POL-352. Theories of International Relations *Dr. Evans, Dr. Hood*

This course explores the theories that have been used to study international relations from ancient times to the present. Particular attention is given to the roots of contemporary theories, especially realism, neoliberalism, imperialism, neorealism, and international political economy. Prerequisite: POL-252. 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: POL-252. Three hours per week. *Four semester hours.*

POL-355. U.S. Foreign Policy *Prof. Melrose, Dr. Evans*

Analysis of the process and substance of U.S. foreign policy. Attention is paid to the roles and limitations of the Presidency, Congress, the State Department, the National Security Council, public opinion and non-governmental actors. Emphasis will be placed on current controversial global issues. Prerequisite: POL 252. Three hours per week. *Four semester hours.*

POL-357. War and Peace *Dr. Evans*

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: POL-252. Three hours per week. *Four semester hours.*

POL-358. The Vietnam War *Dr. Hood*

An examinations of the Vietnam War analyzing objectives and strategies of the competing Vietnamese regimes, the United States, China, the Soviet Union, Cambodia, and Laos. Prerequisite: POL-242, POL-252 or permission of the instructor. Three hours per week. *Four semester hours.*

POL-381. Internship in Politics and Government *Faculty*

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 *Faculty*

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: ENGL-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: ENGL-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. Evans, Dr. Hood*

Intensive study of a special topic in comparative politics emphasizing original research and substantial oral and written work. Prerequisites: ENGL-100, junior or senior status and one 300-level course in comparative politics. Three hours per week. *Four semester hours.*

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POL-452W. Seminar in International Politics *Dr. Evans, Dr. Hood*

Intensive study of a special topic in international politics emphasizing original research and substantial oral and written work. Prerequisites: ENGL-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 *Faculty*

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 *Faculty*

A continuation of POL-491. Prerequisite: POL-491. *Four semester hours.*

International Relations

Professors Clark, Doughty, Gallagher, Hood, Melrose (Program Coordinator), Oboler, O'Neill; Associate Professor King, Assistant Professor Evans.

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.

Requirements for International Relations Majors

The international relations major is an interdisciplinary program for students interested in careers in international politics and diplomacy, intelligence work, higher education, international law, international trade, journalism, and other fields where expertise in international affairs is necessary. Courses required to complete the international relations major include: Anthropology 100, Business and Economics 100, History 207, Politics 242, 252, 352, and a capstone consisting of Politics 442W, 452W, International Relations 400W or another capstone approved by the International Relations coordinator. Eligible students may write a departmental or interdisciplinary honors paper for their capstone requirement, with the approval of the International Relations coordinator. (Note: Students planning to do graduate study in political science should take Politics 218 and 237 as well.) Majors are additionally required to take four of the following courses, including courses in at least two different departments: Politics 344, 345, 346, 347, 349, 350A and 350B, 353, 355, 357, 358; History 205, 241, 243, 253, 308, 344, 353, 365, 368; Business and Economics 211, 212, 260, 361, 362, 363; Anthropology 232, 242, 252; or Interdivisional Studies 332. (Note: Both POL 350A and POL 350B must be taken in order to qualify as one elective.) Finally, all students in the International Relations major must take at least two courses at the 200 level or above in a foreign language. International Relations majors are strongly encouraged to pursue study-abroad options. The department regularly tries to accommodate students by accepting courses taken abroad in fulfillment of major requirements.

Requirements for International Relations Minors

The international relations minor consists of Politics 100, 242, 252, 352, and one course from either Politics 344, 345, 346, 347, 353, 355, 357, or History 207.

IR-400W. Research in International Relations *Faculty*

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. Three hours per week. *Four semester hours.*

Psychology

Professors Chambliss (Chair), Fago, Rideout; Associate Professor Richardson; Assistant Professors DaCosta, Principe.

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 Ursinus College Education Department.

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.

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, 335, 340.
 - b. Developmental/Personality: Psychology 345, 355, 375, 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.

Ancillary Courses

Required of all majors

1. Biology 100Q and Biology 200a or b, or 111Q and one other four credit Biology course.
2. Eight credit hours in the non-psychology social sciences, choosing among anthropology, economics, politics, sociology and Media and Communication Studies.

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 241, 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.
4. MCS 102 is highly recommended.

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, 375, 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 431; Psychology 110, 320 and 325; and either Psychology 481 or 482 (approved topic applicable to the neurosciences), or Biology 481 or 482, 491, or 492 (approved topic applicable to the neurosciences). Psychology 327 is recommended but not required.

PSYC-100. Introductory Psychology *Faculty*

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.*

PSYC-110. Research and Statistical Methods *Dr. Fago*

This course is an introduction to psychological research, emphasizing non-experimental research methodologies 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-210W. Experimental Design and Statistical Methods *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: ENGL-100, PSYC-100, 110, or permission of instructor. Three hours lecture, two hours laboratory per week. *Four semester hours.*

PSYC-260. Mental Health and Abnormal Psychology *Dr. DaCosta*

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: PSYC-100. Three hours per week. *Four semester hours.*

PSYC-265. Educational Psychology *Dr. DaCosta*

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 (the same course as EDUC-265). Prerequisite: PSYC-100. Three hours per week. *Four semester hours.*

PSYC/ENV-282. Environmental Psychology *Dr. Rideout*

Study of the interrelationship between human behavior and experience and the built and natural environment. Topics include: influences of weather, climate, noise, crowding, and stress; personal space and territoriality; work, leisure, and learning environments; the natural environment and behavioral solutions to environmental problems. Prerequisite: PSYC-100. Three hours per week. *Four semester hours.*

PSYC-301. Reading in Psychology *Faculty*

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 *Faculty*

Content and prerequisites as in PSYC-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: PSYC-100, 110. Three hours of lecture, two hours of laboratory per week. *Four semester hours.*

PSYC/NEUR-325. Behavioral Neurosciences *Faculty*

A study of the structure and function of the vertebrate nervous system, particularly of the neural substrates of behavior as well as cerebral lateralization of function. Topics include evolutionary, anatomical and physiological approaches to the nervous system and behavior. Prerequisites: PSYC-100; BIO-100 or 111; or permission of the instructor. Three hours per week. *Four semester hours.*

PSYC/NEUR-327. Neurosciences Laboratory *Dr. Rideout*

A study of nervous system structure and function emphasizing human electrophysiological signal recording and manipulation. Topics include gross neuroanatomy; electrophysiological signal characteristics, recording and analysis; and biofeedback programming. Prerequisite: 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: PSYC-100 and 210W. Three hours lecture, two hours laboratory per week. *Four semester hours.*

PSYC/NEUR-335. Applied Cognitive Neuroscience *Faculty*

A review of contemporary neuroscience research and theory with attention to its interdisciplinary (psychology, biology, medicine, and engineering) and applied nature. Topics include robotics, electronic implants, virtual environments, eye movements, spatial orientation, body posture and balance, multisensory representations of space, and higher order cognitive deficits. Prerequisites: NEUR/PSYC-325 or BIO-305 or permission of the instructor. Three hours per week. *Four semester hours.*

PSYC/NEUR-337. Applied Cognitive Neuroscience Laboratory *Faculty*

An experimental investigation of higher order cognitive function and the practical application of the experimental results. Topics include virtual and terrestrial navigation, eye movement recordings, three-dimensional analysis of body posture and balance, and object recognition and identification. Prerequisites: Permission of the instructor. Two hours per week. *One semester hour.*

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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 100 and 210W. Three hours lecture, two hours laboratory per week. *Four semester hours.*

PSYC-345. Child Development *Dr. Principe*

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: PSYC-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: PSYC-100. Three hours per week. *Four semester hours.*

PSYC-360. Psychology in the Community *Dr. Principe*

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: PSYC-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: PSYC-100; MATH-241. Three hours per week. *Four semester hours.*

PSYC-375. Adulthood and Old Age *Faculty*

A survey of physical, social, and cognitive changes in adulthood with a focus on old age. The survey course will review research and theory from the lifespan perspective. Prerequisite: PSYC-100. 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: PSYC-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: PSYC-100, 260, and 265 or 345. Three hours per week. *Four semester hours.*

PSYC-455. Personality *Dr. DaCosta*

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: PSYC-100, 260, and 265, 355 or 345. Three hours per week. *Four semester hours.*

PSYC-465. Testing and Assessment *Dr. Richardson*

Introduction to procedures and instruments related to the assessment of individuals and outcomes in educational and institutional settings. The course will review issues related to program evaluation as well as the development and use of aptitude, achievement, and personality tests. 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 *Faculty*

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: MCS-102 or permission of instructor. *Four semester hours.*

PSYC-482. Research *Faculty*

Content as in PSYC-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: MCS-102 or permission of instructor. *Four semester hours.*

PSYC-491. Research/Independent Work *Faculty*

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: MCS-102 or permission of instructor. *Four semester hours.*

PSYC-492. Research/Independent Work *Faculty*

A continuation of PSYC-491. Prerequisite: PSYC-491. *Four semester hours.*

PSYC-495. Seminar in Psychology *Faculty*

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: MCS-102. Three hours per week. *Four semester hours.*

Theater and Dance

Assistant Professors Aiken, Epstein, Scudera (Coordinator), Young.

The theater and dance programs at Ursinus prepare students for a life in which intellectual thinking, aesthetic awareness, communication, and collaboration are integral components. The study of theater and dance within the context of a liberal arts education will develop students for whom rigorous intellectual and artistic inquiries are inextricably linked.

The theater and dance department offers coursework in acting, dancing, choreography, directing, history and theory of performance, theatrical design, and production. Our objectives are: 1) to offer historical, critical, and practical training in the performing arts; 2) to develop in students an awareness that the performing arts are vital forms of cultural expression that reflect their socio-political contexts; 3) to provide students with a deep understanding of the balance between awareness, thought, imagination and creative expression; 4) to engage students in the creative process as a unique means to develop their self-knowledge as citizens, individuals and passionate artists who can inspire and transform audiences; and finally, 5) to prepare students for graduate study, a career in the performing arts, or to apply their knowledge and experience to other fields of endeavor.

Dance

Dance as an artistic language utilizes choreography as text, and offers unique opportunities to express and comment upon the human condition. The courses in dance are designed to give students an in-depth and embodied understanding of the art of dance and choreography, the field of dance scholarship, the science of mind/body integration, the craft of performance and the project management skills necessary to produce creative work. In addition to rigorous movement training, the dance major demands the critical thinking, creative imagination, interpersonal communication skills and organizational skills that are central to a liberal arts education.

Major in Dance

A major in Dance consists of 42-46 credits in technique, composition, production, and history/theory/criticism. Requirements:

- At least 2 semesters of DANC-001-008
- DANC-100 and TD-150
- TD-210 and DANC-310
- Two dance technique courses from among the following: DANC-200, 220, 230, 235 and 240
- DANC-300W and DANC-340
- 12 semester hours of dance courses in addition to the above listed requirements. Up to 4 semester hours of DANC-001-008 may be utilized toward this requirement; up to 8 semester hours of 200 level courses may be utilized toward this requirement; up to 8 semester hours may be fulfilled by courses outside the dance department, including: ESS-351, 352, 353; ART-100, 150, 160, 170W, 270; MCS-212; THEA-100, 200, 201, 270; TD-130.
- One Capstone course (TD-400, or DANC-491-492)

For fulfillment of ILE credit requirement, students are encouraged to study abroad in a dance program approved by the department, or an off campus internship, or coursework in an approved dance program or festival.

Minor in Dance

A minor concentration in dance consists of 20 credits. Requirements:

At least 2 semesters of DANC-001-008

- DANC-100 and TD-150
- TD-210 and DANC-310
- One dance technique course from among the following: DANC-200, 220, 230, 235, and 240
- 4 semester hours of additional dance courses. Up to 2 hours of DANC-001-008 may be utilized toward this requirement; all 4 hours may be 200 level courses.

Theater

Theater is a powerful form of experiential learning that can prompt students to grow as individuals, critical thinkers, and artists. Interdisciplinary by nature, theater also compels students to learn about society and the role of theater artists therein. Theater classes and rehearsals are spaces of creative and critical thinking where students undertake deep exploration of the imagination through performance and design. Courses are also contexts for learning theater history concurrent with contemporary developments in theater and performance.

Major in Theater

A major in Theater consists of 42-46 semester hours of credit. Requirements:

- THEA-100
- TD-150
- THEA-200
- At least one design course: TD-130 or THEA-240
- THEA-300W and THEA-301
- One capstone course (TD-400 or THEA-491-492)
- At least four credits of THEA-001-008 or TD-001-008
- At least three additional THEA or TD courses

For fulfillment of ILE credit requirement: student study abroad in a theater program approved by the department, an off-campus internship at a theater, or work in an approved theater program/production.

Up to four credits of THEA-001-008 or TD-001-008 beyond the required four credits may be substituted for one of the additional courses. Up to eight credits of relevant courses in disciplines such as dance, art, music, English and modern languages may be included in the major with approval by theater faculty.

Minor in Theater

A minor concentration in Theater consists of 20 semester hours of credit. Requirements:

- THEA-100
- TD-150
- At least two credits of THEA-001-008 or TD-001-008
- Three additional THEA or TD courses (at least one of which is at the 300 or 400 level).

