Undergraduate Catalog

1984-86

University of Wisconsin-Green Bay

Contents

The University

History

In 1965, when the Wisconsin Legislature authorized a new campus of the University of Wisconsin System for Northeastern Wisconsin, Green Bay was already the home of a two-year University of Wisconsin Center enrolling about 1,000 students. The center was integrated with the new University of Wisconsin-Green Bay in 1968. The following year, fall semester classes opened in the first three buildings of the new campus located east of the city overlooking the shores of Green Bay.

The campus today includes 12 major buildings for instruction and services to students, an arboretum linking natural areas along the campus boundary, a golf course, waterfront recreation facility, student apartment complex, and ample open space.

Educational Mission

The University operates under a mandate to provide strong programs in the liberal arts as the foundation for all of its degrees, emphasize teaching excellence, relate instruction to regional needs, offer a comprehensive program of continuing education, support a commitment to special needs of nontraditional students, and serve as a center for applied research on regional problems. In 1974 the Regents of the University of Wisconsin System further defined the University's purposes and character by naming it one of two "special mission" campuses in the state. UWGB was charged with a statewide mission to offer "a focused, institutionwide academic program that is substantially unique in both its goals and organization," emphasizing interdisciplinary, problem-centered study of humans and their environments. Also in 1974, approval was granted for interdisciplinary graduate studies leading to the master of arts or master of science degree in environmental studies.

The University of Wisconsin-Green Bay is one of 13 degree-granting campuses in the UW System, which also includes 13 freshman-sophomore centers and UW-Extension.

Accreditation

The University is accredited by the North Central Association of Colleges and Secondary Schools for the bachelor's degree, and for graduate work at the master's degree level.

The music program is fully accredited by the National Association of Schools of Music for undergraduate degrees emphasizing music performance, music education, and music business. The chemistry-physics program is accredited by the American Chemical Society, and the nutritional sciences major by the American Dietetic Association. The nursing degree completion program is accredited by the Wisconsin Board of Nursing.

Students

The University enrolls about 4,600 undergraduates and 425 graduate students (1983-84). Of the total, 60 percent live in Brown County, where the campus is located, and another 33 percent come from other areas of Wisconsin. Students from outside Wisconsin represent 28 states and the District of Columbia and 35 foreign countries. About one-third of the undergraduates are 25 years of age or older, and women outnumber men by 56 to 44 percent. Of the regularly admitted freshmen, 41 percent rank in the upper one-fourth of their high school graduating class.

Over the most recent five-year period (December 1977 through August 1982) 90 percent of the baccalaureate degree graduates of UWGB reported being effectively "placed" in jobs or continuing their education six months after graduation. Survey responses were received from 87 percent of those who graduated during the period. Of the total respondents, 69 percent were employed and 19 percent were continuing their education in graduate or professional programs of study. Two percent, mostly full-time homemakers, were not seeking employment.

Faculty

Faculty members at UWGB, primarily engaged in teaching, are also recognized for their commitment to community concerns. Many are involved in research and consulting work for private and public agencies—work which often provides practical experience opportunities for students.

Of the 182 full-time faculty, more than 90 percent have the highest degree or credential available in their fields.

The Campus

The campus is located seven miles from the city center of Green Bay, Wisconsin, on gently rolling terrain which was formerly farmland and a private golf course. The 700-acre site slopes from a ridge of the Niagara Escarpment—a rock formation that reaches east to Niagara Falls—to the waters of Green Bay. The Cofrin Memorial Arboretum, under development around the campus periphery as a resource for instruction and recreation, offers four and a half miles of trails along the bay shore, through a stream valley, and into wooded areas. A nine-hole public golf course is maintained in winter for cross-country skiing. Bicycle, skiing and pedestrian paths connect all parts of the campus. Because major buildings are clustered on the University site, much of the rest of the campus is open for recreational use.

Buildings, Facilities, Equipment

Buildings at the "academic core" of the campus form three clusters around the eight-story Library Learning Center. All are connected outdoors by plazas and walkways and indoors by a system of concourses. The concourses and ramps and elevators in every building make the University particularly accessible to handicapped students and visitors. Two other major buildings, the Phoenix Sports Center and Shorewood Club, are located a short distance from the central academic complex.

Library Learning Center
Library functions are housed on the first six floors of the Library Learning Center, the campus landmark. The International Student Center, Area Research Center, offices of several academic units and a number of University administrative functions occupy the two top floors. Library services and facilities are described in the catalog section on Resources and Services.

Environmental Sciences
Facilities and equipment for the natural sciences are located in the Laboratory Sciences and Environmental Sciences buildings. In addition to classrooms and laboratories for the usual array of science disciplines, Laboratory Sciences facilities include a greenhouse and herbarium, space and equipment for the University's waste management-resource recovery program, and the Richter Natural History Museum, which draws on resources including one of the nation's outstanding collections of bird eggs and nests. Environmental Sciences houses the Green Bay subprogram of the UW System's Sea Grant program, administrative offices and classrooms for the sciences, and a large auditorium. Indoor instructional facilities are supplemented by "outdoor laboratories" provided by the Cofrin Arboretum on campus and by other University-managed natural areas in Door County.

In the adjacent Instructional Services Building are the Computer Center, serving administrative and academic needs; instructional and production facilities for electronic media courses; the campus radio station; bookstore; credit union; and the professional studios of the Center for Television Production, which produces documentary and public service programs as well as college television credit courses and instructional series for children. Computer Center services are described in the section on Resources and Services.

Community Sciences
Instructional and community outreach activities share quarters in the Community Sciences and Socio-Ecology buildings.

Programs in education and human biology, as well as regional analysis, psychology and other areas of the social sciences, are located in the two connecting buildings. Specialized facilities include laboratories for general and exercise physiology, a nursing laboratory-classroom, an environmental control chamber for the study of human responses to extremes of temperature, a computer-equipped cartographic and spatial analysis laboratory, and environmental design studios. The 250-seat Community Sciences auditorium, approached from a spacious plaza, serves alternately as lecture hall for large University classes and conference center for Outreach and Business Outreach programs. On the top floor of Socio-Ecology, near the Office of the Chancellor, are offices of the Bay-Lake Regional Planning Commission and field headquarters of the U.S. Fish and Wildlife Service. The two agencies provide UWGB students with "hands-on" experience, employment and internships.

Creative Communication
The University Theatre and related facilities—scene and costume shops, Experimental Theatre, dance studio—occupy the Creative Communication Building, along with administrative headquarters for the Office of Academic Affairs and offices of academic unit leaders. Theater and music performances by students, faculty members and visiting artists are scheduled in the 480-seat theater, one of the best equipped in the UW System. With a hydraulic orchestra lift and a stage spacious enough for a large dance company, the theater has the flexibility to accommodate productions ranging from operas and musicals to intimate recitals.

Monthly exhibits in the Lawton Gallery, near the theater, include major touring collections as well as student and faculty shows. Visual arts and music programs occupy separate wings in the four-story Studio Arts Building. Facilities and equipment are included for work in photography, graphic communication, fiber art and papermaking as well as courses in design and drawing, painting, ceramics, sculpture, jewelry and art metal, and serigraphy. An aesthetic awareness laboratory is also part of the art wing. In the music wing are rehearsal rooms for instrumental and choral ensembles; an organ studio; teaching studios and practice rooms for piano, instruments and voice; and a music library. Classes in literature, languages, and other areas of the humanities meet in general classrooms of Studio Arts and Creative Communication. Located in the adjacent Student Services building are the offices of the health service and counseling, placement, academic advising and academic support services, as well as admissions, financial aids, student employment, and dean of students.

University Commons
A cafeteria, large dining room and snack shop occupy the plaza level of the University Commons. One floor below is a Rathskeller serving food and beverages after normal food service hours.

Phoenix Sports Center
The Phoenix Sports Center, east of the academic buildings, includes the gymnasium, swimming pool, handball courts, team rooms, and other indoor athletic facilities. Tennis courts, baseball and softball diamonds and other playing fields are nearby. The University's soccer team plays its games at Phoenix Field on the campus.

Shorewood Club
Concerts of folk music and popular music, weekend dances and parties, and other activities planned by a student programming board take place at the Shorewood Club, located on the edge of the golf course. The building also serves as headquarters for summer golf and winter cross-country skiing.

Other Buildings
Day care for children of students and faculty is provided at a Children's Center near the main entrance to the campus. A new Ecumenical Center, built on a private site near the Phoenix Sports Center, is headquarters for an interfaith campus ministry. On-campus housing is provided in the seven-building University Village apartment complex. The Physical Plant Center and Utility Control Center are service buildings.

The Community and Region

Green Bay is a manufacturing city of about 90,000, and the county seat of Brown County. Major industries are paper products, metal working, and food processing, and a major interest of many residents of Green Bay is the Green Bay Packers professional football team.

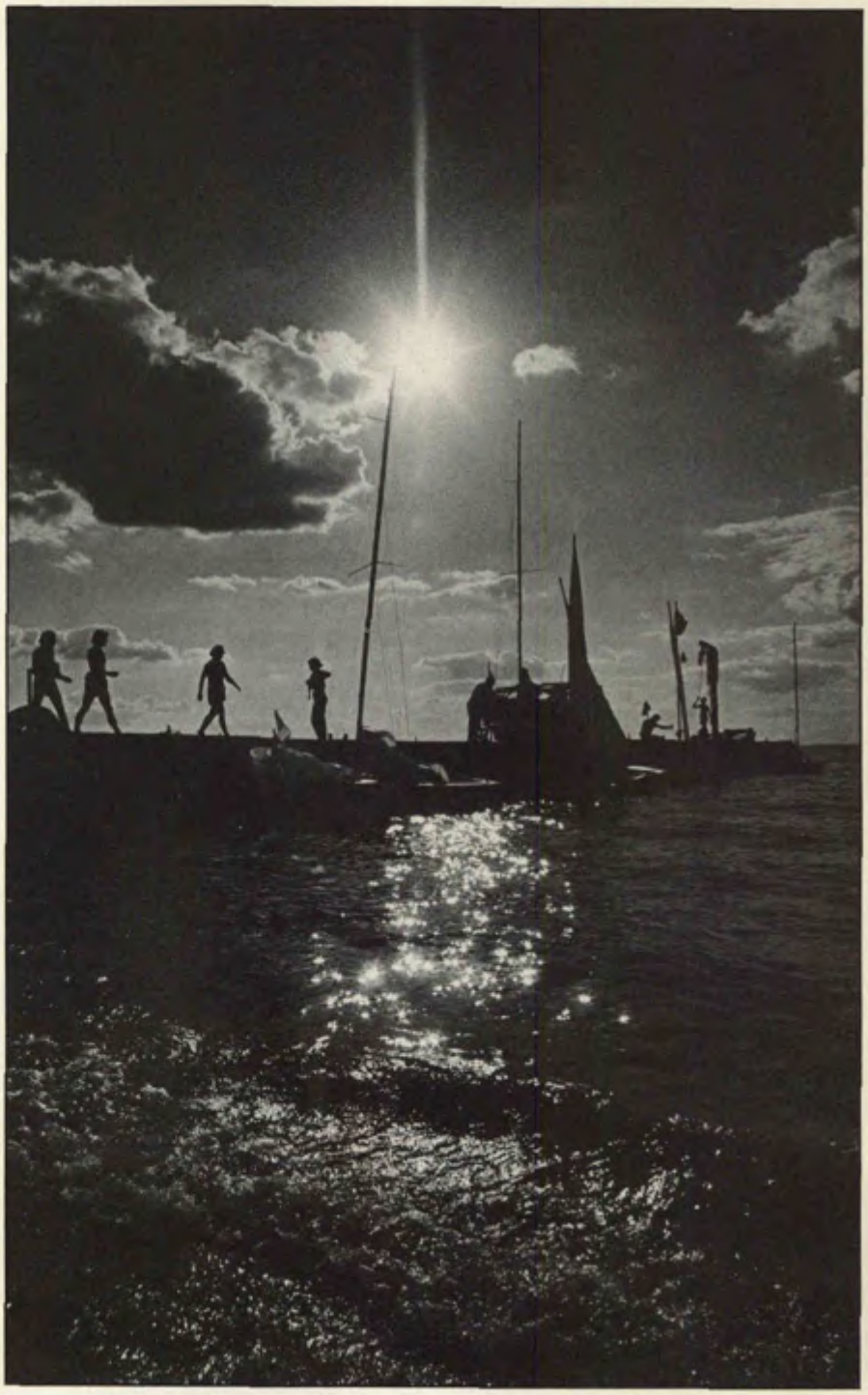
Community resources include theater and music organizations, a good public library system, daily and weekly newspapers, three AM and two FM commercial radio stations, and four commercial television stations. The region is also served by WPNE-FM of the Wisconsin Public Radio system and WPNE-TV, Channel 38 of the Wisconsin Educational Television Network. WGBW, an FM radio station, broadcasts from the campus. Other schools in the community include St. Norbert College, a private Catholic college in suburban De Pere, and Northeast Wisconsin Technical Institute.

Although many industries are located in Green Bay and the Fox River Valley to the south, most of Northeastern Wisconsin is farmland. Green Bay is the gateway to two areas of Wisconsin known for their natural beauty: Door County and the "north woods" country. The Door

County peninsula juts into Lake Michigan to create Green Bay. The landscape is characterized by farms, orchards, small villages with attractive harbors, and miles of shoreline. A vacation area for decades, Door County is a center of summer cultural activities. Northern Wisconsin is known for lakes and forests and the recreational facilities of the Lake Superior region.

Major cities are within easy traveling distance from Green Bay: Milwaukee is 114 miles south; Madison is 132 miles southwest; Chicago is 220 miles south; and Minneapolis-St. Paul is 285 miles west of Green Bay. The city is served by Republic Airlines, by two regional carriers, Midstate and Air Wisconsin, and by two intercity bus lines, Greyhound, and Wisconsin Michigan Coaches.

General Academic Information



General Information

Degrees Offered

UWGB offers a Bachelor of Arts or Bachelor of Science degree, a Bachelor of Social Work (BSW), Bachelor of Science Nursing (BSN), a two-year Associate of Arts degree, and a graduate program leading to a Master of Science or Master of Arts in Environmental Studies.

The Bachelor's degree requires 124 semester hours of degree credit and a cumulative grade point average of at least 2.0. A semester's minimum load for a full-time undergraduate student is 12 credits; the normal maximum load is 18 credits. An average semester load is 15 or 16 credits. Twelve credits are considered a maximum full-time load for graduate students.

Associate of Arts degree and Master's degree requirements are included in the descriptions of those particular programs in this catalog.

Grading System

Grade point averages are determined on a 4.0 basis. Students with a cumulative 2.0 grade point average (C average) or better are in good standing if they are fulfilling standards of progress requirements. Those falling below a 2.0 average or failing to meet standards of progress are placed on probation. The "pass" grade of courses taken on a pass-no credit basis does not count in grade point averages, nor do grades from other institutions. The grading system and academic standing are explained in greater detail in the section on academic rules and regulations in the Appendix to this book.

Honors List

UWGB recognizes high scholastic achievement for full-time undergraduate students each semester by compiling an honors list. A minimum of a 3.50 grade point average indicates honors and a minimum of 3.75, high honors. A 4.0 average gains highest honors. These averages are computed every semester. Grades for the January interim period are combined with those of the fall semester.

Graduating with Distinction

The senior distinction program identifies students who have achieved a consistently high level of excellence in the course of their academic careers. A student with a cumulative grade point average between 3.5 and 3.749 is graduated cum laude; 3.75 or higher magna cum laude or summa cum laude. All honors requirements are based on a minimum of 60 credits of regular graded work in residence at UWGB.

For the summa rank, completion of a senior distinction project is required. This project can be a thesis, special research, or creative work. It is normally completed in the semester preceding the last semester of the student's career and is related to his or her concentration program. Eligible students should consult their concentration advisers for more information.

Academic Rules and Regulations

Academic policies, rules, and regulations, and definitions of academic terms as they are used at UWGB are explained in greater detail in the Appendix of this book. They also are published in the *Timetable*, circulated each semester, January interim, and summer session by the Registrar's office and in the *Academic Advising Handbook*. The *Timetable* also contains information about registration procedures, graduation requirements, listing of courses offered during that particular session, and other information. Each student receives a copy of the *Timetable* when he or she begins the registration process for a particular time period.

Academic Calendar

The University operates on a 4-1-4 semester plan, with the fall semester beginning in early September and ending in mid-December and the spring semester running from early February to the end of May. An interim period is held during January. An eight-week summer session also is offered, along with special summer workshops and other academic programs of varying lengths.

The 4-1-4 plan offers the opportunity to graduate in less than the standard four years, if desired. This can be done by taking full credit loads during each fall and spring semester, plus attending the interim period each January and the eight-week summer session. By attending each semester and January period, a student can easily graduate in three and one-half years. The student who prefers to graduate in four years can take slightly lighter credit loads during the regular semesters.

January Interim Period

UWGB's 4-1-4 calendar includes January as a month in which students can concentrate on a single course in a traditional topic or take advantage of a course focused on a practical application.

January course offerings include: *practica*—small group programs (in courses numbered 195, 295, 395 and 495) focused on special problems and the practical application of skill and knowledge; *special courses*—innovative course offerings (numbered 283X, 483X and 783X) designed by faculty and students around a variety of themes from interdisciplinary perspectives; *intensive on-campus courses*—providing total immersion learning experiences, as in foreign language speaking skills; *other-culture experiences*—study or research in a community observatory situation, or in national and international study tours; *independent study*—individualized instruction, study or research (in courses numbered 298, 498, and 798) under faculty supervision; *developmental or extra elementary level work*—especially in mathematics, English, and foreign languages, and particularly for freshmen and sophomores.

January courses carry from one to four credits. No additional fees for continuing full-time students or for new full-time second semester registrants are charged. Any student registering only for January credit is charged the regular per credit fees. Students are expected to pay their own expenses for off-campus programs. Some financial aids may be available for these programs.

Summer Session

UWGB's summer session has its own set of course offerings. In addition to regular academic courses, some programs are designed to meet the educational needs of special groups. These include special courses, workshops, short courses, clinics, conferences, and in-service programs. Both undergraduate and graduate courses are offered during the summer.

Summer programs serve the educational needs of UWGB's own students, undergraduates regularly enrolled at other institutions, selected high school students, post-graduate students, adults, professionals, and others who may not be conventionally thought of as "students." UWGB's faculty often develops special offerings for summer session.

Summer session courses are scheduled flexibly to allow students to work full time and earn college credit at the same time. Many are offered in late afternoon and evening hours, and most on a two-days-a-week basis. Most courses run for the full eight-week period, but others last from two to six weeks, depending on the subject, the number of credits, and the nature of the course involved. Non-credit programs as well as credit courses are available.

Students from other colleges and universities enroll in summer session to take courses available only under UWGB's academic plan or in courses that help satisfy graduation requirements at their home institutions. Adult students also take advantage of the summer programs. Qualified high school students may enroll in appropriate courses and leave their college credits "in escrow" for later use. Recent high school graduates may enroll as special students and, if their work is of sufficient quality, be considered for regular admission.

Summer housing is available in either the University housing on campus, or in nearby off-campus locations.

During the summer also a number of noncredit camps and workshops are offered for junior high and high school students and include such activities as art, music, creative writing, basic college skills, computer science, basketball, soccer, and swimming. Many students commute to these clinics and workshops, but the University Village Apartments are available to those from greater distances.