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TD-001-008. Theater/ Dance Practicum Faculty

A learning experience in which students assume responsibilities for the technical aspects of major campus theater or dance productions. Production positions vary, but may include stage manager, assistant to the director or choreographer, scenic crew, lighting and sound crew and operators. Graded S/U. Four hours per week. *One semester hour.*

TD-130/ART-130. Introduction to Design Faculty

In this studio class, students will be introduced to principles of theatrical design and the artistry of imagination. They will explore how theater designers think about images and use elements such as line, shape, space, mass, texture, light and color to create visual expression and communicate dramatic intention in three-dimensional space. Students will gain an understanding of the effect of lighting, scenic and costume design choices for theater and dance productions. Four hours per week. *Four semester hours.*

TD-150. Stagecraft Faculty

An introduction to and participation in all aspects relating to the physical side of creating works for the stage. Students will be introduced to scenic building technique, scenic painting, lighting and sound design and the roles relating to the running of a show (stage manager, running crew, etc). This class will provide students with an understanding of these endeavors through instructor tutorial, visiting lectures and hands-on experience. Four hours per week. *Two semester hours.*

TD-210. Dance Improvisation Mr. Aiken

This course explores dance improvisation both as a choreographic tool and as a performing art. Students will learn how to develop new movement skills, how to sensitize themselves to what is happening around them, how to improvise with music, and how to make choreographic choices while performing. Students are required to keep a journal of their classroom activities. This class is open to all levels of dancers. Four hours per week. *Two semester hours.*

TD-250. Special Topics in Theater and Dance Faculty

This course will focus on a specific topic of theater and dance not covered in other courses in the curriculum. Four hours per week. *Four semester hours.*

TD-350. Advanced Special Topics in Theater and Dance Faculty

This course will focus on a specific topic at an advanced theoretical or critical level within theater and dance not covered in other courses in the curriculum. Three hours per week. *Four semester hours.*

TD-381. Internship (3 credit) Faculty

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research or production project. Prerequisite: major or minor in theater or dance and three courses in the department, junior standing, and approval of a faculty internship adviser. Must complete a minimum of 120 hours. Graded S/U. *Three semester hours.*

TD-382. Internship (4 credit) Faculty

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research or production project. Prerequisite: major or minor in theater or dance and three courses in the department, Junior standing, and approval of a faculty internship adviser. Must complete a minimum of 160 hours. Graded S/U. *Four semester hours.*

TD-400. Seminar in Performance Faculty

This course integrates theoretical and practical course work as the foundation for the student's performance experience. During the course of the semester's work, each student will prepare a significant research document and prepare several works for concert production. The resultant document/performance will be presented publicly. In addition, each student will be responsible for an oral presentation of his or her work. Three hours per week. *Four semester hours.*

Dance

DANC-001-008. Dance Production: Performance *Faculty*

Students participating in the Ursinus College Dance Company will have opportunities for both informal and produced performances throughout the semester, will be encouraged to create and present their own work, and to perform in works choreographed by faculty and guest artists. The company will work in a wide range of dance forms and styles including jazz dance, modern dance, social dance, improvisation, partnering, etc. It is highly recommended that students participating in the dance company also take a dance technique course. Four hours per week. *One semester hour.*

DANC-100. Introduction to Dance *Faculty*

This course is designed to broaden students' understanding and appreciation of contemporary dance in the United States. Students will examine a wide variety of styles and forms, including ballet, modern, post-modern, hip-hop and social/vernacular dance. Through the study of some of the major choreographers and dance trends in the U.S., the class will address the diverse creativity of individual and cultural expression through the art of dance. This course involves both critical analyses of performance and theory as well as practical dance experience. Four hours per week. *Four semester hours.*

DANC-200. Fundamental Dance Technique *Ms. Young*

An introduction to dance and movement techniques. The class will focus on the basic principles of dance movement, including alignment, coordination, musicality, and locomotion through space. Students will develop increased body awareness, flexibility, strength, and ease within a broad movement vocabulary. This class is designed for students with no previous experience in dance technique. Students may take this course twice for credit. Four hours per week. *Two semester hours.*

DANC-220. Contemporary Ballet *Ms. Young*

Designed to develop in the student a deep and sophisticated body awareness, this course interweaves contemporary ballet and modern dance techniques. The warm-up opens, extends and integrates the body by focusing on alignment, breath and movement efficiency. Students will build strength, flexibility and coordination by beginning each class with floor work, moving next to the barre, and culminating with danced combinations in the center that combine the line and shape of ballet with the momentum, falling and flying of contemporary modern dance. Prerequisite: DANC-200 or permission of the instructor. Students may take this course up to six times for credit. Four hours per week. *Two semester hours.*

DANC-230. Jazz Dance *Ms. Young*

This course celebrates jazz dance as a passionate, expressive and continuously evolving form. Based on the premise that jazz dance is fundamentally inspired by vernacular dance and music, the class explores movement sourced from a wide range of music including swing, blues, jazz, ragtime, rhythm and blues, soul and funk. The class will consist of a warm-up designed to develop strength, ease of movement, flexibility and musicality, and move into across-the-floor progressions culminating in longer danced combinations. Students will increase their technical skills as well as deepen their stylistic sophistication. Prerequisite: One of the following: DANC-100, DANC-200 or TD-210, or permission of the instructor. Students may take this course up to six times for credit. Four hours per week. *Two semester hours.*

DANC-235. Contemporary Modern Dance *Mr. Aiken*

This course introduces students to methods and practices in contemporary modern dance. Prerequisite: One of the following: DANC-100, DANC-200 or TD-210, or permission of the instructor based on previous training. Students may take this course up to six times for credit. Four hours per week. *Two semester hours.*

DANC-240. Repertory *Faculty*

In this course students will have an intensive rehearsal process with the goal of mastery of a choreographic work which will be performed at Ursinus. This course is open to dance minors and majors or by instructor's permission. Students may take this course up to six times for credit. Four hours per week. *Two semester hours.*

URSINUS COLLEGE CATALOGUE

DANC-245. Contact Improvisation/Partnering Faculty

This class explores partnering techniques based in momentum, energy flow and use of weight, both within a context of improvised movement as well as within choreographic phrases. Students will learn skills of supporting, lofting, rolling and flying in connection with another body. Prerequisite: One of the following: DANC-200, 210 or 220 or permission of the instructor. Students may take this course up to six times for credit. Four hours per week. *Two semester hours.*

DANC-250. Special Topics in Dance Visiting Faculty

A focused exploration of special subject areas within the field of dance, including hip hop, African Dance, Advanced Classical Ballet/Pointe, Tap, and Ballroom Dance. Four hours per week. *Two semester hours.*

DANC-300 W. Dance History Faculty

A historical survey of the origin, growth and development of 20th century Western Theatrical Dance. The course will focus on the forces, processes and personalities that influenced dance during this time. Students will develop a critical understanding of the major trends in the development of dance in the twentieth century, as well as examining these trends in relation to their socio-political context. Prerequisite: DANC-100. Four hours per week. *Four semester hours.*

DANC-310. Dance Composition Faculty

An immersion into the creative act of choreography. Students will examine the compositional process both from a theoretical and historical perspective as well as by creating their own work. Through both short, in class assignments as well as extensive work outside of class, students will investigate the ideas of form and content in choreography, "classical" rules and how and whether to break them, the development of a personal and expressive movement vocabulary, and various methodologies for creating both solo and group work. Prerequisites: DANC-100, TD-210; suggested DANC-300. Students may take this course up to three times for credit. Four hours per week. *Four semester hours.*

DANC-340. The Thinking Body: Somatic Theory and Practice Mr. Aiken

Utilizing lectures, discussion and guided movement explorations, students will study the relationships between the form and function of the mind/body. Through a study of anatomy, physiology and the mind, students will develop a deeper understanding of the influence of the mind on movement, posture and experience. All students are required to keep weekly journals, present classroom materials in a formal assignment, and conduct a major research project to illustrate their command of kinesiological principles and somatic theory. Prerequisites: DANC-100, at least one 200 level DANC-course. Four hours per week. *Four semester hours.*

DANC-350. Special Topics in Dance Faculty

This course will focus on a specific topic at an advanced theoretical or critical level within theater not covered in other courses in the curriculum. Three hours per week. *Four semester hours.*

Topics might include: History of Jazz Dance; Perception, Imagination and Creativity; Feminist Choreographies; Aesthetics and Education; World Dance; or Dance Pedagogy.

DANC-450. Directed Studies in Dance Mr. Aiken, Ms. Young

Advanced individual work on a project related to the study of dance. Prerequisites: eight credits of 300-400 level coursework in dance, demonstrated competence in the specific area of study, a written proposal, and permission of a department faculty member who will serve as project adviser. *Four semester hours.*

DANC-491. Research/Independent Work Faculty

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

DANC-492W. Research/Independent Work Faculty

A continuation of course 491, culminating in a written and oral presentation of a major research project. Prerequisite: 491. *Four semester hours.*

Theater

THEA 001-008. Theater Laboratory *Dr. Epstein, Mr. Scudera*

A learning experience in which students perform in major campus productions under the direction of theater faculty. Prerequisite: permission of the instructor. Graded S/U. *One semester hour.*

THEA-100. Introduction to Theater *Dr. Epstein, Mr. Scudera*

A study of the art of theater through an examination of varieties of theater spaces, literary genres, the work of actors, playwrights, directors, and designers, and the nature of the audience. Three hours of class plus one hour arranged production work per week. *Four semester hours.*

Note: Students who have received credit for CST 111 may not receive credit for THEA-100.

THEA-200. Acting I *Mr. Scudera*

An introduction to the fundamental acting techniques of the Stanislavski system. Students participate in acting exercises, improvisation, monologue and scene study. Prerequisites: THEA-100, or permission of the instructor. Four hours per week. *Four semester hours.*

Note: Students who have received credit for CST 225 may not receive credit for THEA-200.

THEA-201. Acting II *Mr. Scudera*

Advanced acting theory and physical training are applied to the development of technique. Building a role is explored through in-depth character analysis and performance, movement exercises, improvisation and advanced monologue and scene study. Prerequisites: THEA-200. Four hours per week. *Four semester hours.*

Note: Students who have received credit for CST 226 may not receive credit for THEA-201.

THEA-240. Special Topics in Theater Production or Design *Faculty*

This course will focus on a specific topic of theater production, technical theater or design not covered in other courses in the curriculum. Three hours per week. *Four semester hours.*

Topics might include: Scenic Design; Costume Design; Lighting Design; or Stage Management.

THEA-250. Special Topics in Performance *Faculty*

This course will focus on a specific topic of theatrical performance not covered in other courses in the curriculum. Four hours per week. *Four semester hours.*

Topics might include: Performance Composition; Physical Comedy and Improvisation; Voice and Diction; Solo Performance; Mask and Movement; or Puppet Theater Production.

THEA-270. Dramaturgy *Dr. Epstein*

Fundamentals of dramaturgy and its application through production dramaturgy, from Lessing's Hamburg dramaturgy, Piscator and Brecht's dramaturgy, to contemporary European and American dramaturgical practices. Will include methodologies for script preparation and analysis, research of production histories and applicability to new productions. Prerequisite: THEA-100 Three hours per week. *Four semester hours.*

THEA-300W. History of Theater and Drama I: Classical Stages *Dr. Epstein*

A historical exploration of the development of dramatic literature, theater performance, theatrical spaces and production styles as vital expressions and reflections of social, political, and cultural attitudes and movements from Ancient Greece and Classical Japanese theater through Molière and French Neoclassicism. Prerequisite: THEA-100 or permission of instructor. Three hours per week. *Four semester hours.*

THEA-301 History of Theater and Drama II: Raising Revolutions and the Modern/Postmodern Stage *Dr. Epstein*

This course delves into the revolutionary, ever-shifting conceptions of the role of theater, the human condition and truth in society and how practitioners—playwrights, directors and designers—have manifested their theoretical ideas about theater and the world in their work from 1900 to the present. Readings in theater history, plays, manifestos, plus dramatic and performance theory will provide the link between revolutionary cries for change in theater, aesthetic developments and the various visions of theater. Prerequisite: THEA-100 or permission of instructor. Three hours per week. *Four semester hours.*

URSINUS COLLEGE CATALOGUE

THEA-350. Advanced Special Topics in Theater Faculty

This course will focus on a specific topic at an advanced theoretical or critical level within theater not covered in other courses in the curriculum. Three hours per week. *Four semester hours.*

Topics might include: Feminist Theater; Theater for Living; Performance Theory and Practice; Collective Theater Companies and Democratic Practice; or Theater as Expression of Cultural Identities.