Summer session fees and admission procedures are described in another section of this catalog. Since all fees are determined annually, they are subject to change without notice.

Complete information on specific summer programs may be obtained from the Registrar's Office. Publications and announcements about the coming summer's programs are available in advance.

Planning a Program

UWGB students build their academic programs by choosing from among several components and combining them in ways that best meet their needs. The components are *concentrations or interdisciplinary programs*, which apply knowledge from several fields to a particular area of study (every student chooses a concentration); *interconcentration or interdepartmental programs*, offered jointly by two or more concentrations, in which a student participates by enrolling in one of the cooperating concentrations; *disciplinary programs*, offering studies in the traditional disciplines; *professional programs*, providing career preparation in particular fields; and *pre-professional programs*, which help students to prepare for professional or graduate studies in many fields.

All students must satisfy certain requirements in addition to their major programs. Thirty credit hours of all-University requirements must be completed. This includes nine hours each in the humanities and fine arts, social sciences, and natural sciences, to meet liberal education and distribution requirements, and a three-credit senior seminar. Students also must satisfy a writing proficiency requirement. In order to receive a degree from UWGB, students must complete at least one year (31 credits) in residence. All of these requirements are explained in more detail elsewhere in this section of the catalog. Students have used the flexibility inherent in the academic plan to develop many ingenious study plans to meet their personal goals. However, most students will most likely follow one of the five basic plans described here:

Plan I: The Interdisciplinary Major

A student may choose to take an interdisciplinary major. The interdisciplinary major is like a major at other universities except that it provides more breadth. Since these majors are interdisciplinary, applying knowledge from several subjects to a given area of study, the student learns to study a problem from many relevant points of view. Thus, students gain tools for solving problems creatively, acquire basic knowledge in the subjects involved, and gain skills that will be useful in diverse future applications. UWGB's interdisciplinary programs are organized so that students can approach the study of all bodies of knowledge through them—the humanities and fine arts, social sciences, and natural sciences and mathematics, as well as business and management. Choosing a particular interdisciplinary major by no means limits a student to courses in that area—taking courses in other programs is not only permitted, it is encouraged.

Most students select one of the 18 majors offered through the interdisciplinary departments. Students who find that none of the formal programs meet their needs may develop a personal major. All of these programs are described in the next section of this catalog.

The interdisciplinary major requires 30 credits of junior-senior level courses selected from those identified by the department faculty as constituting a major. Most offer a number of alternative plans of study. Only a few of the possibilities in each program can be described in this catalog. After reading program descriptions in this book, students should seek additional information and help in planning their individual programs from department advisers.

Plan II: Combining the Interdisciplinary Major

While the interdisciplinary major integrates several subject areas to focus on a particular program area, the discipline provides depth of knowledge in a specific field. Many students who want this kind of focus select a disciplinary program along with an interdisciplinary one.

Students usually plan their programs with advisers from both the interdisciplinary and the disciplinary units.

Examples of this kind of program include the study of the geological aspects of land resource management (Science and Environmental Change concentration/earth science disciplinary program) or sociological aspects of urban planning (Urban Studies concentration/sociology disciplinary program) or the literary achievements of English-speaking peoples (Humanistic Studies concentration/literature and language disciplinary program).

Plan III: The Concentration/ Professional Program Major

Another way to achieve depth and career preparation is with courses that provide professional competency and knowledge that can be applied directly to a particular career field. UWGB students do this by adding a professional program to their major. This is commonly done in the program in Education, which provides courses that meet requirements for certification to teach early childhood, elementary, or secondary education in nearly every subject matter area. Others prepare for careers in business, public administration, government, recreation resources, or social services through UWGB professional programs.

Most of the professional programs require 18 hours of course work in addition to the 30 credit concentration requirement. Some additional course work is required in education to meet state certification requirements.

Plan V: The Preprofessional Program

"Preprofessional" describes a study plan that is begun at UWGB and completed elsewhere. There are two basic ways of doing this. The first is for students who plan to attend graduate professional schools in such areas as law, medicine, dentistry, social work, the sciences, the humanities, or the social sciences. Most of these programs require such a degree for entry, so these students usually obtain a bachelor's degree from UWGB. Any UWGB major provides appropriate preparation for a related graduate or professional program. And because more and more graduate programs recognize the advantages of interdisciplinary preparation, UWGB students find they are particularly well prepared for advanced study in a variety of areas. Many have been accepted at leading graduate and professional schools throughout the country where they have maintained outstanding academic records.

The second type of preprofessional program provides two years of study in a specialized or technical area in which UWGB does not offer a degree, such as engineering. The student spends the first two years in a pre-engineering program offered by science and mathematics faculty members to meet requirements of most engineering schools, then transfers to the engineering school to complete degree requirements.

Requirements

All-University Requirements

All-University requirements total 30 credit hours in a two-part program: general education and distribution (27 credits), and a senior seminar (3 credits).

All-University requirements complement a student's education by:

—introducing them to different ways of arriving at knowledge in the various academic areas;

—examining applications of the knowledge or technique within these areas;

—helping students to see relationships between major areas of knowledge;

—strengthening and supporting more specialized studies through a liberal education;

—helping students to be more reflective and self-critical of the positions they choose to affirm.

Transfer Students

Transfer students' standing with regard to all-University requirements is based on equivalent courses completed at the time of their transfer to UWGB from another institution of higher education.

All transfer students must complete a three credit senior seminar and will be expected to satisfy the 27 credit liberal arts and distribution requirements by transferring or completing nine credits each in the humanities and fine arts, social sciences, and natural sciences.

Specific requirements for transfer students are explained in the chapter on Admission, Expenses, and Financial Aids. Transfer students will be informed in writing by the Registrar's Office of their standing in regard to fulfilling all-University requirements as soon as an evaluation of their completed credits is concluded.

General Education and Distribution

The general education and distribution requirement provides an opportunity to learn the distinctive approaches or procedures of each broad area of knowledge—humanities and fine arts, social sciences, and natural sciences—and to become more aware of the values which shape individual and social experience. The 27 credits of general education and distribution will most likely be taken in the freshman and sophomore years. The requirement includes nine credits each in the humanities and fine arts, social sciences, and natural sciences. Six of the required nine credits in each area of knowledge must be taken as part of a related two-course sequence. Students are able to choose courses from a wide variety of topics and course formats (lectures, small group discussions, and laboratory or studio work). Following are some samples of six credit sequences that may be taken to meet this requirement; decriptions of these courses can be found in course listings of their respective curriculum areas. These are not the only possibilities. The *Timetable*, the *Academic Advising Handbook*, and other registration information can keep students abreast of all-University requirement course offerings.

Here are some sample two-course (6 credit) all-University requirements combinations:

Humanities and Fine Arts

Example 1:
242-261 Foundations of Aesthetic Experience
AND
736-211 The Arts and Human Existence
OR
242-380 The Arts: London

Example 2:
552-104 Introduction to Literature
AND
493-204 Humanistic Values Through Literature

Example 3:
944-240 The City in American Literature and Arts
AND
944-340 Urban Visions and Cultural *Traditions*
OR
242-380 The Arts: London

Example 4:
242-323 Language and Human Conflict
AND
493-376 Cultural Conflict

Social Sciences

Example 1:
255-102 The Social System
AND
875-203 Prejudice and the Human Condition
OR
875-204 Freedom and Social Control

Example 2:
302-201 Analysis of Learning Environments
OR
302-202 Change in American Education
AND
302-204 Values in Conflict: The School Experience of Minority Background Children
OR
302-323 *Education in Another Culture*: London

Example 3:
481-202 The Growing Years
OR
481-210 Introduction to Human Development
AND
481-215 Issues in Human Development

Example 4:
875-241 Women and Changing Values
AND
875-235 Sex and Society
OR
875-345 Women in Cross Cultural Perspective
OR
944-231 Values in Black and White America II

Example 5:
944-230 Values in Black and White America I
AND
944-231 Values in Black and White America II

Natural Sciences

Example 1:
862-100 Scientific and Technical Based Problem Solving
AND
862-102 Introduction to Environmental Science
OR
296-200 Basic Earth Science
OR
296-202 The Earth's Physical Environment
OR
226-103 Fundamentals of Physics
OR
226-108 General Chemistry
OR
226-111 Principles of Chemistry
OR
862-141 Elementary Astronomy

Example 2:
862-102 Introduction to Environmental Sciences
AND
862-260 Energy and Society
OR
862-284 Husbandry of the Land
OR
862-286 Forest Vegetation of Wisconsin
OR
862-303 Conservation of Natural Resources

Example 3:
478-102 Introduction to Human Biology
AND
478-205 Biotechnology and Human Values
OR
478-313 Brain Functions in Human Behavior
OR
478-206 Fertility, Reproduction and Family Planning
OR
478-310 Human Genetics

Example 4:
862-186 Man and Wildlife I
AND
862-187 Man and Wildlife II

The other three credits in each area of knowledge must be chosen from a list of courses approved for distribution. Courses marked with a dagger in the course description listings in this catalog represent courses approved for distribution credit. Additional courses may be identified for distribution from time to time.

The Senior Seminars

The senior seminars are the culmination of a student's interdisciplinary liberal education. In these seminars, students are encouraged to extend knowledge gained in their disciplinary and concentration courses to the broad fundamental concepts and issues that comprise the basic social and intellectual concerns of our time. The seminars are designed to enlarge perspective, analytical ability, and interest in the enduring problems of self and society as they relate to contemporary ecological, cultural, ethical, scientific, and political concerns. Senior seminars differ from other courses in that they bring together advanced students from a variety of majors in an atmosphere that encourages them to deepen and broaden the base of knowledge they bring into the course while engaging them personally and intellectually in some of the most important and interesting contemporary issues. The seminars place considerable emphasis on exploring alternatives of such concepts as freedom, progress, imagination, myth, ecological systems, various educational and intellectual concepts, and the like.

English Proficiency Requirement

All students must demonstrate mastery of basic writing skills by either achieving a specified minimum score on an entrance examination or passing an approved credit course in basic composition.

Performance on the college achievement, English expression, and essay writing tests given as part of the freshman testing program place students in one of four categories.

A student ranked "in need of substantial development" must complete 553-093, Fundamentals of Writing, which is a noncredit course, and then successfully complete 552-100, Basic College Writing, a credit course.

A ranking of "in need of further development" results in the necessity to take 552-100, Basic College Writing, or 246-100, Writing Skills Laboratory, or other alternative courses which may be developed and designated in subsequent *Timetables*, during one of the first two semesters at UWGB.

A student who receives an "adequate" ranking, is not required to take a writing course, but is encouraged to continue to develop writing ability, perhaps by taking 552-105, Introduction to Expository Writing.

No writing courses are required if a student is found to have "quite good" writing skills, but such students also are encouraged to continue developing their abilities by taking Introduction to Expository Writing or one of the more advanced writing courses. Part-time students enrolled as special students and students transferring approved writing course credits into UWGB are exempted from taking the writing proficiency examination.

Residence Requirement

To graduate from UWGB, at least one year of residence (31 credits) in the junior or senior year is required, including at least half the advanced work in the student's major or minor. The senior seminar all-University requirement must be completed in residence.

The residence requirement does not mean that a student must live in Green Bay or carry a full-time schedule of courses. A student can commute and carry only a part-time load and still meet the residence requirement.

A student who has completed the junior year and who meets the residence requirement, but who cannot complete his or her senior year in residence for reasons of employment transfer, marriage, or whatever cause, can graduate from UWGB. Appropriate courses taken at another university as a substitute for senior year residence at UWGB can be selected with an adviser and must be approved by the office of the Vice Chancellor for Academic Affairs.

A transfer student must complete the 30-credit all-University requirements but the portion of that requirement that must be completed in residence will be modified according to the number of degree credits accepted at the time of transfer. In situations where in-residence requirements are reduced, students must have completed appropriate equivalent courses at their previous college or university; transfer students should contact the Academic Advising Office as early as possible for help in planning their programs to assure that they fulfill all UWGB requirements.

Academic Programs

Programs of Study: a Summary

Interdisciplinary Programs and Disciplines

Humanities and Fine Arts

Interdisciplinary Programs:
- Communication and the Arts
- Humanistic Studies

Disciplinary Programs:
- Art
- Communication Processes (including linguistics, media, photography, speech)
- History
- Literature and Language (English, American, French, German, Spanish)
- Music
- Philosophy
- Theater (including dance)

Natural Sciences and Mathematics

Interdisciplinary Programs:
- Human Biology
  - Human Adaptability major
  - Nutritional Sciences major
- Science and Environmental Change

Disciplinary Programs:
- Biology
- Chemistry
- Chemistry-Physics
- Earth Science
- Mathematics (including computing science)
- Physics

Social Sciences

Interdisciplinary Programs:
- Human Development
- Regional Analysis
- Social Change and Development
- Urban Studies

Disciplinary Programs:
- Anthropology
- Economics
- Geography
- Political Science
- Psychology
- Sociology

Professional Studies

Business Programs
- Business Administration
- Mangerial Accounting

Education
Military Science
Nursing
Public and Environmental Administration
Social Services and Social Work

Interdepartmental Programs

Majors:
- Environmental Planning
- Information and Computing Science

Minors:
- The Arts in Society
- Environmental Design
- Environmental Health Sciences
- International Studies
- Women's Studies

Preprofessional Programs

Agriculture
Architecture
City Planning and Community Development
College Teaching
Dentistry
Engineering
Journalism
Law
Medicine
Nursing
Pharmacy
Social Work
Theology
Veterinary Medicine
Water Resources and Hydrology

The Personal Major

External Degree Programs

- Extended Degree in General Studies
- University Without Walls

Humanities and Fine Arts

Communication and the Arts

Professors: Robert Bauer, director of bands, flute, music education; **Arthur Cohrs** (chairperson), keyboard, music theory; **Jack Frisch,** interpersonal communication, theater history, directing; **Timothy Meyer,** electronic media; **William Prevetti** (emeritus) drawing, relief printing; **Richard Sherrell,** theater history and criticism, aesthetic awareness.

Associate Professors; Clifford Abbott, linguistics; **Jerome Abraham,** low brass; **Trinidad Chavez,** director of choral activities, voice, choirs and vocal ensembles, conducting, music education; **Clary Nelson-Cole,** painting, printmaking; **David Damkoehler,** environmental design, drawing, graphics, sculpture; **Jerry Dell,** photography, graphics, electronic media; **Lovell Ives,** jazz, arranging, trumpet; **Wayne Jaeckel,** jazz, music theory, woodwinds; **Donald Larmouth,** linguistics; **Estella Lauter,** aesthetic awareness, criticism, women and the arts; **Charles Matter,** aesthetic perception, human information processing, cognitive psychology; **Dean O'Brien,** journalism, mass media; **Terence O'Grady,** music theory and history; **Robert Pum,** art metal, jewelry design, drawing, aesthetic awareness; **Patricia Ridge,** acting, directing, stage movement.

Assistant Professors: Margaret Charnon, keyboard, piano pedagogy; **Phillip Clampitt,** communication theory, organizational communication, public address; **Mark Fonder,** low brass, ensembles, music education; **Raymond Gabica,** technical theater, costume design; **Curtis Heuer,** ceramics, drawing and design, aesthetic awareness; **Elizabeth Jones,** art history; **Evelyn Teikari,** graphic communication; **Susan Matthews,** voice, vocal ensembles; **Karon Winzenz** (curator of art), textile arts, painting, drawing.

Communication and the Arts is concerned with the structure, roles and social and aesthetic consequences of all forms of communication, particularly language, design, mass media, graphics, art, music, theater, and creative writing.

The concentration's curriculum is organized into several emphases which can be pursued as interdisciplinary majors, often in combination with disciplinary programs such as art, music, theater, and communication processes, among others.

Programs of Study

An interdisciplinary major in Communication and the Arts requires a minimum of 9 credits in tool courses (sometimes more), plus a minimum of 30 credits at the junior and senior level. Specific requirements will vary within each major program offered by the concentration.

A Communication and the Arts program can be combined with a disciplinary program. Tool course requirements remain the same but a minimum of 24 credits of junior and senior level course work in the discipline is combined with a minimum of 12 credits of junior and senior level course work in Communication and the Arts. The five interdisciplinary emphases within Communication and the Arts are: aesthetic awareness; environmental design; broad-field communication; graphic communication; and science communication. Other emphases may be established in consultation with a Communication and the Arts adviser.

AESTHETIC AWARENESS

The emphasis in aesthetic awareness seeks to cultivate general aesthetic sensibilities and resources among artists, actors, writers, musicians, and others concerned with the arts. It includes core courses in aesthetic perception, expression, and response which are designed to develop broadly integrative views of the arts, along with related courses in styles of expression, art history, popular culture, theater history, and other expressive modes.

Most of the students enrolling in an aesthetic awareness program combine it with disciplinary programs in the arts (music, art, theater, creative writing). Students preparing for careers in education add a professional program in education in order to meet teacher certification requirements in art education (K-12), English communication arts including theater, or music education (general music, instrumental music, choral music). Students planning careers in arts administration, music business or theater management usually add a professional component in business administration. Aesthetic awareness is also a useful complement to studies leading to professional performance or graduate study.

The concentration requires all students to complete a minimum of 9 credits in tool courses. Of these, 6 credits must be in areas of study outside the student's disciplinary focus. This ensures that all students will have a general exposure to the arts and the background necessary to complete the core courses in aesthetic awareness successfully.

There are six core courses in the aesthetic awareness program.

242-261	Foundations of Aesthetic Experience (required)
242-361	Increasing Aesthetic Awareness
242-363	Psychology of Aesthetic Perception
242-364	Aesthetic Awareness through Artistic Creation
242-462	Senior Seminar in Aesthetic Awareness
242-463	Processes and Systems of Aesthetic Evaluation

In addition to the Foundations course, students are required to take one of the 300-level core courses and one of the 400-level core courses, along with two upper level related courses chosen with an adviser. This is done in combination with a disciplinary program (art, music, theater, or literature and language).

The aesthetic awareness program may be taken as an interdisciplinary major without combining it with a disciplinary program. In this instance, students enroll 9 credits in tool courses (including the Foundations course), all of the upper-level core courses (15 credits) and five upper-level related courses (15 credits), again in consultation with an adviser.

BROAD-FIELD COMMUNICATION

The concentration program in broad-field communication integrates several different dimensions, depending upon the individual student's academic direction. It includes course work in graphics, mass media, language, popular culture, and design. Most students electing this program associate it with a four-year disciplinary program in communication processes, literature and language, psychology, anthropology, or mathematics, among others.

Many different professional directions are possible within this program, some of which require additional study in a professional program. Students seeking teacher certification in English-communication arts or English as a second language enroll a professional program in Education while students planning careers in mass media, graphics, public relations, communications management, etc., are well advised to include a professional program in business management or public administration. Students with an emphasis in linguistics should plan on graduate study in such areas as linguistic theory, information science, cognitive science, language variation, psycholinguistics, or English as a second language.

Students in broad-field communication structure their programs of study within the following outline:

Tool courses (9 credits minimum)
246-102 Introduction to Mass Communication
242-160 Introduction to Language
242-210 Film and Society
242-231 Introduction to Graphic Communication

Students in linguistics are required to enroll a minimum of two years of college level study of a foreign language, along with 242-160.