THEA-370. Directing I Mr. Scudera

An exploration into the role of the director in the theatrical process. Research in the history, theory and application of directing is combined with actual directing assignments that include short scenes and one-act plays. Pre-requisites: THEA-100, THEA-200, THEA-270. Four hours per week. *Four semester hours.*

THEA-450. Directed Studies in Theater Faculty

Advanced individual work on a project related to the study of theater. Prerequisites: eight credits of 300-400 level coursework in theater, demonstrated competence in the specific area of study, a written proposal, and permission of a department faculty member who will serve as project adviser. *Four semester hours.*

THEA-491. Research/Independent Work Faculty

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

THEA-492. Research/Independent Work Faculty

A continuation of course 491, culminating in a written and oral presentation of a major research project. Prerequisite: 491. *Four semester hours.*

Directory

Board of Trustees

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Jeffrey D. Beck, B.A., M.B.A. President, Advanta Bank Corp. Draper, Utah	2003	2007
Geoffrey B. Bloom, B.A. Chairman, Wolverine World Wide Rockford, Mich.	2003	2007
Phillip S. Brackin, B.S., M.D. Radiologist, Lower Bucks Hospital Langhorne, Pa.	1999	2004
Robert L. Brant Jr., B.A., J.D. Robert L. Brant & Associates, LLC Trappe, Pa.	1996	2005
William H. Bromley, B.A., M.B.A. President and CEO, Eagle National Bank Upper Darby, Pa.	2000	2004
Frederick Callahan, B.A. President, Colony Papers, Inc. York, Pa.	2002	2006
Nancy P. Conger, B.A., C.F.P. President, Ezray Investment Advisors Millington, N.J.	2003	2007
John E. F. Corson, B.A. President, Corson Investment Company Plymouth Meeting, Pa.	1983	2004
Patricia Richards Cosgrave, B.A. Executive Director, Republican Committee of Lower Merion and Narberth Narberth, Pa.	2002	2006
Betty Brown Dando, B.S. School Administrator (Retired) Lancaster, Pa.	1989	2004
Michel de Rosen President and CEO, ViroPharma Exton, Pa.	2001	2005

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Joseph M. DeSimone, B.S., Ph.D., D.Sc. Prof. of Chemistry and Chemical Engineering, University of North Carolina at Chapel Hill Chapel Hill, N.C.	2001	2005
Kelly P. Finch, B.S., M.B.A. Senior Vice President, Regional Sales Manager, PNC Bank Philadelphia, Pa.	2001	2005
Cynthia A. Fisher, B.S., M.B.A. CEO, BioMed 20/20 Technologies, Inc. Auburndale, Mass.	1996	2005
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Andrew D. Freed, B.S., M.B.A. President and CEO (Retired), UTI Corporation Collegeville, Pa.	2000	2004
Jerrold B. Harris, B.S. President and CEO (Retired), VWR Scientific Products Church Creek, Md.	2000	2004
William F. Heefner, B.A., LL.B., LL.D. Of Counsel, Curtin and Heefner Perkasie, Pa.	2000	2005
Claudia Ann Highbaugh, B.A., M.Div., Th.D. Chaplain, Harvard Divinity School Cambridge, Mass.	2001	2005
Diane R. Karp, Ph.D. Executive Director, Santa Fe Art Institute Santa Fe, N.M.	2001	2005
David R. King, B.A., J.D. CEO, BioRexis Pharmaceutical Corp. King of Prussia, Pa.	2003	2007
Ruth Kurisu, B.S. Small Business Consultant Laguna Niguel, Calif.	1998	2003
Carol Clark Lawrence, B.A. Deputy City Representative, Office of Arts and Culture Philadelphia, Pa.	2001	2005
Paul E. Leiser, B.S. Vice President, Avalon Real Estate Agency Avalon, N.J.	1995	2004
Marilyn S. Lewis, L.H.D. Community Volunteer Lederach, Pa.	1995	2004
Michael J. Lewis, B.S., M.S., Ph.D. Senior Fellow/Visiting Research Fellow, Princeton University Princeton, N.J.	1991	2005

J. Robert Lovett, B.S., M.S., Ph.D. Executive Vice President (Retired), Air Products and Chemicals Allentown, Pa.	1997	2006
Kim T. O'Brien, B.A., M.Ed. Vice President for Business Development and Marketing, Advanced Traces, Inc. Herndon, Va.	2003	2007
Nancy Opalack, B.A. Executive Director, Educational Support Systems, Inc. Washington, D.C.	2003	2007
Donald Parlee, B.S., M.D. Parlee & Tatem Radiological Associates Doylestown, Pa.	2002	2006
Robert A. Reichley, B.A., LL.D. Chair, Ursinus Board of Trustees Executive Vice President and Secretary (Emeritus), Brown University Providence, R.I.	1987	2004
Mitchel Sayare, B.S., Ph.D., DSc. Chairman and CEO, ImmunoGen, Inc. Cambridge, Mass.	1995	2004
Harold C. Smith, B.A., M.B.A., M.Div., D.D. President (Retired), The Young Men's Christian Association Retirement Fund New York, N.Y.	1994	2004
Marilyn L. Steinbright, B.S., LL.D. President, Arcadia Foundation Norristown, Pa.	1975	2004
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Elected

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 Sharon Pearson, M.B.A., *Assistant Controller, Grants and Budgets*
 Patricia A. Phillips, B.A., B.S., *Database Manager for College Relations*
 Richard E. Porter, *Facilities Manager*
 Denyce Rhoad, *Help Desk Coordinator*
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 Seana Zimmer, M.P.S., *Grants Coordinator*

The Faculty

President of the College

John Strassburger, Ph.D.

B.A., Bates College; M.A., Cambridge University; Ph.D., Princeton University.

Emeriti

William Ernest Akin, Ph.D., Professor of History, Emeritus

B.A. and M.A., University of Maryland; Ph.D., University of Rochester.

Jane Ann Barth, M.A., Professor of Chemistry, Emerita

B.A., Mount Holyoke College; M.A., Smith College.

Nicholas O. Berry, Ph.D., Professor of Politics, Emeritus

B.A., Bethany College, M.A., Ph.D., University of Pittsburgh.

Richard Stuart BreMiller, M.A., Professor of Mathematics, Emeritus

B.S., United States Merchant Marine Academy; M.S., Drexel University; M.A., University of Delaware.

Adele Pack Boyd, M.Ed., Professor of Exercise and Sport Science, Emerita

B.S., Ursinus College; M.Ed., Temple University.

James Pressley Craft, Ph.D., Professor of Political Science, Emeritus

B.S., U.S. Naval Academy; M.S., Massachusetts Institute of Technology; Ph.D., University of Pennsylvania.

Louis Aubrey Decatur, Ph.D., Professor of English, Emeritus

A.B., M.A., Ph.D., University of Maryland.

Vonnie Gros, M.A., Associate Professor of Exercise And Sport Science, Emerita

B.A., Ursinus College.

Raymond Victor Gurzynski, M.Ed., Professor of Health and Physical Education, Emeritus

B.A., Ursinus College; M.Ed., Temple University.

Nancy Lineken Haglegans, Ph.D., Professor of Mathematics and Computer Science Emerita

A.B., Goucher College; M.A., Ph.D., Johns Hopkins University; M.S., Villanova University.

Ruth Rothenberger Harris, M.A., LL.D., Dean of Student Life, Emerita

B.S., Ursinus College; M.A., Columbia University; LL.D., Ursinus College.

Keith Jordan Hardman, Ph.D., Professor of Philosophy and Religion, Emeritus (1967)

B.A., Haverford College; B.D., Princeton Theological Seminary; M.A., Columbia University; Ph.D., University of Pennsylvania.

Joyce Elizabeth Henry, Ph.D., Professor of English and Communication Studies and Theatre, Emerita

B.A., University of Michigan; M.A., Ph.D., University of Wisconsin.

Conrad Edward Kruse, D.Sc., Professor of Biology, Emeritus

B.Sc., D.Sc., Philadelphia College of Pharmacy and Science; M.Sc., University of Wisconsin.

Charles L. Levesque, Ph.D., Director of Evening School, Emeritus

A.B., A.M., Dartmouth College; Ph.D., University of Illinois

William J. Middleton, Ph.D., Adjunct Professor of Chemistry, Emeritus

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Richard Paul Richter, M.A., LL.D., President, Emeritus

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Blanche Beatrice Schultz, M.S., Professor of Mathematics, Emerita

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Faye French Shaw, M.S., *Associate Professor of Chemistry, Emerita*

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Jane Perreten Shinehouse, P.T., *Professor of Biology, Emerita*

B.S., Ursinus College; P.T., University of Pennsylvania.

John Winfield Shuck, Ph.D., *Professor of Mathematics, Emeritus*

B.S., Massachusetts Institute of Technology; M.S., Tufts University; Ph.D., Northeastern University.

Ray Karl Schultz, Ph.D., *Professor of Chemistry, Emeritus (1965)*

Hain Professor of Chemistry

B.S., Muhlenberg College; M.S., Ph.D., Lehigh University.

Evan Samuel Snyder, Ph.D., *Professor of Physics, Emeritus*

B.S., Ursinus College; M.S., Ph.D., University of Pennsylvania.

Margaret Brown Staiger, B.A., *Reference and Acquisitions Librarian, Emerita*

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Roger Powell Staiger, Ph.D., *Professor of Chemistry, Emeritus*

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Martha Carroll Takats, Ph.D., *Professor of Physics, Emerita (1969)*

B.A., Wellesley College; M.S., University of Wisconsin; Ph.D., University of Pennsylvania.

Levie Van Dam, Ph.D., *Professor of Biology, Emeritus*

B.S., M.S., Ph.D., Groningen State University, The Netherlands.

Derk Visser, Ph.D., *Professor of History, Emeritus*

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Richard Jacob Whatley, M.S., *Professor of Health, Physical Education and Recreation, Emeritus*

B.S., University of Maine; M.S., Springfield College.

Frederick Donald Zucker, Ph.D., *Professor of Political Science, Emeritus*

B.A., Rutgers University; M.A., Ph.D., Pennsylvania State University; M.A., Bryn Mawr College.

Active Teaching Faculty

Jane Agostinelli, M.A., *Lecturer in English (1988)*

B.S., Carnegie Mellon University; M.A., Villanova University.

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Albert Curtis Allen, Jr., Ph.D., *Professor of Biology (1970)*

B.A., College of Wooster; M.A., Ph.D., University of Michigan.

Paula Alvarez, law degree, *Lecturer in Modern Languages (2000)*

Master's degree, CEOE, Madrid; law degree, Universidad Complutense de Madrid.

Beth A. Bailey, Ph.D., *Associate Professor of Biology (1997)*

B.S., Pennsylvania State University; Ph.D., Temple University School of Medicine.

Cindy Biel, M.A., *Lecturer in Modern Languages (2002)*

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B.A., Lewis and Clark College; M.S., Ph.D., University of Washington.

Laura Borsdorf, Ph.D., *Professor of Exercise and Sport Science (1986)*

B.S., Kansas State University; M.S., Kansas State University; Ph.D., Arizona State University.

Stephen Bowers, MS, M.B.A., *Professor of Business and Economics, Executive in Residence (2002)*

B.S., M.S., Massachusetts Institute of Technology; M.B.A., Harvard Business School.

URSINUS COLLEGE CATALOGUE

Victor Brown, M.B.A., *Lecturer in Business and Economics (2003)*

B.S., DeSales University; M.B.A. Temple University.

Douglas McD. Cameron, Ph.D., *Professor of Spanish (1987)*

B.A., Harvard College; C.Phil., University of California, San Diego;

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Donald Camp, M.F.A., *Assistant Professor (Visiting) in Art (2000)*

B.F.A., M.F.A., Tyler School of Art.

Christopher Cellucci, Ph.D., *Assistant Professor of Physics (1998)*

B.S., St. Joseph's University; M.A., Ph.D., Bryn Mawr College.

Catherine Anne Chambliss, Ph.D., *Professor of Psychology (1979)*

B.A., Yale University; M.S. and Ph.D., University of Miami.

Betsy Scott Chapman, B.A., *Lecturer in Exercise and Sport Science (2001)*

B.A., Ohio Wesleyan.

Roger Chavez, M.F.A., *Lecturer in Art (2004)*

B.A., University of Pennsylvania; M.F.A., American University.

Pamela Sue Chlad, M.S., *Associate Professor of Exercise and Sport Science, Head Athletic Trainer (1976)*

B.S.N., Widener College; R.N., A.T.C., M.S., Temple University.

Carol Cirka, Ph.D., *Assistant Professor of Business and Economics (2000)*

B.A., Pennsylvania State University; M.B.A., University of Pittsburgh. Ph.D., Temple University.

Hugh R. Clark, Ph.D., *Professor of History (1982)*

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Robin A. Clouser, Ph.D., *Professor of German (1974)*

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Robert Rand Davidson, Ed.D., *Professor of Exercise and Sport Science (1972)*

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Ellen M. Dawley, Ph.D., *Professor of Biology (1989)*

Brownback-Wagner Chair in Health Sciences

B.S., Mercy College of Detroit; M.S., University of Michigan; Ph.D., University of Connecticut.

Robert M. Dawley, Ph.D., *Professor of Biology (1989)*

B.S., B.A., M.S., Wayne State University; Ph.D., University of Connecticut.

Juan-Ramon De Arana, Ph.D., *Associate Professor of Modern Languages (1997)*

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Amy Lee DeBlasis, M.Ed., *Lecturer in English (2002)*

B.A., Pennsylvania State University; M.Ed., University of Massachusetts.

Carol M. Dole, Ph.D., *Professor of English (1988)*

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Michele Doman, M.S., *Lecturer in Mathematics and Computer Science (2003)*

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Stewart Ross Doughty, Ph.D., *Professor of History (1975)*

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- Andrew J. Economopoulos, Ph.D.**, *Professor of Business and Economics (1988)*
 B.A., SUNY at Fredonia; M.A., Ph.D., Virginia Polytechnic Institute and State University.
- Deborah S. Economopoulos, M.A.**, *Lecturer in Business and Economics (1998)*
 B.A., MA., A.B.D. Virginia Polytechnic Institute and State University.
- Lynne Y. Edwards, Ph.D.**, *Associate Professor of Media and Communication Studies (1997)*
 B.A., Ursinus College; M.A., Ph.D., University of Pennsylvania.
- Delwyn C. Engstrom, Ph.D.**, *Associate Professor of Exercise and Sport Science (1993)*
 B.A., M.A., California State University, Fresno; D.Ed., University of Northern Colorado.
- Lisa Jo Epstein, Ph.D.**, *Assistant Professor of Theater (2003)*
 B.A., Tulane University; M.A., Ph.D., University of Texas.
- Rebecca Susan Evans, Ph.D.**, *Assistant Professor of Politics (1999)*
 B.A., M.A., Purdue University; Ph.D., Harvard University.
- George C. Fago, Ph.D.**, *Professor of Psychology (1970)*
 A.B., Franklin and Marshall College; M.S., Ph.D., University of Pittsburgh.
- Peyton Ferrier, A.B.D.**, *Visiting Instructor in Business and Economics (2003)*
 B.A., Johns Hopkins University; A.B.D., North Carolina State University.
- Mary Blair Fields, Ph.D.**, *Professor of Biology (1975)*
 B.A., Otterbein College; M.S., Ph.D., Miami University.
- Gerard Joseph Fitzpatrick, Ph.D.**, *Professor of Politics (1983)*
 B.A., Bloomsburg State College; M.A., Ph.D., University of Virginia.
- Roger Florka, Ph.D.**, *Assistant Professor of Philosophy (2000)*
 B.A., University of California, Berkeley; Ph.D., UCLA.
- John Henry French, D.M.A.**, *Professor of Music (1979)*
William F. Heefner Chair of Music
 B.M., Philadelphia College of the Performing Arts; M.M., Westminster Choir College;
 D.M.A., University of Cincinnati.
- Amy Friedman, A.B.D.**, *Lecturer in English (2001)*
 A.B., Bryn Mawr College; A.B.D., Goldsmith's College, University of London.
- Francis Fritz, M.A.**, *Instructor of English and Director of Writing Program (2001)*
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- Judith Emma Fryer, M.S.**, *Associate Professor and Reference Librarian (1969)*
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- Holly Hubbs Gaines, D.A.**, *Assistant Professor of Music (2003)*
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- Thomas Edward Gallagher, Ph.D.**, *Professor of Anthropology and Sociology (1977)*
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- Edward Gildea, M.A.**, *Lecturer in Philosophy and Religion (1998)*
 B.A., Ursinus College; M.A., Villanova University.
- Kathryn A. Goddard-Doms, Ph.D.**, *Associate Professor of Biology, Assistant Dean (1992)*
 B.S., Gettysburg College; M.S., Bucknell University; Ph.D., University of Connecticut.
- Thomas Goebeler, Ph.D.**, *Visiting Assistant Professor in Mathematics and Computer Science (2002)*
 B.A., Shippensburg University; Ph.D., University of Virginia.
- Stewart C. Goetz, Ph.D.**, *Professor of Philosophy (1988)*
 B.S., Michigan State; M. Litt., Oxford University; Ph.D., University of Notre Dame.
- Marcia Goldberg, M.S.**, *Lecturer in Media and Communication Studies (1991)*
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URSINUS COLLEGE CATALOGUE

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B.A., University of Richmond; M.A., University of Southern California.