Advanced courses (12 credits minimum)
242-301 Communication and the Arts Projects in the Community: Oneida Language Project
242-323 Language and Human Conflict
242-331, 332 Graphic Communication Studio I, II
242-370 Modern American Culture
242-395 Biological Aspects of Language
242-430 Mass Media and Society
242-375 Communication Skills: Language of Metaphor

An interdisciplinary major in broad-field communication without the addition of a disciplinary program requires a minimum of 9 credits in tool courses and a minimum of 30 credits in advanced courses, usually including some course work in related areas such as rhetoric, communication theory, computer science, psychology, linguistics, graphics, or photography.

GRAPHIC COMMUNICATION

Students may pursue an interdisciplinary course of study in graphic communication, in association with disciplinary programs in communication processes, art, or chemistry. A professional program in business also is recommended. This program prepares students for careers in graphic design, technology, and management, editorial and publications work, television graphics, and others related to print media.

Graphic communication is a very useful area for students in the business administration major to pursue as an outside supportive field of study.

All students in the graphic communication emphasis must complete a minimum of 9 credits in tool courses, of which 6 credits must be in areas of study outside the student's disciplinary focus.

Tool courses (9 credits minimum)
242-102, 103 History of the Visual Arts I, II
242-160 Introduction to Language
242-231 Introduction to Graphic Communication (required)
246-102 Introduction to Mass Communication
552-105 Introduction to Expository Writing
Students in chemistry or business are advised to enroll 242-231, 246-102, and 246-243 Introduction to Photography, and 957-106 Design Methods as tool courses.

Advanced courses (12 credits minimum)
242-331, 332 Graphic Communication Studio I, II
242-432 Graphic Communication Workshop

In addition to these required courses, students elect one course from the following group:
242-370 Modern American Culture
242-453 Internship in Graphic Communication
246-346 Photographic Design for Print Media

All students pursuing a program in graphic communication are advised to enroll additional course work in computer science and chemistry such as:
226-111, 112 Principles of Chemistry I, II
600-256 Introduction to Computer Science
600-483X Computer Graphics (proposed)

In addition to programs in aesthetic awareness, broad-field communication, and graphic communication, Communication and the Arts is associated with other concentrations at UWGB in the support of three interdisciplinary programs in environmental design, science communication, and women's studies. These programs include a set of tool courses plus a minimum of 30 credits at the junior and senior level (or a minimum of 12 upper-level credits if associated with a disciplinary program).

ENVIRONMENTAL DESIGN

Design Processes and Environmental Problems is an interdisciplinary program involving students and faculty in design, urban planning, social psychology, engineering, and public administration. It is cosponsored by the concentrations in Urban Studies, Regional Analysis, Science and Environmental Change, and Communication and the Arts, and students complete a program in environmental design within one of these concentrations. In Communication and the Arts, studies in this area are structured in the following way:

Tool Courses (9 credits minimum)
242-231 Introduction to Graphic Communication
862-102 Elements of Descriptive Geometry
944-210 Drawing Systems for the Designer
957-105 Drawing

Advanced Courses (21 credits minimum)
242-331, 332 Graphic Communication Studio I, II
242-401, 402 Designing the Environment I, II
242-405 Urban Technological Design
246-335 Organizational Communication
834-325, 326 Behavior in Designed Environments I, II
944-421, 422 Urban Planning I, II
944-430 Urban Aesthetics

Workshops (9 credits minimum)
944-401 Environmental Design Workshop I (individual scale)
242-471 Environmental Design Workshop II (small group scale)
944-402 Environmental Design Workshop III (community scale)
242-472 Environmental Design Workshop IV (senior project)

Students combining an interdisciplinary program in environmental design with a disciplinary comajor meet the same tool course requirements listed above, plus 9 credits in advanced courses and 3 credits in environmental design workshops, chosen in consultation with an adviser.

SCIENCE COMMUNICATION

In cooperation with the concentration in Science and Environmental Change, Communication and the Arts has articulated a cooperative program in science communication which prepares students for careers in environmental journalism, scientific and technical communication, and environmental interpretation. This program combines a solid program in environmental sciences with preparation in graphics, photography, mass media, journalism, and public address. The description here emphasizes preparation in communication; an alternative science communication program with a greater emphasis on science is described under Science and Environmental Change. The basic outline of this program is:

Tool Courses

Requirements in communication courses (15 credits minimum):
242-231 Introduction to Graphic Communication
246-102 Introduction to Mass Communication
246-133 Fundamentals of Public Address
246-200 Introduction to Communication Processes
246-243 Introduction to Photography
552-105 Introduction to Expository Writing

Requirements in basic sciences (22-24 credits minimum), including at least three of the following sequences:

Biology
204-202, 203 Principles of Biology I, II

Physics
754-103, 104 Fundamentals of Physics I, II

Chemistry
225-111, 112 Principles of Chemistry I, II

Geology and Earth Science
296-202 Earth's Physical Environment, plus one of the following:
296-222 The Ocean of Air: An Introduction to Weather and Climate
296-302 Geologic Evolution of the Earth
296-350 Geologic Field Methods
862-320 Soil Environment
862-342 Environmental Geology

Calculus and Analytic Geometry
600-202, 203 Calculus and Analytic Geometry I, II

Statistics
600-260 Introductory Statistics plus one of the following:
600-364 Biometrics
600-460 Business and Industrial Statistics

Computer Science
600-150 BASIC: A Programming Language
600-152 An Overview of Computer Concepts
600-256 Introduction to Computer Science

Advanced Courses (30 credits minimum required)

Advanced communication courses (18 credits minimum required):
242-331 Graphic Communication Studio I
242-332 Graphic Communication Studio II
242-431 Graphic Communication Workshop
246-303 Feature Writing
246-305 Elements of Electronic Media
246-306 Radio Broadcast Practicum
246-333 Argumentation and Persuasion
246-335 Organizational Communication
246-343 Photography II
246-345 Designing Multiple Media Applications of Photography
246-346 Photographic Design for Print Media
246-380 Communication Law
246-430 Mass Media and Society
246-453 Internship in Communication Processes
302-407 Development of Environmental Education Materials for the Schools
575-430 Promotional Strategy
008-770 Scientific and Technical Communicating

Advanced environmental science courses (12 credits minimum required):

Ecology (3 credits minimum):
862-302 Principles of Ecology

Resource Management (3 credits minimum):
862-334 Solid Waste Management
862-335 Water and Waste Water Treatment
862-460 Resource Management Strategy
862-466 Vegetation Management
008-724 Hazardous and Toxic Materials

Field Specialty (2 courses minimum): There are several possible field specializations, including aquatic studies, solid waste management, air quality, natural resources, and land use, among others. A typical example would be solid waste management, where students would select two courses from this group:
204-302 Principles of Microbiology
204-405 Microbial Physiology
225-311 Analytical Chemistry
862-320 The Soil Environment
862-330 Quantitative Hydrology
862-342 Environmental Geology
862-434 Water Chemistry

To summarize, students in the science communication program complete an interdisciplinary major in Communication and the Arts comprised of 37-39 credits in freshman- or sophomore-level tool courses and 30 credits of upper level course work, of which 18 credits are in advanced communication courses and 12 credits are in advanced environmental science courses. Course work in scientific and technical writing is a vital part of this curriculum.

Students completing this program can choose from a variety of professional opportunities, including professional communication work within the scientific community and environmental journalism for more general audiences, in both the private and public sector, with a range of visual and verbal communications including scientific research reports, public information programs, reports from governmental agencies, documentaries, features, and the like.

WOMEN'S STUDIES

Communication and the Arts is one of four concentrations supporting an interconcentration program in women's studies which permits students either to focus their major program upon the accomplishments and capabilities of women or to complement disciplinary studies in several fields with a background in this important area—particularly important for professional work in teaching, community service, social action, or professional positions established to rectify past discrimination, or to prepare women for leadership roles in a variety of traditional and nontraditional fields.

Two program alternatives within women's studies are:

Women's Studies With Four-Year Disciplinary Program (21 credits in women's studies)

A student should complete the requirements for a disciplinary program (such as art, music, theater, literature and language, or communication processes) and, in addition, the following set of requirements:

Tool Courses (9-12 credits minimum)
875-241 Women and Changing Values (required)
242-102, 103 History of the Visual Arts I, II
242-141 Introduction to the Performing Arts: Theater and Music
242-142 Performing Arts Perspectives: Experience and Evaluation
242-210 Film and Society
242-231 Introduction to Graphic Communication
242-243, 244 Native American Cultures: Film and Performance
242-261 Foundations of Aesthetic Experience
242-272 Women in Visual and Performing Arts
246-102 Introduction to Mass Communication

Advanced Courses (12 credits minimum)
Two of the first three required:
242-477 Women as Creative Agents
875-345 Women in Cross-Cultural Perspective
944-345 Women in American Perspective

242-361 Increasing Aesthetic Awareness
242-364 Aesthetic Awareness through Artistic Creation
242-372 The Phenomenon of Style: Traditional Styles
242-373 The Phenomenon of Style: Avant-garde Styles
242-395 Images of Woman in Contemporary Arts
242-463 Processes and Systems of Aesthetic Evaluation

Interdisciplinary Major in Women's Studies (39 credits total)

Tool Courses (9 credits minimum)
242-272 Women in Visual and Performing Arts (required)
875-241 Women and Changing Values (required)
242-102, 103 History of the Visual Arts I, II
242-121 Masters and Masterpieces of Music
242-141 Introduction to the Performing Arts: Theater and Music
242-142 Performing Arts Perspectives: Experience and Evaluation
242-210 Film and Society
242-231 Introduction to Graphic Communication
242-243, 244 Native American Cultures: Film and Performance I, II
242-261 Foundations of Aesthetic Experience
246-102 Introduction to Mass Communication

Upper Level (15 credits minimum)
242-477 Women as Creative Agents (required)
875-345 Women in Cross-Cultural Perspective (required)
944-345 Women in American Perspective (required)
242-395 Images of Woman in Contemporary Arts
875-340 Woman as Worker
875-342 Women, Myth, and Identity
875-348 Women and the Law
875-440 Women in Religion
944-375 Women: Strategies for Change

Related Courses (12 credits minimum)
242-361 Increasing Aesthetic Awareness
242-364 Aesthetic Awareness through Artistic Creation
242-372 The Phenomenon of Style: Traditional Styles
242-373 The Phenomenon of Style: Avant-garde Styles

Humanistic Studies

Professors: James Clifton, cultural anthropology, ethno-history, North American Indians, personality and culture, religion, myth, and folklore; **Elmer Havens,** American literature, English novel, religious studies; **Frederick Kersten,** humanities, phenomenology, value theory, ontology; **Raquel Kersten,** Spanish and Latin American literature, language, and culture; **Werner Prange,** German language, literature, and culture; **Irwin Sonenfield,** music theory, history, and composition, musical aesthetics, interdisciplinary approaches to the humanities: music, art, film, and literature; **E. Michael Thron,** Shakespeare, 19th century English literature, the arts in society; **Louise Witherell,** French language, literature, and culture.

Associate Professors: Paul Abrahams, United States history: diplomatic, 20th century, economic; **Thomas Churchill,** creative writing; fiction, literature; **Orville Clark,** philosophy of art, aesthetics. American Indian art; **Kenneth Fleurant,** French language, literature, and culture, French-Canadian studies, comparative literature; **David Galaty,** history of science and technology, epistemology, African science, social services; **Norbert Gaworek,** modern European history, central and eastern Europe, Russia and the Soviet Union, Soviet-Western relations; **Gary Greif,** social and political philosophy; **Walter Herrscher,** American literature, expository writing, American short story, American nature writing; **Michael Murphy** (chairperson), modern English, Irish, and American literature; **Gilbert Null,** history of philosophy, philosophy of the sciences, phenomenology, existentialism; **Jerrold Rodesch,** American history, intellectual and cultural history, history of Wisconsin, the arts and social thought; **Peter Stambler,** creative writing: poetry, English Renaissance literature, playwriting, and theater literature; **Thomas Tasch,** visual arts, sculpture, drawing; **Martha Wallach,** German language, literature, and culture, Polish.

Assistant Professor: Joyce Salisbury, ancient, medieval, and religious history.

Humanistic Studies is an interdisciplinary concentration which focuses on human-kind's intellectual and imaginative achievements. It encompasses the traditional disciplines of history, literature, philosophy, French, German, Spanish, and creative writing; it is also closely connected to the fine arts and to some social sciences. Humanistic Studies, however, views knowledge not in terms of separate disciplines but rather in terms of essential connections and interrelationships, and it applies an interdisciplinary perspective to problems of both society and of individuals.

Humanistic Studies provides the basis of a modern liberal education, emphasizing the importance of breadth of knowledge, depth of perspective, and the intellectual skills needed to analyze and articulate a point of view. These skills, especially in writing, speaking and analyzing verbal materials, are critical ones for a successful career in the modern world in almost any field. They are particularly valuable and formally expected for students seeking careers in teaching, religion, many areas of government, business, human services, and the media. The combination of a liberal education grounded in Humanistic Studies with a selection of courses oriented toward the professions provides an excellent preparation for prelaw pretheology, prelibrary and other preprofessional students.

Program of Studies

All students interested in majoring in Humanistic Studies should consult with the program adviser as early as possible to develop their academic programs. Although the adviser may approve indi-

vidualized programs for students with special needs or interests, all majors in Humanistic Studies are expected to fulfill the following requirements:

Writing Requirement: 552-105, Introduction to Expository Writing. This requirement may be waived for qualified students; see the adviser for details.

Foreign Language Requirement: 11 credits (or the equivalent in high school units). Humanistic Studies majors are required to complete foreign language study through the 201 level. This is equivalent to three years of foreign language study at the high school level or three semesters at the college level. With the adviser's approval, a course in a foreign culture (such as 493-354 France Today, or 493-356 Contemporary German Culture, or 493-358 Latin America Today, or 493-361/363/365 January Abroad) may be substituted for three credits of foreign *language* study. Students who have taken foreign language courses in high school are eligible for retroactive college credit for those courses; see the adviser for details.

Humanities Background Requirement: 12 credits of courses which together provide an introduction to the humanities and an overall view of the history of Western civilization. This requirement may be met by completing either A or B:

A. 12 credits consisting of the following courses:
493-101, 493-102 Foundations of Western Culture I, II (6 cr.)

493-201 Introduction to Humanistic Studies I (3 cr.)
OR
493-295 Art and Ideas in Western Civilization (3 cr.)

493-202 Introduction to Humanistic Studies II (3 cr.)
OR
Any history, literature, or philosophy course (3 cr.)

B. 12 credits distributed among at least three of the following areas: history, literature, philosophy, Humanistic Studies, fine arts.

Upper Level Requirements: In addition to the lower-level requirements listed above, students who take an interdisciplinary major in Humanistic Studies must complete 493-480 Seminar in Humanistic Studies and 27 additional upper-level credits (courses numbered 300 and above) in Humanistic Studies and related disciplines.

Students who combine Humanistic Studies with a disciplinary program must take 493-480 Seminar in Humanistic Studies (3 credits) and 9 additional upper-level credits in Humanistic Studies if they have completed the background courses listed in option A above; if they have completed the background courses listed in option B, they must complete 493-480 Seminar in Humanistic Studies (3 credits) plus 12 additional credits chosen from the following Perspectives of Human Values courses:
493-340 Classical World
493-341 Medieval World
493-342 Renaissance to Rationalism
493-343 Romanticism to Naturalism
493-344 The Modern Period

Possible Emphases: Although individual programs may vary, students are encouraged to complete a program of study which has an integrating focus, such as one of the following:

***Continuity* and Change in Values**
493-302 Human Identity
493-305 Value Theory and the Humanities
493-332 Art and Social Thought
493-333 Utopia and Anti-Utopia
493-340 Perspectives of Human Values I: The Classical World
493-341 Perspectives of Human Values II: The Medieval World
493-342 Perspectives of Human Values III: Renaissance to Rationalism
493-343 Perspectives of Human Values IV: Romanticism to Naturalism
493-344 Perspectives of Human Values V: The Modern World

Other-Culture Studies
493-354 France Today
493-356 Contemporary German Culture
493-358 Latin America Today
493-359 The Americas Look at Each Other
493-361 January Abroad: German Culture
493-363 January Abroad: Mexico
493-365 January Abroad: England and Its Heritage
493-374 Wisconsin's Indians: Historical and Cultural Perspectives
493-376 Cultural Conflict in French Canada
493-474 The Native Americans: Emergence of Pan-Indian Cultures

Religious Studies
493-323 The Writings of the Old Testament
493-324 The Writings of the New Testament
493-325 Judaism, Christianity, and Islam
493-326 Non-Western Religions: Hinduism and Buddhism
493-364 Women and Religion

Art and Society
493-305 Value Theory and the Humanities
493-309 Criticism of the Visual Arts
493-310 Criticism of the Performing Arts
493-315 Theories of Creativity
493-332 Art and Social Thought
493-371 American Indian Art and Artists

The concentration adivser has information about other available courses and programs of study in the humanities, as well as information about scholarships, career opportunities, and alternative ways for attaining educational objectives. It is to a student's advantage to meet with the concentration adviser as early as possible.

Art

Associate Professors: Ronald Baba, design methods, environmental design; **Clary Nelson-Cole,** painting, intaglio and lithography printing; **David Damkoehler** (chairperson), design methods, screen printing, environmental design; **Jerry Dell,** photography; ***Robert Pum,*** art metal/jewelry, drawing, aesthetic awareness, art education; **Thomas Tasch,** sculpture, life drawing and anatomy, drawing.

Assistant Professors: Curtis Heuer, ceramics, drawing, aesthetic awareness; **Evelyn Teikari,** graphic communication; **Karon Winzenz** (art curator), textile arts, painting, design.

The visual arts are important creative and expressive components of human experience. They provide a means of involvement with life by sensitizing individuals to the processes of seeing, feeling, making, and thinking in terms of visual systems.

Course work in the art studios provides the opportunity to develop technical skills and knowledge about diverse art media as well as an understanding of the historical heritage of the contemporary artist. Emphasis is placed on both the conceptual and perceptual aspects of artistic activities in two and three dimensional media.

Program of Study

Students interested in art have their choice of several programs of study leading to a degree at UWGB. A four year program in art combined with an interdisciplinary major in any of a variety of concentrations will lead to professional work or graduate studies in studio art or design. Most students pursuing a disciplinary program in art choose programs in Communication and the Arts or

Humanistic Studies, but other interdisciplinary programs are equally appropriate depending on one's interests and needs. For example, some students interested in architecture and planning have combined programs in art with work in Urban Studies, while students interested in architecture and alternate energy sources have done combined programs in art and Science and Environmental Change. Still others planning careers in medical illustration have chosen Human Biology.

A four year program in art, including all required lower division courses, includes a minimum of 54 credits.

Students pursuing programs in art are expected to distribute their course work across several areas including general liberal education, aesthetics and expressive traditions, and areas more specific to the visual arts such as art history, design and drawing, and the introductory and advanced studios.

Students seeking certification as public school teachers include a professional program in Education (21-26 credits), while students interested in careers in graphics or commercial art often enroll in professional programs in administration or management (18 credits).

Programs leading to teacher certification in art are designed to meet requirements established by the Wisconsin Department of Public Instruction and include K-12 art specialist certification, elementary art certification, and secondary art certification. The majority of art education students elect the K-12 art specialist program, because it is the most comprehensive and most attractive for public school employment. Because an additional minor in aesthetic awareness and expressive traditions is available in the Communication and the Arts concentration, many art education students choose that concentration along with the disciplinary program in art and the professional program in Education. The aesthetic education minor has been approved and recommended by the Wisconsin Department of Public Instruction.