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Cindy K. Harris, M.B.A., C.P.A., *Associate Professor of Business and Economics (1984)*

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Christina Dallett Hemphill, Ph.D., *Professor of History (1988)*

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Charles A. Jamison, M.L.S., *Professor and Library Director (1982)*

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Rebecca Jaroff, Ph.D., *Visiting Assistant Professor of English (1999)*

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Peter Gordon Jessup, Ph.D., *Professor of Mathematics and Computer Science,*
Joseph T. Beardwood III Chair of Mathematics (1973)

A.B., Kenyon College; M.S., Ph.D., Lehigh University; M.S., Villanova University.

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James Houghton Kane, J.D., *Associate Professor of Politics (1971)*

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- April Kontostathis, Ph.D.**, *Assistant Professor of Mathematics and Computer Science (2003)*
 B.A., Bloomsburg; M.A., Duke University; Ph.D., Lehigh University.
- Doreen Kopycinski, M.S.**, *Adjunct Professor in Library, Technical Services (2000)*
 B.A., Messiah College; M.S., Clarion University of Pennsylvania.
- Matthew Kozusko, Ph.D.**, *Assistant Professor of English (2003)*
 B.A., University of Texas; Ph.D., University of Georgia.
- Judith T. Levy, Ph.D.**, *Vice President, Dean, Professor of Chemistry (1996)*
 B.S., Goucher College; M.S., Ph.D., Johns Hopkins University.
- Joyce T. Lionarons, Ph.D.**, *Professor of English (1984)*
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- Anthony L. Lobo, Ph.D.**, *Associate Professor of Biology (1995)*
 B.S., Pennsylvania State University; Ph.D., Cornell University.
- Peter Luborsky, Ph.D.**, *Lecturer in Modern Languages (2001)*
 B.A., Harvard College; Ph.D., University of Massachusetts.
- Annette Vock Lucas, Ph.D.**, *Associate Dean and Professor of French (1967)*
 B.A., George Washington University; M.A., New York University; Ph.D., Bryn Mawr College.
- Benita Luttcher-Hoorfar, M.A.**, *Lecturer in German (1997)*
 B.A., University of Hannover, West Germany; M.A., University of Colorado at Boulder.
- Rebecca Lyczak, Ph.D.**, *Assistant Professor of Biology (2002)*
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- Mary Ellen Matthews, M.A.T.**, *Dean of Continuing Education, Center for Continuous Learning (2001)*
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- Michele C. McLennan, Ph.D.**, *Assistant Professor of Business and Economics (1997)*
 B.A., Trinity College, Washington, D.C.; M.A., Temple University; Ph.D., University of Pennsylvania.
- The Hon. Joseph H. Melrose Jr., M.S.**, *Professor of International Relations Ambassador in Residence (2002)*
 B.S., LL.D., Ursinus College; M.A., Temple University; former U.S. Ambassador to Sierra Leone.
- David H. Mill, M.L.S.**, *Associate Professor and Reference Librarian (1988)*
 B.A., Bucknell University; M.L.S., State University of New York-Albany.
- Jay Kenneth Miller, Ph.D.**, *Professor of Media and Communication Studies (1984)*
 B.A., M.C.R.P., Rutgers University; M.A., Miami University; Ph.D., The Union Institute.
- Matthew Mizenko, Ph.D.**, *Assistant Professor of Modern Languages (2000)*
 B.A., Columbia University; Ph.D., Princeton University.
- Laura Knorr Moliken, B.S.**, *Assistant Professor (Visiting) in Exercise and Sport Science (1999)*
 B.S., Old Dominion University.
- Timothy Morton, Ph.D.**, *Assistant (Visiting) Professor of Biology (2003)*
 B.S., M.S., University of South Florida; Ph.D., Pennsylvania State University.
- Shannon Mudd, Ph.D.**, *Assistant Professor of Business and Economics (2004)*
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- Alice Murphy, M.Ed.**, *Lecturer in Modern Languages (2003)*
 B.S., M.Ed., Boston University.
- Douglas Nagy, Ph.D.**, *Associate Professor of Physics (1979)*
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Heather M. O'Neill, Ph.D., Professor of Business and Economics (1986)

B.S., B.A., University of Vermont; M.A., Ph.D., Georgetown University.

Regina Smith Oboler, Ph.D., Professor of Anthropology and Sociology (1988)

B.A., Antioch College; Ph.D., Temple University.

Peter Flint Perreten, Ph.D., Professor of English (1973)

McClure Professorship of English

B.A., Moorhead State College; M.A., Idaho State University; Ph.D., University of Delaware.

Victoria-Cordina Popescu, Ph.D., Assistant Professor of Chemistry (2003)

B.S., University of Bucharest; M.S., Ph.D., Carnegie Mellon University.

Andrew C. Price, Ph.D., Associate Professor of Chemistry (1990)

B.S., University of St. Andrews, Scotland; Ph.D., Purdue University.

Gabrielle Principe, Ph.D., Assistant Professor of Psychology (2002)

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Nathan Rein, Ph.D., Assistant Professor of Philosophy and Religion (2002)

B.A. Columbia University; Ph.D., Harvard University.

The Rev. Charles Rice, M.Div., Chaplain, Visiting Assistant Professor (1997)

B.S., United State Coast Guard Academy; M. Div., Crozer Theological Seminary.

Kenneth D. Richardson, Ph.D., Associate Professor of Psychology (1986)

B.A., Indiana University of Pennsylvania; Ph.D., Arizona State University.

Bruce Edward Rideout, Ph.D., Professor of Psychology (1979)

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Lewis Riley, Ph.D., Assistant Professor of Physics (2002)

B.S., Guilford College, M.S., Ph.D., Florida State University.

Rebecca Roberts, Ph.D., Assistant Professor in Biology (2001)

B.A., Clark University; Ph.D., University of Massachusetts.

Lindsey Royce, A.B.D., Lecturer in English (2003)

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Thomas Richard Rutledge, Ph.D., Associate Professor of Chemistry (1999)

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Kimberly A. Sando, M.S., Assistant Professor (Visiting) and Media Services Librarian (1994)

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Nancy Schek, Ph.D., Lecturer in Biology (2001)

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Jeffrey Schepers, B.A., Lecturer in Exercise and Sport Science (2000)

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Patricia Richards Schroeder, Ph.D., Professor of English (1983)

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- Karen Sconzert, Ph.D.**, *Assistant Professor of Education (2003)*
 B.A., Lawrence University; Ph.D., The University of Chicago.
- Amy Scott, Ph.D.**, *Lecturer in Classics (2003)*
 B.A., Radcliffe College; M.A., Harvard University; Ph.D., Bryn Mawr College.
- Domenick Scudera, M.F.A.**, *Assistant Professor of Theater (1999)*
 B.A., Colgate University; M.F.A., Pennsylvania State University.
- Xochitl Shuru, Ph.D.**, *Assistant Professor of Modern Languages (2000)*
 B.A., Loyola Marymount University; M.A., University of California; Ph.D., University of New Mexico.
- James M. Sidie, Ph.D.**, *Professor of Biology (1983)*
 B.S., M.S., Ph.D., Notre Dame University.
- Rebecca Skulnick, Ph.D.**, *Assistant Professor of Education (2004)*
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- Kelly Sorensen, Ph.D.**, *Assistant Professor of Philosophy and Religion (2004)*
 B.S., Brigham Young University; M.S., University of Utah; Ph.D., Yale University.
- Robert Spicer, M.A.**, *Lecturer in Media and Communication Studies (2003)*
 B.S. Millersville University; M.A., Temple University.
- Peter Forrest Small, Ph.D.**, *Professor of Biology (1972)*
 B.S., Austin Peay State University; M.S., East Tennessee State University; Ph.D., Miami University.
- Judith Smythe, M.A.**, *Lecturer in Modern Languages (2002)*
 B.A., Eastern College; M.A., Villanova University.
- Krista Steinke, M.F.A.**, *Lecturer in Art (2004)*
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- Paul Stern, Ph.D.**, *Professor of Politics (1989)*
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- Giovanna Steyaert, M.S.**, *Instructor (Visiting) of Modern Languages (2000)*
 B.S. Ed., Instituto Pedagogico Nacional; M.S. University of Edinburgh.
- John Strassburger, Ph.D.**, *President of the College, Professor of History (1995)*
 B.A., Bates College; M.A., Cambridge University; Ph.D., Princeton University.
- Judith Stryker, Ed.D.**, *Lecturer in Education (2002)*
 B.S., Lock Haven University; M.S. Pennsylvania State University; Ed.D., Immaculata College.
- Victor J. Tortorelli, Ph.D.**, *Professor of Chemistry (1981)*
Samuel H. and Anna M. Hess Professor of Chemistry
 B.S., Manhattan College; M.A., Ph.D., Princeton University.
- Colette Trout, Ph.D.**, *Professor of French (1983)*
 License, Universite de Nanterre; M.A., Ph.D., Bryn Mawr College.
- Maggie Ussery, M.A., A.B.D.**, *Instructor of Anthropology and Sociology (2001)*
 B.A., University of Texas; M.A., Temple University; A.B.D., Temple University
- Henry Virgilio, Ph.D.**, *Lecturer in Modern Languages (2002)*
 B.S., Temple University; M.A., Columbia University and University of Pennsylvania;
 Ph.D., Georgetown University.
- Jon Volkmer, Ph.D.**, *Professor of English (1987)*
 B.A., University of Colorado at Denver; M.A., University of Denver;
 Ph.D., University of Nebraska at Lincoln.
- Tina Waigum, Ph.D.**, *Associate Professor of Exercise and Sport Science (1983)*
 B.S., Ursinus College; M.Ed., Ph.D., Temple University.

URSINUS COLLEGE CATALOGUE

Rosemarie D. Wait, M.Ed., *Visiting Instructor in Mathematics (1993)*

B.S. Kutztown University; M.Ed., Pennsylvania State University.

Richard L. Wallace, Ph.D., *Assistant Professor of Environmental Studies (2002)*

B.A., University of Vermont; M. E. S., Ph.D., Yale University.

John Walsh, M.B.A., *Lecturer in Business Administration (2003)*

B.A., Purdue University; M.B.A., Lehigh University.

Greg Weight, Ph.D., *Visiting Assistant Professor of English (2004)*

B.A., Pomona College; M.A., Ph.D., University of Delaware.

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.

Eric J. Williamsen, Ph.D., *Associate Professor of Chemistry (1995)*

B.A., Carleton College; Ph.D., University of North Carolina.

Sarah Willig, Ph.D., *Lecturer in Environmental Studies (2002)*

A.B., Princeton University; Ph.D., University of Pennsylvania.

Samuel Winslow, A.B.D., *Instructor of Politics (2000)*

A.B.D., B.A., M.A., Rutgers University; M.S.S. Bryn Mawr College; M.B.A., The Wharton School.

Louise Woodstock, Ph.D., *Visiting Assistant Professor of Media and Communication Studies (2003)*

B.A., Oberlin College; M.A., Ph.D., University of Pennsylvania.

L. Kathlene Wright, M.Ed., *Lecturer in Exercise and Sport Science (1998)*

A.S., Harcum Junior College, B.S., West Chester University, M.Ed., The Pennsylvania State University.

Theodore Andrew Xaras, M.F.A., *Professor of Fine Arts (1973)*

B.F.A., Philadelphia College of Art; M.F.A., Tyler School of Art.

Mohammed Yahdi, Ph.D., *Assistant Professor of Mathematics (2001)*

B.A., University of Rabat-Morocco; M.Sc., Ph.D., University of Paris 6-France.

Cathy Young, M.F.A., *Assistant Professor of Dance (2003)*

B.A., Harvard University; M.F.A., University of Illinois.

Philip Zwerling, Ph.D., *Assistant Professor of English (visiting) (2003)*

B.A., St. Lawrence University; M. Div., Harvard University; M.F.A., University of New Orleans;

Ph.D., University of California – Santa Barbara.

Date in parentheses is date of first appointment at Ursinus College.