Since there are so many alternatives open to students interested in art, it is important that students consult an appropriate adviser early in their academic careers. Visual arts faculty also recommend that students plan to produce a senior show or exhibition, either as a senior distinction project (for students with at least a 3.5 grade point average) or through directed study. Senior shows provide valuable experience and help in compiling portfolios for applications to graduate programs or prospective employers.

Sample Programs

LOWER LEVEL REQUIREMENTS

The following 30 credits of freshman-sophomore level courses are required of all visual arts comajors regardless of their particular studio emphasis.

Background Courses (9 credits)
242-102 History of the Visual Arts I: Ancient to Medieval
242-103 History of the Visual Arts II: Renaissance to Modern
242-202 Issues and Concepts in Modern Art

Design Core (9 credits)
957-105 Drawing
957-106 Design Methods
957-107 Two-Dimensional Design

Introductory Studios (12 credits)
957-210 Introduction to Painting
957-220 Introduction to Sculpture
957-230 Introduction to Ceramics
957-243 Introduction to Photography

A sample schedule for the freshman and sophomore years would include:

Freshman Year
6 credits of background courses
6 credits of design core
All-university requirements and concentration courses

Sophomore Year
3 credits of background courses
3 credits of design core
6 credits of introductory studios
All-University requirements and concentration courses
Electives

UPPER LEVEL REQUIREMENTS

In addition to the 30 credits listed above, visual arts comajors are required to complete a minimum of six credits of upper level art history and a minimum of 18 credits of junior-senior level studio courses.

Art History

957-390 19th and 20th Century Art
957-491 Contemporary Art (1945 to present)
OR
Other adviser-approved course work

Studio

Following are suggested 18-credit course groupings for each studio area.

Students should concentrate their 18 junior-senior level studio credits in one or two areas, but include courses in other studios as well. Students interested in careers in art or graduate study in art should take as many and as varied art courses as possible. Juniors will complete an academic plan with a visual arts adviser and select upper level studio courses to meet requirements and individual needs.

Painting Emphasis
957-300 Intermediate Drawing
957-301 Life Drawing and Anatomy
957-314 Watercolor Painting
957-343 Photography II
957-401 Advanced Life Drawing
957-410 Advanced Painting

Drawing Emphasis
957-300 Intermediate Drawing
957-301 Life Drawing and Anatomy
957-311 Intermediate Painting
957-373 Intaglio Painting
957-377 Lithography
957-401 Advanced Life Drawing

Sculpture Emphasis
957-301 Life Drawing and Anatomy
957-321 Intermediate Sculpture
957-332 Intermediate Ceramics: Moldwork
957-364 Art Metals: Casting
957-421 Advanced Sculpture (6 credits)

Ceramics Emphasis
957-301 Life Drawing and Anatomy
957-321 Intermediate Sculpture
957-331 Intermediate Ceramics
957-332 Intermediate Ceramics: Moldwork
957-431 Advanced Ceramics

Photography Emphasis
957-301 Life Drawing and Anatomy
957-311 Intermediate Painting
957-343 Photography II
957-344 Photography III
957-375 Screen Printing
957-443 Advanced Problems in Photography

Art Metal Emphasis
957-301 Life Drawing and Anatomy
957-321 Intermediate Sculpture
957-343 Photography II
957-363 Art Metals: Jewelry Fabrication
957-364 Art Metals: Casting
957-463 Advanced Art Metals

Fiber/Textile Emphasis
957-301 Life Drawing and Anatomy
957-311 Intermediate Painting

957-343 Photography II
957-353 Textiles: Fiber Construction
957-354 Textiles: Designing with Fabrics
957-456 Advanced Textiles

Printmaking Emphasis
957-300 Intermediate Drawing
957-301 Life Drawing and Anatomy
957-371 Wood Block Printing or 377 Lithography
957-373 Intaglio
957-375 Screen Printing
957-401 Advanced Life Drawing

OTHER SPECIALIZATIONS

Visual arts comajors may develop other specializations such as those described below.

Arts Management

Students who wish a specialization in arts management should meet with the curator of art early in the junior year to design a individualized program. Students successfully completing a minimum of 18 credits in the specialization with a "B" average or above may arrange to have a descriptive statement on their transcripts. This sample program is for visual arts comajors who want a specialization in arts management. Students who are not visual arts comajors who wish the specialization will take the same core courses but choose electives in art history and studio art.

Required Core (9 credits minimum)
957-395 Exhibition Design and Development
957-396 Gallery Practicum
957-497 Internship (with a museum, art center or arts organization)

Electives (9 credits minimum)
Communication Skills:
552-105 Introduction to Expository Writing
OR
552-304 Advanced Expository Writing
OR
246-133 Fundamentals of Public Address

Anthropology:
156-210 Introduction to Cultural Anthropology
156-330 Aesthetic Anthropology

Developmental Psychology:
481-210 Introduction to Human Development

Management:
One or more courses from the nonprofit organization management emphasis in Managerial Systems concentration chosen in consultation with adviser.

Graphic Communications

Visual arts students would likely choose these courses in combination with graphic communications courses offered through the Communication and the Arts concentration to complete the graphic communications specialization.
957-300 Intermediate Drawing
957-301 Life Drawing and Anatomy
957-311 Intermediate Painting
957-343 Photography II
957-375 Screen Printing
957-377 Lithography

Environmental Design and Pre-Architecture

In order to develop a specialization in these areas, visual arts students would complete the environmental design sequence of courses through the Communication and the Arts concentration.
944-401 Environmental Design Workshop I
242-471 Environmental Design Workshop II
944-402 Environmental Design Workshop III
242-472 Environmental Design Workshop IV
242-401 Designing the Environment I
242-402 Designing the Environment II

Communication Processes

Professors: Jack Frisch, interpersonal communication, theater history, directing; **Timothy Meyer,** electronic media.

Associate Professors: Clifford Abbott, linguistics; **Jerry Dell,** photography, graphics, electronic media; **Donald Larmouth** (chairperson), linguistics; **Charles Matter,** perceptual and cognitive psychology, aesthetic perception; **Dean O'Brien,** journalism.

Assistant Professors: Phillip Ciampitt, communication theory, organizational communication, public address; **Patricia Johnson,** linguistics, English as a second language; **Evelyn Teikari,** graphic communication.

Sending and receiving messages are essential parts of everyone's life. The disciplinary program in communication processes seeks to strengthen both of these abilities in students, but more than that, it offers students ways of understanding how communication happens; how messages are put into codes visual and verbal; how they are filtered through various media; how they are interpreted in different social contexts; and in fact how they build those social contexts.

Students make use of the course work in this program in several ways:

—to complete a program of study in communication processes as part of their academic and professional preparation, usually including work in journalism, electronic media, language, graphic communication, and speech communication;

—to satisfy requirements set by programs throughout the University in basic skill (tool subject) areas such as public speaking, writing, interpersonal communication, and visual communication;

—to satisfy requirements in combined program areas such as public relations (with the business administration major in Managerial Systems), science communication (with Science and Environmental Change), graphic communication (with Communication and the Arts), teacher certification (with Literature and Language), language development (with Human Development), or broad-field communications (with Communication and the Arts).

Programs of Study

Student programs in communication processes usually include course work from several communications areas, because narrow specializations are often less marketable. Accordingly, students with a program in communication processes will complete about 15 credits (five courses) in freshman-sophomore level courses designed to acquaint them with both the unity and the diversity of the various communication forms. This requirement is met from the following courses:
242-160 Introduction to Language
242-231 Introduction to Graphic Communication
246-102 Introduction to Mass Communication
246-133 Fundamentals of Public Address
246-166 Fundamentals of Interpersonal Communication
246-200 Communication Processes: An Introduction (required)

246-201 Human Information Processing (proposed)
246-203 Newswriting Laboratory
246-243 Introduction to Photography
246-253 Practicum in Print Journalism I
552-105 Introduction to Expository Writing

All communication processes students are strongly encouraged to enroll course work in computer science because of its many applications in communication.

The program in communication processes requires successful completion of 24 junior and senior level credits. Specific courses to meet this requirement are chosen with the help of a faculty adviser. A major in communication processes usually includes an emphasis in one of the following areas: linguistics, English as a second language, mass communications, photography, speech communication, or in one of the combined programs—public relations, science communication, broadfield communication, graphic communication, and language development. Each area of emphasis requires a somewhat different set of junior-senior level courses; however, since narrow specialization is usually a mistake, students will find it most productive to range across the upper level curriculum to complement a particular emphasis.

MASS COMMUNICATION

An emphasis in mass communication includes work in the practice of print and broadcast journalism combined with study of mass media in relation to society. It is appropriate for students who plan to take jobs in journalism, publications, public relations, television, and radio, and these are the areas that a majority of the graduates in mass communication have entered, with about 12 percent going on to further education.

The mass communication emphasis requires less work in traditional journalism courses than conventional journalism programs, but includes more course work in such areas as electronic media, speech, linguistics, literature and language, graphics, creative writing, public relations, and marketing and promotional strategies. A strong liberal education, achieved through a wise choice of electives, is also necessary, beyond studies in communication.

Practical experience is available to students in mass communication through a campus radio station, a television production facility, a student newspaper, and a professional internship program which places selected students with area newspapers, radio and television stations, marketing agencies, and the like.

Experience, writing ability, the will and skill to "dig," a concern for people, knowledge of public affairs, and the fresh perception that comes with rigorous interdisciplinary studies—these are the qualifications of a good journalist, and these are the goals of the program in communication processes.

Upper-level course work for mass communication students will usually include 15-18 credits in courses such as the following:
246-303 Feature Writing
246-305 Elements of Electronic Media
246-306 Radio Broadcast Practicum
246-307 Television Production Techniques
246-308 Telecommunications Delivery Systems: Cable and Satellite
246-309 Media Campaigns and Advertising (proposed)
246-343 Photography II
246-353 Practicum in Print Journalism II
246-380 Communication Law
246-390 Scientific and Technical Communication
246-403 Advanced Reporting

In addition, mass communication students enroll 6-9 credits in supporting areas such as marketing, subject specializations (for example, political science), creative writing, communication theory, psychology, public relations, promotional strategies, photography, or graphics.