Holders of Endowed Chairs

Joseph T. Beardwood III Chair of Mathematics

Peter Jessup

Brownback-Wagner Chair in Health Sciences

Ellen Dawley

The Davis Visiting Professorship of Judeo-Christian Values

Claudia Highbaugh, Chaplain, Harvard Divinity School

William F. Heefner Chair of Music

John H. French

Samuel H. and Anna M. Hess Professorship in Chemistry

Victor Tortorelli

The McClure Professorship in English

Peter Perreten

Officers of the Faculty 2003-2004

Chairman: President Strassburger

Secretary: Professor Kopycinski

Parliamentarian: Professor Richard King

Faculty Committees 2003-2004

Academic Council

Membership: Strassburger (ch.), Levy, Edwards (H '04), [Kohn (S '04)] Berman to replace Kohn F03 and S04, Harris (SS '04), Evans (At Lg. '04), Clark (H '05), Lobo (S '05), Melrose (SS '05), Williamsen (At Lg '05), L. Hannon, S. Pomerantz.

Academic Standards and Discipline

Membership: Levy, Boris, Nolan, Matthews, Lucas, Gildea, Engstrom, Price (S'06), Hood (SS '04), [Schroeder (H '05)], Jaroff to replace Schroeder S04.

Academic Support

Membership: Lucas, R. Dawley, Scudera, Williamsen (S '04), de Arana (H '05), O'Neill (SS '06), L. Wasilauski, S. Kennedy.

*Academic Computing and Instructional Technology Subcommittee

Membership: J. King, J. deArana, C. Dole (leave S04), D. Kopycinski, E. Williamsen.

*Arts and Lecture Subcommittee

Membership: L. Hanover, A. Lucas, D. Camp, P. Gross, N. Hagelgans, L. Korenkiewicz, J. Lionarons, T. McKinney, J. Melrose, R. Oboler, K. Sando, P. Scattergood, D. Scudera (leave S04), S. Shifrin, P. Stern (leave 03-04), S. Widman, S. Winslow, T. Xaras, Geoffrey Brace, Haley Turner, Meghan Rooney.

*Library Subcommittee

Membership: G. Fitzpatrick, E. Williamsen, R. Wallace, C. Jamison.

Appeals

Membership: 3 administrators, Lobo (S '04), Wickersham (H '05), [Kane (SS '06)], Oboler to replace Kane S04.

Buildings and Grounds

Membership: Board Members, Strassburger, Klee, Rice, Nolan, Guilmette, French ('05), Wallace ('06).

Campus Planning and Priorities

Membership: Strassburger, DiFeliciantonio, Levy, Guilmette, Rice, Lucas, Volkmer (H '04), Ruttledge (S '05), Miller (At Lg. '04), Hood (At Lg. '05), Oboler (SS '06), J. Ichter, M. Morrow.

Diversity

Membership: Patton, Rice, Yahdi ('04), Roberts ('05), Shuru (05), J. Ellis, T. Johnson.

Enrollment

Membership: DiFeliciantonio, Guilmette, Sparrow, Miller, Mizenko (H '04), [Economopoulos (SS '05)] DaCosta to replace Economopoulos F03 and S04, Fields (S '06), Fritz (At Lg. '06).

Faculty Affairs

Membership: Strassburger, Guilmette, Levy, Tortorelli (S '04), O'Neill (SS '05), Trout (H '06).

Faculty Development

Membership: Levy, [Hemphill (H '04)] Goodman to replace Hemphill F03, [Chambliss (SS '05)] Ussery to replace Chambliss S04, Mizenko (At Lg. '04), Gallagher (At Lg. '05), Lobo (S '06).

**The membership of these subcommittees is appointed by Academic Support and the membership list may not be complete.*

URSINUS COLLEGE CATALOGUE

Governance

Membership: Perreten (H '04), Coleman (S '04), McLennan (SS '04), [Gaede (S '05)] Riley to replace Gaede F '03 and S '04, [Jewell (SS '05)] DaCosta to replace Jewell for remainder of term, Shuru (H '05), Florka (H '06), Bailey (S '06), Evans (SS, '06).

Graduate and Professional Education

Membership: Hess, Miller, Richardson (SS '04), Price (S '05), Garcia (H '06), J. Guido, A. Di Nofia, A. King.

Intercollegiate Athletics

Membership: Thomas, Kirk (Reilly), Florka, Small ('04), Bailey ('05), [Cirka ('06)] Roberts replaces Cirka F03, B. McEvoy, A. D'Amico, K. Carter, P. Ciucci, J. Pettia, M. Conner.

Judiciary Board

Membership: Florka, Ruttledge ('04), [Stern ('05)] Rein F03 and S04, Tortorelli ('06), M. Brown, L. Zweier, J. Smedley. Alternates: Cellucci ('04), Allen ('04), Shuru ('05), [Rideout ('05)] R. Dawley to replace Rideout F '03, Borsdorf ('06), J. McElwee, G. Pellish, J. Vado, V. Rossomando, E. Brooks.

Outcomes Assessment

Membership: Lucas, J. King, Rinde, [Kane (SS '04)] Bowers to replace Kane S04, Engstrom (S '05), Fritz (H '06), C. Biswanger, C. Bumbaugh.

Promotion and Tenure

Membership: Strassburger, Levy, O'Neill (SS '04), Gallagher (At Lg. '04), Tortorelli (S '05), Trout (H '06).

Student Activities and Services

Membership: Nolan, Ridgeway, Keita, Yahdi ('04), Roberts ('04), Jaroff ('05, S. Ratajski, M. Brogan, G. Hess, C. Costa, L. Brophy, C. D'Olio.

Freshman Advisers 2003-2004

Coordinator: *Mr. Gildea*

Professor Bailey

Ms. Beazley

Professor Berman

Professor Borsdorf

Professor Cameron

Mr. Camp

Professor Clark

Professor Czubaroff

Professor DaCosta

Professor Davidson

Professor E. Dawley

Professor R. Dawley

Professor deArana

Professor Edwards

Professor Evans

Professor Fitzpatrick

Professor Florka

Professor French

Professor Fritz

Professor Fryer

Professor Gallagher

Professor Garcia

Ms. Gibb

Professor Gildea

Professor Goddard

Professor Goetz

Professor Goodman

Professor Hagelgans

Professor Hardin

Professor Hess

Professor Hood

Professor Iwakuma

Professor Jamison

Professor Jaroff

Professor Jessup

Professor Keita

Professor King

Professor Kopycinski

Professor Lobo

Professor Lucas

Professor Lyczak

Professor Melrose

Professor Mill

Professor Mizenko

Professor Nagy

Professor Neslen

Professor Oboler

Professor Perreten

Professor Price

Professor Rein

Professor Richardson

Professor Riehardy

Mrs. Rinde

Professor Roberts

Professor Sando

Ms. Santillo

Professor Shuru

Professor Sidie

Mrs. Thomas

Professor Tortorelli

Professor Trout

Professor Volkmer

Professor Wailgum

Professor Wallace

Professor Wickersham

Professor Williamsen

Professor Winslow

Professor Xaras

Professor Yahdi

Academic Department Chairs and Program Directors

Advisers will be assigned by the chairperson or coordinator of the student's major. They are:

- American Studies:** Professor Edwards
- Anthropology and Sociology:** Professor Oboler
- Art:** Professor Xaras
- Biochemistry and Molecular Biology:** Professor Ruttledge
- Biology:** Professor Fields
- Business and Economics:** Professor O'Neill
- Chemistry:** Professor Price
- Classics:** Professor Wickersham
- Communication Studies and Theater:** Professor Czubaroff
- Computer Science and Mathematics:** Professor Hagelgans
- Dance:** Professors Aiken and Young
- East Asian Studies:** Professor Clark
- Education:** Professor Engstrom
- English:** Professor Dole
- Environmental Studies:** Professor Wallace
- Exercise and Sport Science:** Professor Wailgum
- French:** Professor Trout
- German:** Professor Clouser
- Gender and Women's Studies:** Professor Evans
- History:** Professor King
- International Relations:** Professor Melrose
- Mathematics:** Professor Coleman
- Modern Languages:** Professor Cameron
- Music:** Professor French
- Neuroscience:** *to be designated*
- Philosophy and Religion:** Professor Goetz
- Physics:** Professor Nagy
- Politics:** Professor Fitzpatrick
- Psychology:** Professor Chambliss
- Spanish:** Professor Cameron
- Theater:** Professor Scudera

Pre-Professional Advisers 2003-2004

- Education:** Professor Engstrom
- Law:** Professor Kane
- Medicine:** Professor E. Dawley
- Theology:** Rev. Rice

Class Advisers

- Class of 2008:** *to be designated*
- Class of 2007:** Professor Volkmer
- Class of 2006:** Professor Trout
- Class of 2005:** Professor O'Neill

Alumni Council 2003-2004

<i>Office</i>	<i>Name</i>	<i>Appointed</i>	<i>Term Expires</i>
President	Maria Woytek	2001	2005
President-elect	Harry Dochelli	2003	2007
Secretary	Susan Masciantonio	2003	2005
Past President	Keith Kemper	2003	2005
Alumni Rep.	James DeBoy	2002	2004
Alumni Rep.	Sharon Reed	2002	2004
Alumni Rep.	Tom Kershner	2003	2005
Alumni Rep.	Valerie Furman	2003	2005
Alumni Rep.	Peggy Hermann	2003	2005
Alumni Rep.	Lillian Benedict	2003	2005
Alumni Rep.	Paul Madson	2003	2005
Alumni Rep.	Jeff Karpinski	2003	2005
Alumni Rep.	Glenn Scharf	2003	2005
Alumni Rep.	Michael Cola	2003	2005
Alumni Rep.	Patricia Yoder Dietrich	2003	2005
Alumni Rep.	Peter Hotz	2003	2005
Alumni Rep.	Tom Ervin	2003	2005
Alumni Rep.	Sarah Fielding	2003	2005
Alumni Rep./Board	Phillip Brackin	1999	2004
Alumni Rep./Board	Paul Leiser	1999	2004
Alumni Rep./Board	Kelly Finch	2000	2005
Alumni Rep./Board	Nancy Opalack	2003	2007

Commencement Awards 2003

All are not awarded in a given year.

The Alumni Senior Award: *Faith Nicole Lockner, '03, Gregory Vincent Striano, '03*

Presented by the Alumni Association of Ursinus College to one man and one woman of the graduating class in recognition of leadership qualities demonstrated during their undergraduate years.

The American Chemical Society Award: *Timothy Michael D'Andrea, '03*

Awarded annually to the student who has made the most significant advance in his or her study of chemistry.

The American Chemical Society Award in Analytical Chemistry: *Elliott B. Hulley, '05*

Awarded to a junior displaying an aptitude for a career in analytical chemistry. This award is sponsored by the Analytical Chemistry Division of the American Chemical Society.

The American Chemical Society Award in Organic Chemistry: *Alexander C. Beatty, '05*

Awarded to a chemistry major who has excelled in the study of organic chemistry. This award is sponsored by the Polymer Education Committee of the American Chemical Society.

The American Institute of Chemists Award: *Brian Christopher Marks, '03*

Awarded to the senior chemistry major who has demonstrated potential for advancement in the chemical professions.

The Cyrus E. Beekey Prize: *Rahul Patri, '03, Adam Thomas Tyson, '03*

Endowed by Viola Sweigart Beekey, '29, and her son, Cyrus E. Beekey Jr., '64, and awarded to a senior who has been an outstanding premedical student.

The Biology Teaching Assistant Award: *Kari F. Baker, '05, Violet Maria Fernandes, '03*

Awarded to an outstanding biology laboratory teaching assistant.

The Blake - Bause Prize : *Jessica Ann Marmon, '03*

Provided by George S. Bause, M.D., Class of 1977, to honor his wife, Ramona A. Bause, M.S.W., Class of 1978. Awarded to a graduating psychology major who has demonstrated excellent scholarship in psychology and acceptance into a graduate school of social work, criminology or criminal justice.

The Boeshore Prize: *Elliot B. Hulley, '05*

Presented for excellence in the study of Greek.

Chemistry Laboratory Technique Award: *Joseph Klim, '03*

Presented to the student exhibiting the best laboratory technique.

The CRC Press Freshman Chemistry Achievement Award: *David P. Carrier, '06*

Awarded annually, by the Chemical Rubber Company Press, to the freshman achieving the highest academic average in chemistry.

The Alfred L. Creager, '33, Prize: *Jennifer E. Brink, '04*

Established by Ray Hamilton, '57, and awarded annually to the student who contributes the best work, either fiction or nonfiction, to a campus publication.

The Cub and Key Prize: *David P. Carrier, '06, Kwesi V. Jefferson, '06*

Awarded annually to the male student who at the end of the first term has the highest scholastic standing.

The J. Douglas Davis Prize: *Larissa Anne Gordon, '03*

Established by Ray Hamilton, '57, the income to be awarded annually to an outstanding student in history.

The Louis A. DeCatur Prize: *Lauren Springer, '03*

Established in 2000 by faculty colleagues and former students to honor the thirty-year teaching career at Ursinus of Professor Louis Aubrey DeCatur and awarded to an outstanding English major for excellence in the study of language and literature.

The George Ditter Prize: *Shannon Kathleen Curry, '03*

Awarded each year to the graduating senior whose work in history and political science most promises the perpetuation of democratic self-government. The prize was established by J. William Ditter in memory of his father and is continued through the generosity of J. William Ditter Jr., '43.

The Geoffrey Dolman Prize in Creative Writing: *Christopher Tereshko, '03*

Created in 1996 in memory of Geoffrey Dolman, the prize to be awarded to a student who demonstrates proficiency in creative writing.

The Duttera Prize: *Colleen Lisa Anne Boyle, '03*

Contributed by Mrs. Amos Duttera, and awarded yearly to the student attaining the highest standing in the study of church history.

The Ehret Prize: *Stephen Philip Erfle, '03, Daniel J. Luciano, '03, Amy Christine Transue, '03*

Established by bequest of The Reverend Harry J. Ehret in honor of his son, Robley W. Ehret, '39, and awarded each year to a student who has excelled in athletics.

The Faculty Prize in Biology: *Matthew Vitabile DiLeo, '03, Patricia N. Ruby, '04, Brooke M. Swalm, '05, Amy Rachel Zieser, '03*

Awarded to an outstanding biology or biochemistry molecular biology major in each class.

The Faculty Prize in Computer Science: *Chaitanya Nishikant Desai, '03*

Established in 1989 by the faculty of the Department of Mathematics and Computer Science and awarded to an outstanding computer science student.

The Faculty Prize in Mathematics: *Katherine Ellsmore Northup, '04*

Established in 1989 by the faculty of the Department of Mathematics and Computer Science and awarded to an outstanding mathematics student.

The Philip H. Fogel Memorial: *Michael Evan Hughes, '03*

Endowed by Mrs. Edwin J. Fogel in memory of her son, and awarded each year to the member of the senior class who has done the best work in the Department of Religion.

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The French Award: *Rachel Ann Sterner, '03*

Established in 1976 by Dr. Albert L. Reiner, former chairman of Romance Languages, to honor an outstanding student in French.

The Thomas P. and Frances T. Glassmoyer Scholastic Award: *Chaitanya Nishikant Desai, '03*

Awarded annually to the member of the graduating class with the highest scholastic average for four years at Ursinus.

The Olive Sargeant Hamm Award: *Sandra Michele Fetterman, '03*

Established in 1998 by Olive S. Hamm, Class of 1929, the first recipient of the "All Around Award" for the senior woman who exemplifies "the best in college life—athletically, socially and scholastically."

The Elizabeth Hankel Memorial Prize: *Susan Goll, '03, Thomas Dante Pomenti, '03*

Presented in honor of Elizabeth A. Hankel and awarded to the senior media services assistant who best exemplifies the ideals of commitment, leadership and maturity.

The Robin Blood Harris, '56, Memorial Prize: *Amber Lee Frame, '03*

Established by her family and friends for the senior woman who exemplifies those outstanding qualities of leadership and scholarship that characterized Robin's association with Ursinus.

The Horioka Latin Prize: *Ryan Albert McLeod, '04*

Established in 1993 by Margaret A. Horioka, '77, and awarded to a graduating senior who has excelled in Latin.

The Ronald C. Kichline Prize: *Christopher Thomas Glowacki, '03, Bridget Helene Hussey, '03*

Awarded annually to a senior who has excelled in athletics.

The Jan Lawrence Lange Award: *Dorthory H. Asbert, '03*

The Center for Continuous Learning To the graduating senior who best exemplifies pursuit of knowledge and diligence in Lifelong Learning.

The Laughlin Award: *Megan Elizabeth Restine, '03*

Endowed by Henry P. Laughlin, M.D., '38, for the student who has made outstanding contributions to his or her class and to the college.

The William L. Lettinger Chemistry Award: *Jessica Ann Hoch, '03*

Endowed by his wife, Sharon B. Lettinger, '66, in memory of William L. Lettinger, '65, and awarded annually to a member of the senior class who has demonstrated promise for graduate studies in the field of chemistry.

The Elizabeth Rockefeller McCain Prize: *Whitney N. Roper, '05*

Endowed by the late George Nox McCain and awarded annually to the student who at the end of the sophomore year has shown the greatest ability in the use of the English language as evidenced by work in composition and literature.

The Linda L. McIntyre Award: *Joyce A. Koubaroulis, '05, Lauren R. Segal, '05*

Established in honor of Linda L. McIntyre, '68, and presented to a sophomore woman who demonstrates initiative in financing her education, proficiency and preservice in intercollegiate athletics and a cooperative and unselfish attitude in women's sports.

The Merck Index Award: *Rahul Patri, '03*

For the outstanding preprofessional candidate who is a chemistry major.

The Professor Eugene H. Miller Prize: *Manal Riad Shehabi, '03*

Endowed by the Honorable Hermann Frederick Eilts, '43, and awarded annually for the best essay on a subject in political science.

The Jessie Ashworth Miller Prize: *Michelle A. Beadle, '03, Joshua Lee Strober, '03*

Established by Ray Hamilton, '57, the income to be awarded annually to an outstanding student of anthropology and sociology.

The Wayne E. Millward, '57, Memorial Prize: *Dianaleigh Dabkowski, '03; Andrew Lee Peterson, '03*

For excellence in the theatre program, established in 1988 by Ray Hamilton, '57, the income to be awarded annually to the student who contributes the most to Ursinus' theatre program.

The Mary Onopchenko, '85, Memorial Prize: *Andrew Lee Gianelli, '03*

The Mary Onopchenko, '85, Memorial Prize, established in loving memory of Mary by her family and friends, to be awarded to an outstanding senior who plans a career in law.

The Outstanding Biology Research Award: *Stephanie Joy Focht, '03, Thersa Susan Moser, '03*

Awarded to an outstanding research student in biological science.

The Paisley Prize: *Leslie Ann Hoffman, '03*

Awarded for the best dissertation by a member of the senior class on an assigned topic involving the thoughtful application of the principles of Christianity to the problems of practical life.

The Parsons Prize: *Lisa M. Minardi, '04*

Awarded annually to an outstanding student of American history. This prize was established by Ray Hamilton, '57, in memory of William T. Parsons, '47, professor of history.

The Pennsylvania Institute of Certified Public Accountants Prize: *Charles Louis Pulsfort III, '03*

Presented to the outstanding senior in accounting.

Professor William J. Phillips Prize: *Stephanie March, The Center for Continuous Learning*

Awarded annually to the Bachelor of Business Administration degree candidate who completes the equivalent of the junior year with the highest cumulative average.

The Miriam and Irving N. Rosenthal Memorial Award: *Katherine Ellsmore Northrup, '04*

Established in 1989 by the gift of Professor William E. Rosenthal to commemorate in perpetuity his beloved parents, who instilled in him a sense of the intrinsic value of lifelong learning. To be awarded to a female rising senior who has clearly demonstrated an interest in pursuing graduate study in the mathematical sciences.

The W.W. Smith Prize: *Aesha Arun Desai, '03, Gabrielle Monia Morrison, '03*

Awarded by the W.W. Smith Charitable Trust of West Conshohocken, Pennsylvania, to seniors with superior academic records who previously won W.W. Smith Scholar financial grants.

The Snyder-Bause Prize: *Jeffery David Struble, '03*

Presented to a senior physics and astronomy major who has demonstrated excellent scholarship in the field. The award is provided by Ramona A. Bause, Class of 1978, to honor Evan S. Snyder, Class of 1944, professor emeritus of physics, and George S. Bause, Class of 1977, Ursinus College's first biophysics major.

The Spanish Award: *Melissa Lynn Nemeth, '03*

Given by the Modern Language Department to honor an outstanding student in Spanish.

The Tau of Pennsylvania Chapter of Phi Beta Kappa Sophomore Award: *Arianna Joy Brewer, '05*

Awarded annually to the sophomore with the leading grade point average and diversity of interests that represent the tenets of election to Phi Beta Kappa.

The Robert Trucksess Prize: *Daniel Hicks IV, '03*

Awarded annually to a student in the senior class who plans to study law and who shows unusual promise.

The Teresa L. Urban Leadership Award: *Katie Mullen, '03*

Awarded annually by the USGA to a senior in recognition for outstanding leadership.

The Wagman Prize: *Carol Marie Bohny, '03*

Awarded annually by Mr. and Mrs. Morris M. Wagman in memory of their son, Dr. Sidney Louis Wagman, '51, to an outstanding and deserving student who has demonstrated loyalty to high ideals.

Wall Street Journal Award: *Megan Elizabeth Restine, '03*

Presented to the outstanding senior in economics and business administration.

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The Professor Elizabeth B. White Award: *John Andrew Maynard, '03*

Endowed by the Honorable Hermann Frederick Eilts, '43, and awarded annually for the best essay on a subject in history.

The Whitian Prize: *Dana M. Francis, '06; Elizabeth M. Higgs, '06; Shannon B. Myers, '06; Alison N. Nesta, '06*

Awarded annually to the woman student who at the end of the first term has the highest scholastic standing.

The William B. Williamson Prize in Philosophy: *Andrew Lee Gianelli, '03*

Established in 1989 in honor of William B. Williamson, professor of philosophy and chairman of the Department of Philosophy and Religion from 1968 to 1988. Awarded annually to the student who best exemplifies the Socratic spirit of inquiry in both oral and written expression on issues which demand human attention and solution.

Class of 2003 Officers

President: Liza Marie Woltjen

Vice President: Megan Elizabeth Restine

Treasurer: Amber Nicole Shatzer

Secretary: Gregory Vincent Striano

Social Chairperson: Jacqueline Rose Evans

Class Adviser: Edward C. Gildea

Commencement Honors 2003

Valedictorian

Andrew Lee Gianelli

Salutatorians

Adam Thomas Tyson

Chaitanya Nishikant Desai

Summa Cum Laude

Carol Ann Weedon Beck

Jean S. Birenbaum

Harriet Carole Bonner

Timothy Michael D'Andrea

Chaitanya Nishikant Desai

Debra Lynne Farrell

Andrew Lee Gianelli

Larissa Anne Gordon

Joseph Klim

Brian Christopher Marks

Rahul Patri

Rachel Ann Sterner

Jeffrey David Struble

Adam Thomas Tyson

Magna Cum Laude

Dorothy H. Asbert

Charles Michael Audino

Megan Kathleen Austin

Sandra Nabil Bitar

Deborah L. Bucy '02

Jennifer M. Conner

Matthew Vitabile DiLeo

Claire Elisabeth Faherty

Sandra Michele Fetterman

Daniel Hicks IV

Jessica Ann Hoch

Kelly Lynn Howell

Michael Evan Hughes

Jeffrey Brian Jackson

Lisa Marie Johnson

Mia Diane Lindquist

Loretta A. LoGrippo, '02

Peggy A. Manzi

Jason John Marakovits

Theresa Susan Moser

Cara Lynn Nageli

Brian David Penderghest

Thomas Dante Pomenti

Daniel Ryan Reimold

Megan Elizabeth Restine

Matthew Thomas Ritchie

Margaret Darrah Rowles

Manal Riad Shehabi

Dhamesh Sharad Sheth

Lauren Springer

Bridgette Anne Strecker

Helen V. Strohecker '02

Kelly Lynne Tessena

Amy Christine Transue

Amy Rachel Zieser

Cum Laude

Meghan Theresa Beck	Bradley E. Holdren	Angela Sacks
Allison Lee Bierly	Anh Thuy Hua	Erin Michelle Seitz
Joanne Elizabeth Brosh	Sherry DeLucia Keene	Kyle Lee Shoenberger
Shannon Kathleen Curry	William Robert Kelly	Tara Marie Spahr
Aesha Arun Desai	John Andrew Maynard	Joshua Lee Strober
Julie-Anne Marie Dous	Laura Bridget McCann	Evan J. Swartley
Violet Maria Fernandes	Christine E. McCarty, '02	Rachael Elizabeth Swymer
Wayne J. Fowler	Richard Alan Minton	Jamie Lynn Szuchyt
Megan Leigh Hemperly	Brandon Jeffrey Phipps	Duane Matthew Todd
Katherine Denise Hennesy	Pamela J. Quittner	Desiree Nicole Yuhaz

Departmental Honors 2002-2003

Prizes are listed by department, graduate's name, honors paper title, faculty adviser and department chair.

* *Denotes Distinguished Honors.*

Biochemistry and Molecular Biology: Kelly Lynn Howell, "Subcellular Localization of UNC-13M in *Caenorhabditis Elegans*," Rebecca Kohn, Mary Fields.

Biochemistry and Molecular Biology: Joseph Klim, "The effect of cellular pathway inhibitors on the production of SXSg and resorcinol," Thomas Ruttledge, Andrew Price.

Biochemistry and Molecular Biology: Mariam M. Murtadha, "The effect of PH on Serum Albumin interference with the anesthetic action of decanol," James Sidie and Eric Williamsen, Mary Fields and Andrew Price.

Biochemistry and Molecular Biology: Rahul Patri, "Determination of double bond locations in the side chain of SXSg by mass spectrometry," Thomas Ruttledge, Andrew Price.

Biology: Matthew Vitabile Di Leo, "Investigating genomic DNA loss in *Mimulus*: Correlations between aneuploid and polyploid duplications and genome size," Mary Fields, Robert Dawley, Mary Fields.

Biology: Theresa Susan Moser, "Distribution of neural proteins GAP 43 and HU in Juvenile and Adult Zebrafish Olfactory Receptor Neurons," Ellen Dawley, Mary Fields.

Biology: Steven Casey Pugliese, "Creating a reporter construct within the hemolysin gene of *Moraxella bovis*," Anthony Lobo, Mary Fields.

Business and Economics: John Aubrey Gulnac, "Impact of Merger Activity on Interest Rates of Small Banks," Andrew Economopoulos, Andrew Economopoulos.

***Business and Economics:** Katherine Denise Hennesy, "A Study of Factors Contributing to Rising Health Care Costs: Malpractice and Defensive Medicine," Heather O'Neill, Andrew Economopoulos.

Business and Economics: Charles Louis Pulsfort III, "Financial Statement Reliability: The Role of the Audit Committee," Cindy Harris, Andrew Economopoulos.

Business and Economics: Megan Elizabeth Restine, "A Study of the Potential Relationship between Executive Compensation and Hospital Performance," Carol Cirka, Andrew Economopoulos.

Business and Economics: Manal Riad Shehabi, "Iran: A Model for Democracy and Economic Growth?" Rebecca Evans, Andrew Economopoulos, Gerard Fitzpatrick.

Chemistry: Jeffrey David Coleman, "The synthesis and characterization of polyketide precursors for SXSg," Thomas Ruttledge, Andrew Price.

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Chemistry: Timothy Michael D'Andrea, "Gas Chromatography - Mass Spectroscopic (GC/MS) Determination of Alcohol Concentration in the Bloodstream of Goldfish and *Eigenmannia virescens*," Eric Williamsen, Andrew Price.

Chemistry: Brian Christopher Marks, "The Investigation of the Mechanism of the Sodium Borohydride Reduction of Benzil", Victor Tortorelli, Andrew Price.

Chemistry: Jessica Ann Hoch, "meta-Substituted Arylketen Trimers: Synthetic Attempts," Ronald Hess, Andrew Price.

Classics: Ryan McLeod, "Fightin' Dirty: Cicero's Philippics and the Politics of Invective Oratory," John Wickersham, John Wickersham.

Communication Studies and Theatre: Mia Dianne, Lindquist, An Ethnographic Study of Communication in the Liberal Studies Classroom, Sheryl Baratz-Goodman, Jeanine Czubaroff.

Communication Studies and Theatre: Cara Lynn Nageli, "The Feminine Ideal as Conveyed in Magazine Advertisements from 1950-2002," Jeanine Czubaroff, Jeanine Czubaroff.

English: Jennifer M. Conver, "Waking Up From the American Dream: the Evolution of the American Dream in the Last Half on the 20th Century," Rebecca Jarroff, Joyce Lionarons.

English: Lauren, Springer, An Exploration of Minority Voices in Ecocentricism, Peter Perreten, Joyce Lionarons.

English: Rachael Elizabeth Swymer, "Women's Effect on Patriarchy in Faulkner's Novels," Patricia Schroeder, Joyce Lionarons.

French: Rachael Ann Sterner, "French Womens Fairy Tales," Colette Trout, Colette Trout.

French: Bridgette Anne Strecker, "La Leisui francaise: sen role sociale et litteraire," Frances Novack, Cameron Douglass.

History: Shannon Kathleen Curry, "Bewitched or Bewitching? - Gender and Possession in New England Witch Trials," Ross Doughty, Dallett Hemphill.

***History:** John Andrew Maynard, The Work of Demons: Otto Ohlendorf and the Einsatzgruppen, Ross Doughty, Dallett Hemphill.

***Philosophy:** Andrew Lee Gianelli, "From the City of God and Natural Law to Therocracy and Liberalism: An Examination of Christian Political Thought and Its Development," Paul Stern and Nathan Rein, Stewart Goetz.

Philosophy: Michael Evan Hughes, "The Problem of Evil," Stewart Goetz, Stewart Goetz.

Physics: Joseph Christopher Petsko, "Nonlinear Dynamical Analysis of Bioelectric Signals as Periphral Indicators of Central Nervous System Activity," Chris Cellucci, Douglas Nagy.

Psychology: Megan K. Austin, "Smoking Perceptions and Motivations as a Function of Developmental Stages," Catherine Chambliss, Catherine Chambliss.

Psychology: Joanne Elizabeth Brosh, "Motivational Differences for Not Smoking Between College and High School Students," Catherine Chambliss, Catherine Chambliss.

***Psychology:** Amy Louise Thomas, "Exploring the differences in cognitive representatons of real and virtual environments," John Jewell, Catherine Chambliss.

College Honors

Phi Beta Kappa

Megan Kathleen Austin, '03
 Jennifer M. Conver, '03
 Timothy Michael D'Andrea, '03
 Chaitanya Nishikant Desai, '03*
 Matthew Vitabile DiLeo, '03
 Quinn C. Dinsmore, '04**
 Claire Elisabeth Faherty, '03
 Andrew Lee Gianelli, '03
 Larissa Anne Gordon, '03*
 Jessica Ann Hoch, '03
 Michael Evan Hughes, '03
 Jeffrey Brian Jackson, '03

Lisa Marie Johnson, '03
 Joseph Klim, '03
 Brian Christopher Marks, '03
 Theresa Susan Moser, '03
 Cara Lynn Nageli, '03
 Ryan Albert McLeod, '04**
 Lisa Marie Minardi, '04**
 Katherine Ellsmore Northrup, '04**
 Rahul Patri, '03*
 Thomas Dante Pomenti, '03*
 Megan Elizabeth Restine, '03
 Lauren Springer, '03

Rachael Ann Sterner, '03
 Bridgette Anne Strecker, '03
 Jeffrey David Struble, '03
 Amy Christine Transue, '03
 Adam Thomas Tyson, '03
 Amy Rachael Zieser, '03

*2003 seniors,
 elected as juniors

**elected as juniors

Cub and Key

James Michael Albert, '04
 Jeffrey David Coleman, '03
 Sean Thomas Conley, '04
 Timothy Michael D'Andrea, '03
 Matthew V. DiLeo, '03
 Dean Stephen Edwards, '04
 Derese Getnet, '04
 Florian Halili, '04

Mark Karl Heere, '04
 Chad Michael Hogg, '04
 Jon Robert Ichter, '04
 Geoffrey Noah Keim, '04
 Brendan Douglas Kelly, '04
 Joseph Klim, '03
 Joel Christopher McElwee, '04
 Ryan Albert McLeod, '04

Ari Ben Nepon, '03
 Brett Jordan Newswanger, '04
 Seth Thornton Ratajski, '04
 Joshua P. Roesener, '03
 Frank Gary Romascavage, '04
 Kyle Lee Shoenberger, '03
 Dharmesh Sharad Sheth, '03
 Gregory Vincent Striano, '03

Whitians

Victoria A. Appleman, '04
 Allison Lee Bierly, '03
 Stephanie J. Bradberry, '04
 Jennifer M. Conver, '03
 Ekaterina Deriabina, '04
 Quinn C. Dinsmore, '04
 Julie-Anne M. Dous, '03
 Elizabeth Drobot-Blair, '04
 Christine J. Fecenko, '04
 Violet Maria Fernandes, '03

Sandra Michele Fetterman, '03
 Susan Laura Goll, '03
 Megan Leigh Hemperly, '03
 Katherine Denise Hennesy, '03
 Leslie Ann Hoffman, '03
 Katherine S. Juliano, '04
 Katie Anne Higgins, '04
 Katie A. McLaughlin, '04
 Lisa M. Minardi, '04
 Theresa Susan Moser, '03

Sarah A. Napolitan, '04
 Megan Elizabeth Restine, '03
 Erin Michelle Seitz, '03
 Manal Riad Shehabi, '03
 Cindy Nikolett Takacs, '03
 Haley A. Turney, '04
 Divya Ullal, '04
 Alissa H. White, '03

Graduates: Class of 2003

Bachelor of Arts

Robert Raymond Albert III
 Junenifer E. Allen-McClain
 Travis Matthew Allred
 Courtney Lynn Barth
 Michelle A. Beadle
 Carol Ann Weedon Beck
 Meghan Theresa Beck
 Sandra Nabil Bitar
 Joseph John Bolinski
 Cara Lynn Bornt-Davis
 Peter Joseph Bowers
 Colleen Lisa Anne Boyle
 Denise Michelle Bozenski
 Geoffrey S. Brace
 George Roberts Breuninger
 Colin Douglas Burkhardt
 Brian Joseph Callaghan
 Lisa Anne Christy
 Bruce Anthony Ciallella
 Andrew Michael Cliff
 Michael Cockrell Jr.
 Byron Allen Coleman
 Ian Richard Connor
 Jennifer M. Conver
 Stephen Vincent Corrado
 Jonathan Edward Craig
 Joshua Gardner Curry
 Shannon Kathleen Curry
 Dianaleigh Dabkowski
 Hailey Kim DeCore
 Brian Frederick DeGiosio
 Aesha Arun Desai
 Erin Elaine Dickerson
 Joseph Michael DiGrolamo
 Erica-Shaneyea Dotson
 Victoria Sarah Eisen
 Stephen Phillip Erfle
 Claire Elisabeth Faherty
 Sandra Michele Fetterman
 Eric Carmine Fierro
 Emily Anne Fishwick
 Heather Lynn Fletcher
 Edward Henry Ford
 Brittany Leslie Franks
 Donald Gallo
 Diana Maryory Garcia Acero
 Andrew Lee Gianelli
 Christopher Thomas Glowacki
 Elias Daniel Goldstein
 Susan Laura Goll

Roberto Gomez
 Larissa Anne Gordon
 Daniel Leahy Griswold
 John Aubrey Gulnac
 Rochelle Libid Gumapac
 Morgan Rosina Harris
 Jordan M. Hartline
 Katherine Denise Hennesy
 Christopher Robert Heugle
 Michael Evan Hughes
 Bridget Helene Hussey
 Erin Eileen Hussey
 Jessica Anne Hychalk
 Michael Allen Ishler '02
 R. Bradford K. Joyce
 James Daniel Kappler
 Kenneth William Kelecic
 Perry Rachel Kulman
 Brittany Ann Lewis
 Christopher Michael Lina
 Daniel J. Luciano
 Jennifer Jo Ludwig
 Hilary Maureen Mack
 Krista Maria Marino
 John Andrew Maynard
 Brian F. McArdle
 Laura Bridget McCann
 Courtney Ann McFadden
 Megan Ann Melnick
 Harry Michel
 John Christopher Mohl
 David Clarence Morris
 Gabrielle Monia Morrison
 Maureen Claire Mower
 Cara Lynn Nageli
 Jiro Nakagawa
 Ari Ben Nepon
 Andy Paulet
 Kimberly Anne Paulus
 Andrew Edward Petersen
 Benjamin William Petro
 Laura Marie Phillips
 Brandon Jeffrey Phipps
 June Pirrung-Curran
 Thomas Dante Pomenti
 Chaim Isaac Popkave
 Charles Louis Pulsfort III
 Joseph R. Pursley
 Christopher William Rahill
 Daniel Ryan Reimold
 Megan Elizabeth Restine

Kathleen Bridget Rogers
 Brian Lewis Sacks
 Wilder Alejandro Sanchez
 Aya Sato
 Tammy Lee Scherer
 Paul Edward Schmidt
 Erin Michelle Seitz
 Steven Sheaffer '02
 Manal Riad Shehabi
 Louis W. F. Skinner
 Lauren Springer
 Albert Joseph Stavola
 Rachael Ann Sterner
 Bridgette Anne Strecker
 Gregory Vincent Striano
 Joshua Lee Strober
 Joseph Luke Summers
 Melissa Ulerick Sundberg
 Rachael Elizabeth Swymer
 Hiromitsu Takano
 Christopher Tereshko
 Kelly Lynne Tessena
 Christopher Tracy
 Richard Ryan Tranquill
 Amy Christine Transue
 Kate Anne Treworgy
 Jessica Lynn Troutman
 Keith S. Truman
 Sebastian Mario Voltarelli
 Alisha Marie Wesler
 Sarah Marie Width
 Stephen Wood Wilkes
 Rashard Williams
 Michael Paul Wilson
 Liza Marie Woltjen
 Robin Lord Wright
 David Peter Yansick
 Darryl Michael Yorkman
 Rory Lehman Young
 Paul Robert Zeiders '83

Bachelor of Science

Eileen Marie Algeo
 Daniel Andrew Augelli
 Megan Kathleen Austin
 Emily Kathleen Baltz
 Megan Elizabeth Barbour
 Victoria Anne Barrucco
 Robert Lee Battle III
 Allison Lee Bierly
 Carol Marie Bohny

Joseph Johnathan Bottillo
 Jessica Anne Braun
 Joanne Elizabeth Brosh
 Vincent Joseph Catania
 Deborah Ann Chrisbacher
 Jeffrey David Coleman
 Joy Jere Conway
 Stephanie Lynn Covert
 Timothy Michael D'Andrea
 Michael Thomas DeFelic
 Lauren Patricia Denis
 Chaitanya Nishikant Desai
 Rahul Dheer
 Matthew Vitabile DiLeo
 Kristen Anne Dincher
 Julie-Anne Marie Dous
 John Anthony Dugo
 Preethy Sarah Eddy
 Layali Eshqaidef
 Jacqueline Rose Evans
 Christina Gehrett Falvello
 Debra Lynne Farrell
 Violet Maria Fernandes
 Stephanie Joy Focht
 Amy Lynn Follweiler
 Amber Lee Frame
 Bryan David Friedman
 Kate Marie Gallagher
 Amy Eileen Gelband
 Albert A. Giagnacova III '02
 Lisa Marie Gillon
 Michael Robert Gizzi
 Marcella Lynn Glass
 Randi Michelle Gold
 John James Grebe
 Jill Lauren Greenberg
 Wendie Iris Grunberg
 Giuseppe Guglielmello
 Robert Andrew Hart
 Megan Leigh Hemperly
 Katherine Denise Hennesy
 Daniel Hicks IV
 Rebecca S. Hill
 Jessica Ann Hoch
 Reyna Jo Hochstedler
 Leslie Ann Hoffman
 Kelly Lynn Howell
 Anh Thuy Hua
 Gina Marie Iannella
 Jeffrey Brian Jackson
 Lisa Marie Johnson
 Robert Quentin Johnson
 Kelley Lynn Kirkman
 Joseph Klim

Benjamin James Laidig
 Melissa Anne Latorra
 Michael David Lattanze Jr.
 Allison Leigh Levensgood
 Lindsey Catherine Lewis
 Mia Diane Lindquist
 Faith Nicole Lockner
 Leigh Ellen Maggi
 Jason John Marakovits
 Brian Christopher Marks
 Jessica Ann Marmon
 Reemtu Maroo
 Jonathan Scott McConnell
 Timothy Michael McDonald
 Katherine Amy McGee
 Richard Alan Minton
 John Christopher Mohl
 Bradley James Molnar
 Nicole Renee Monatesti
 Theresa Susan Moser
 Katie Mullen
 Mariam M. Murtadha
 Christopher Paul Nagle
 Melissa Lynn Nemeth
 Gerald F. Nicholls
 Rebecca Leigh Outten
 Michael Reinhardt Papenberg
 Shawn Young-Shin Park
 Andrea Frances Patey
 Rahul Patri
 Megan Ann Peck
 Brian David Penderghest
 Joseph Christopher Petsko
 Jonell Elizabeth Pollarine
 Steven Casey Pugliese
 Jessica Lee Rearick
 Danielle Nicole Redding
 Kristen Danielle Reed
 Leslie Ann Ridall
 Matthew Thomas Ritchie
 Erin Leigh Robertson
 Joshua Phillip Roesener
 Margaret Darrah Rowles
 Abbey Gabriele Sangmeister
 Russell P. Sarault III
 Erica Rebecca Schmaltz
 Alicia May Seemuller
 Amber Nicole Shatzer
 Dharmesh Sharad Sheth
 Kyle Lee Shoenberger
 Mary Elizabeth Sim '02
 Abbey Lynn Smith
 Jeremy Lynn Snyder
 Susan Solimine

Tara Marie Spahr
 Aviva Rachel Strauss
 Shannon Ariel Strickland
 Jeffrey David Struble
 Jamie Lynn Szuchyt
 Cindy Nikolett Takacs
 Jennifer Mary Tate
 Amy Louise Thomas
 Duane Matthew Todd
 Takashi Torii
 Richard Joseph Toth, Jr.
 Michael Thomas Tucker
 Adam Thomas Tyson
 Nicholas Joseph Weber
 Douglas Alan Weidner
 Melanie Lauren White
 Jami R. Wilson '02
 Desiree Nicole Yuhasz
 Amy Rachael Zieser
 Dorothy Zohe '02

*The Center for
 Continuous Learning*

**Associate in Business
 Administration**

Florence Carolyn Bullock '02
 Mary Elizabeth Culbreath
 Adam Q. Feist
 Michael C. Hughes
 Jennifer L. Jump
 Holly M. Kucharik
 Catherine A. Melahn
 Janice E. Reid
 Teresa M. Sagwitz
 Roseann Elizabeth Tongiani

**Bachelor of Business
 Administration**

Carmella Anderson-Bey '02
 Dorothy H. Asbert
 Charles Michael Audino
 Jean S. Birenbaum
 Jennifer A. Blessing
 Harriet Carole Bonner
 Edward John Bovell
 Deborah L. Bucy '02
 Cloraine Diane Clemmer
 Madeleine Anne
 Donohue Coyle
 Robin L. Ferko
 Wayne J. Fowler
 David Gardocki '02
 Zina L. Gavin
 Michelle Maria Hafer

URSINUS COLLEGE CATALOGUE

Bradley E. Holdren
Sherry DeLucia Keene
William Robert Kelly
Heidi Dawn Linkenhoker '02
Richard David Livergood
Randy Scott Lockowitz
Loretta A. LoGripio '02
Peggy A. Manzi
Christine E. McCarty '02

Rebecca L. Moussa
Barbara Hosey Newcomer
Robyn C. Oleksyn '02
Pamela J. Quittner
Angela Sacks
David J. Sheehan
Michele Frances
Matyasovsky Smith
Jeffrey B. Snyder

Helen V. Strohecker '02
Andrew Michael Sutton '02
Evan J. Swartley
Kevin C. Torak '02
Katherine A. Van Gorder
Katharine Mary Lodise Varady
Luci M. Williams '02

Honorary Degrees

Conferred at 2003 Commencement

Commencement speakers:

H.M. Queen Noor of Jordan, author, promoter of peace, advocate for women's and children's welfare, a champion of human rights, the environment, and architectural conservation, education and the arts.
Doctor of Humane Letters

Martha Sharp Joukowsky *Doctor of Humane Letters*

Stanley N. Katz *Doctor of Humane Letters*

Baccalaureate speakers:

Robert Michael Franklin, President, interdenominational Theological Center in Atlanta, GA; visiting professor of African American Religious Studies, Harvard Divinity School; Presidential Distinguished Professor of Social Ethics, the Chandler School of Theology, Emory University. *Doctor of Divinity*

Martha Sharp Joukowsky, Professor of Old World Archaeology and Arts, Brown University.
Doctor of Humane Letters

Stanley N. Katz, Professor of Public and International Affairs and Director of the Center for Arts and Cultural Policy Studies, Princeton University. *Doctor of Humane Letters*

Faculty Awards

The H. Lloyd Jones, Jr. Award: *Eric Williamsen, Professor of Chemistry*

Established in honor of H. Lloyd Jones, Jr., professor of English from 1947 to 1988, and awarded to a faculty member for distinguished advising and mentoring.

The Laughlin Professional Achievement Award: *Ellen Dawley, Professor of Biology*

Endowed by Henry P. Laughlin, M.D., '38, for a faculty member who has made significant contributions to scholarship.

The Lindback Award: *Anthony Lobo, Professor of Biology*

Given at Ursinus College and at other colleges for distinguished teaching.

Academic Calendar 2004-2005

August 2004

August 26	Th	Freshman Check-In
August 27	F	UDAC
August 29	Su	Upper Classes Check-In
August 30	M	Fall Semester Begins

September 2004

September 6	M	Labor Day (Classes Held)
September 10	F	Last Day to Add Classes

October 2004

October 2	Sa	Family Day
October 22	F	Mid Semester Grades Due
October 22	F	Fall Holiday begins (after classes)
October 23-26	Sa-T	Fall Holiday
October 27	W	Classes Resume
October 29	F	Last Day to Drop Classes with "W"
October 30	Sa	Homecoming

November 2004

November 1	M	Spring Term Registration Begins
November 12	F	Spring Term Registration Ends
November 23	T	Thanksgiving Recess Begins (after classes)
November 24-28	W-Su	Thanksgiving Recess
November 29	M	Classes Resume

December 2004

December 6-10	M-F	Students pick up Financial Aid Packets from Student Financial Services
December 10	F	Last Day of Classes
December 11	Sa	Last Day to Drop
December 11	Sa	Reading Day
December 13-18	M-Sa	Final Exams

January 2005

January 15	T	Deadline Early Decision Freshmen Financial Aid Application
January 17	M	Spring Semester Begins
January 28	F	Last Day to Add

February 2005

February 15	Su	Deadline for Regular Decision Freshmen Financial Aid Application
-------------	----	--

March 2005

March 4	F	Mid Semester Grades Due
March 4	F	Spring Vacation Begins (after classes)
March 5-15	Sa-T	Spring Vacation
March 16	W	Classes Resume
March 25	W	Last Day to Drop Classes with "W"
March 28	M	Fall Semester Registration Begins

URSINUS COLLEGE CATALOGUE

April 2005

April 1	Th	Last Day for Upper Classes to File FAFSA Institution Verification Form for 2005-2006
April 8	F	Fall Registration Ends

May 2005

May 1	Su	Last Day to File for PA Grants
May 3	T	Last Day of Classes Last Day to Drop
May 4	W	Reading Day
May 5-12	Th-Th	Final Exams
May 13	F	Baccalaureate
May 14	Sa	Commencement

June 2005

TBD		Orientation
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August 2005

TBD		Fall Semester Begins
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Academic Calendar 2005-2006

August 2005

August 25	Th	Freshman Check-In
August 26	F	Ursinus Day Academic Convocation
August 28	Su	Upper Classes Check-In
August 29	M	Fall Semester Begins

September 2005

September 5	M	Labor Day (Classes Held)
September 9	F	Last Day to Add Classes
September 24	Sa	Family Day

October 2005

October 14	F	Mid Semester Grades Due
October 14	F	Fall Holiday begins (after classes)
October 15-18	Sa-T	Fall Holiday
October 19	W	Classes Resume
October 22	Sa	Homecoming
October 28	F	Last Day to Drop with "W"

November 2005

November 7	M	Spring Term Registration Begins
November 18	F	Spring Term Registration Ends
November 22	T	Thanksgiving Recess Begins (after classes)
November 23-27	W-Su	Thanksgiving Recess
November 28	M	Classes Resume

December 2005

December 5-9	M-F	Students pick up Financial Aid Application
December 9	F	Last Day of Classes
December 9	F	Last Day to Drop
December 10	Sa	Reading Day
December 12-17	M-Sa	Final Exams

January 2006

January 15	Su	Deadline Early Decision Freshmen Financial Aid Packets from Student Financial Services
January 16	M	Spring Semester Begins
January 27	F	Last Day to Add

February 2006

February 15	W	Deadline for Regular Decision Freshman Financial Aid Application
-------------	---	---

March 2006

March 3	F	Mid Semester Grades Due
March 10	F	Spring Vacation Begins (after classes)
March 11-19	Sa-Su	Spring Vacation
March 20	M	Classes Resume
March 22	W	Last Day to Drop with "W"

April 2006

April 1	Sa	Last Day for Upper Classes to File FAFSA Institution Verification Form for 2006-2007
April 3	M	Fall Semester Registration Begins
April 13	Th	Fall Semester Registration Ends
April 18	T	Student Achievement Day

May 2006

May 1	M	Last Day to File PA Grants
May 1	M	Last Tuesday Class
May 1	M	Last Day to Drop
May 2	T	Reading Day
May 3-5	W-F	Final Exams
May 8-11	M-Th	Final Exams
May 12	F	Baccalaureate
May 13	Sa	Commencement

Campus Map Key

By Name

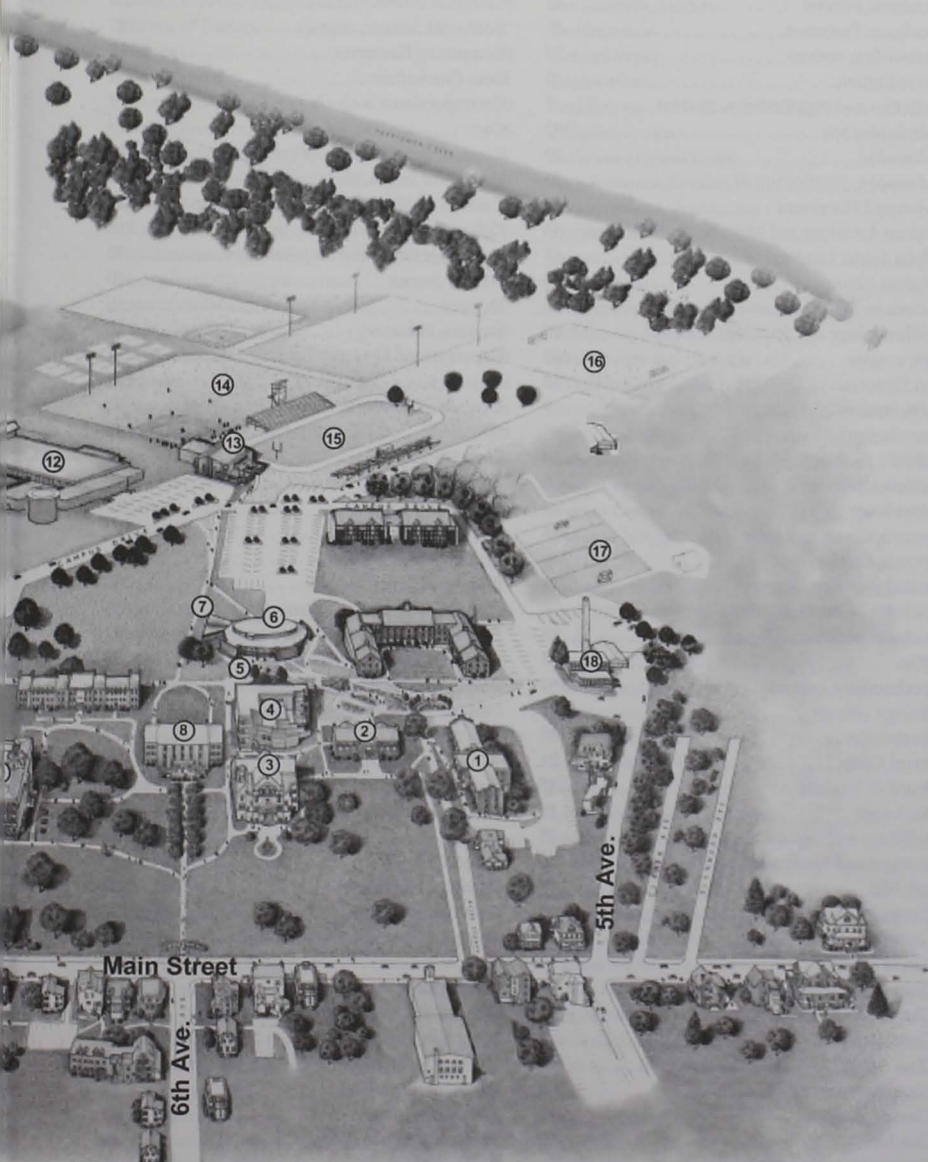
Baseball Field	14
Berman Museum of Art.	2
Bomberger Hall	3
Bookstore	7
Campus Safety	5
Corson Hall	1
Floy Lewis Bakes Field House (Helfferich Hall).	12
Football Field	15
Future Fine Arts Complex.	11
Hockey Field.	17
Hunsberger Woods.	19
Mail Room/Receiving	18
Myrin Library.	8
F.W. Olin Hall.	4
Pfahler Hall.	9
Ritter Center.	13
Soccer and Lacrosse Field	16
Thomas Hall.	10
Wisner Center.	6

By Number

1	Corson Hall
2.	Berman Museum of Art
3	Bomberger Hall
4.	F.W. Olin Hall
5	Campus Safety
6.	Wisner Center
7	Bookstore
8.	Myrin Library
9.	Pfahler Hall
10.	Thomas Hall
11.	Future Fine Arts Complex
12.	Floy Lewis Bakes Field House (Helfferich Hall)
13.	Ritter Center
14	Baseball Field
15	Football Field
16	Soccer and Lacrosse Field
17	Hockey Field
18	Mail Room/Receiving
19.	Hunsberger Woods



Ursinus College



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