Students following this kind of program in communication processes often enroll a concentration program in Communication and the Arts, with a broad-field communication or graphic communication curriculum, selecting a minimum of 12 credits from among the following:
242-320 Communication: Extensions of Consciousness
242-323 Language and Human Conflict
242-331 Graphic Communication Studio I
242-332 Graphic Communication Studio II
242-370 Modern American Culture
242-375 Communication Skills: Language of Metaphor
242-XXX Construction of Public Images (proposed)
242-432 Graphic Communication Workshop
242-441 Internship in Graphic Communication
246-346 Photographic Design for Print Media
246-430 Mass Media and Society

Other concentration programs have been chosen by communication processes students, such as Urban Studies, Social Change and Development, and Science and Environmental Change.

PHOTOGRAPHY

The photography emphasis includes course work in photography and related studies to prepare students for diverse applications of photographic skills. Graduates have completed Master of Fine Arts graduate programs, found positions in commercial studios, newspapers, television, film, and graphics, and have combined photography with other communication and administrative skills. A photographer should learn small and large format camera work, printing, lighting, portfolio preparation, graphics, film, and video. According to many photographic educators, programs which emphasize diversity and are centered in the arts and humanities are best equipped to prepare students in photography.

A changing market for photographic skills places new demands on photographers. Successful photographers do not merely provide photographs; they find photographic solutions to problems and work with many different disciplines in the process. With an emphasis both on theoretical concepts and practical experience, communication processes attempts to provide a program suitable for contemporary photographic work.

Upper-level course work for students with an emphasis in photography will usually include 15-18 credits in courses such as the following:
246-305 Elements of Electronic Media
246-308 Telecommunications Delivery Systems: Cable and Satellite
246-343 Photography II
246-344 Photography III
246-345 Designing Multiple Media Applications of Photography
246-346 Photographic Design for Print Media
246-443 Advanced Problems in Photography
246-444 Time Duration Visual Media

In addition, photography students enroll 6-9 credits in supporting areas such as communication theory, studio graphics (for example, screen printing), marketing and promotion, computer graphics, journalism, and television production.

Students following this kind of program in communication processes often enroll a concentration program in Communication and the Arts, with a graphic communication or broad-field communication curriculum similar to the one outlined above for mass communication students, or a program in aesthetic awareness, which is more appropriate for students with a fine arts orientation. Other concentration programs have also been elected, especially when students have particular applications of photography in mind, such as cartography (Regional Analysis) or satellite applications or scientific illustration (Science and Environmental Change).

SPEECH COMMUNICATION

Speech communication emphasizes course work in communication concepts and skills with courses from related areas such as psychology, management, philosophy, and the humanities. The speech communication field reflects a high degree of interdisciplinary diversification. Professional associations such as the Speech Communication Association recognize divisions such as organizational communication, communication theory, interpersonal and small group communication, and public address and rhetoric, among others.

Because of the diversity of its applications, upper-level study in a speech communication program includes substantial course work from other disciplines, depending upon the student's interest. For example, an interest in organizational communication would warrant supporting courses in management, while a student planning graduate work in rhetoric would need courses in philosophy and the humanities. Background in psychology, statistics, and computer science is also important.

When combined with course work to provide suitable background and range, an emphasis in speech communication can lead to occupations ranging from promotion and fund raising to delivery of human services, training and personnel development positions in business and industry, private consulting firms, nonprofit organizations, and government agencies. Some of these will require further study at the graduate level.

Upper-level course work for students with an emphasis in speech communication will usually include 12-15 credits in courses such as the following:

246-326 Modern Semantics
246-333 Persuasion and Argumentation
246-335 Organizational Communication
246-336 Theories of the Interview
246-445 Human Communication Theory
246-483X Small Group Communication (proposed)

Related courses can be drawn from a variety of areas (9-12 credits):

Mass Media (e.g., 246-305 Elements of Electronic Media, 246-308 Telecommunications Delivery Systems, 246-483X Media Campaigns)
Psychology (e.g., 820-417 Psychology of Cognitive Processes)
Business Programs (e.g., 575-425 Promotional Strategy, 575-382 Principles of Management)
Philosophy (e.g., 736-324 Contemporary Philosphical Movements)
Humanities (e.g., 493-376 Cultural Conflict, 246-321 Sociolinguistics, 246-324 Psycholinguistics)

For selected students, off-campus professional internships in organizational communication are available with business organizations in the region.

Students planning a concentration curriculum have many choices, because of the diverse applications of speech communication. Good choices include Communication and the Arts, Humanistic Studies, and Social Change and Development.

LINGUISTICS/TEACHING ENGLISH AS A SECOND LANGUAGE

The linguistics emphasis includes course work in linguistics as well as related studies in anthroplogy, mathematics, logic, foreign languages, psychology, and other areas. The program is designed to prepare students for graduate study in linguistics and/or for work in English as a second language, as well as providing a linguistics component for teacher certification programs in foreign languages and English-communication arts. Linguistics is a highly diversified, interdisciplinary field, like other areas of communication processes. It seeks to understand the structure, history, and use of language by drawing upon the resources of many other disciplines as well as its own theoretical models and analytical techniques. Foreign language proficiency is important and two years of college level study of at least one language is considered minimal. Language proficiency can be demonstrated through advanced placement testing, standardized national CLEP tests, or through completion of suitable courses.

An important application of linguistics is in English as a second language. Students can complete a Wisconsin teacher certification program in ESL and qualify to teach English to non-native speakers in Wisconsin schools. Communication processes also offers a Certificate of Completion in English as a Second Language, an 18 credit program (not to be confused with Wisconsin teacher certification) which identifies a set of courses relevant to teaching English as a second language abroad, in adult education programs, or volunteer programs. Students in ESL can gain valuable experience as tutors and laboratory assistants in UWGB's ESL courses for international students.

Since linguistics is an area that often requires graduate study and advanced degrees, students' undergraduate work should be chosen with this in mind, to ensure sufficient range among supporting areas. In addition to tool courses in foreign language, computer science, anthropology, and introductory linguistics and communications course work, linguistics students usually elect a minimum of 12 credits in linguistics courses and link them to 12 credits in supporting areas. The linguistics courses include the following:

246-320 History of the English Language
246-321 Sociolinguistics
246-322 Modern Linguistics
246-324 Psycholinguistics
246-325 Applied Linguistics
246-326 Modern Semantics
246-327 Contrastive Linguistics and Error Analysis
302-315 Methods in English as a Second Language

Studies in supportive areas include course work such as the following:

156-301 Peoples and Cultures of a Selected Region
156-310 Culture and Personality
481-431 Cognitive Development
481-495 Language Acquisition in Childhood
478-313 Brain Functions in Human Behavior
478-413 Neurophysiology
600-353 Computer Organization and Programming
820-417 Psychology of Cognitive Processes

Students in linguistics have several options in choosing a concentration program, such as Humanistic Studies, Human Biology, and Social Change and Development, among others. A frequent choice is Communication and the Arts, with a 12 credit upper-level program constructed of courses like the following:

242-XXX Construction of Public Images (proposed)
242-301 Communication and the Arts Projects in the Community: Oneida Language Project
242-320 Communication: Extensions of Consciousness
242-323 Language and Human Conflict
242-375 Communication Skills: The Language of Metaphor

This kind of curriculum has been very successful in preparing students for graduate study, partly because they have taken advantage of research opportunities in the region and opportunities for practical experience in teaching and tutorial programs in English as a Second Language. Accordingly, students should regularly consult with their advisers in planning their studies.

History

Professors: James A. Clifton, cultural anthropology, ethno-history; **Martin H. Greenberg,** international affairs, middle east, international security.

Associate Professors: Paul Abrahams, U.S. economic, diplomatic, and political history; **David Galaty,** history of science and technology; **Anthony Gait,** social and cultural history, Italian history; **Norbert H. Gaworek** (chairperson), European social and political history; **Harvey Kaye,** Latin America and modern Britain; **Peter Kellogg,** U.S. social, Black history, political history; **Craig Lockard,** Asian and Third World history; **Jerrold Rodesch,** U.S. intellectual and cultural history, history of Wisconsin.

Assistant Professor: Joyce Salisbury, Western Civilization, ancient and medieval history.

Community Lecturers: Nicholas Clark, westward expansion, local history, genealogy, museology; **James McHale,** U.S. economic and foreign policy.

History is a method of inquiry and a body of knowledge. It examines problems, issues, and dilemmas which have inspired and confounded humanity since earliest times.

History systematically studies the cultural, social, and political aspirations, achievements, and failures of humanity. Through history we enhance our understanding of the changes that have occurred in peoples and societies, and in the relationship of the social and natural environments.

History majors pursuing a liberal arts education are expected to become aware of social and cultural differences in their own and other countries; to appreciate the complexities of human relationships; to recognize how human problems are defined and their solutions determined by the context of culture and society; to improve their oral and written communication; and to become skilled in research and analysis.

Knowledge of history is not only an attribute of the educated individual; it is a practical necessity for many professions, particularly education, law, journalism, communications, theology, politics, government, business, and social services, and in all areas in which research and analysis are essential. History provides the indispensable core for many areas of study, particularly in humanities and social sciences. History is a valuable field of study for students who plan to continue their education in graduate school in a broad variety of professional studies.

History Club provides a forum for history students to meet, exchange views, share common concerns, and provide lectures, films, and other programs to the university community. The club is a member of the State Historical Society and receives its publications.

History faculty and students collaborate in publishing *The Shantytown Chronicle*, which focuses on local and regional history and promotes the study of local history. It provides an opportunity for publication of student research papers. History faculty members also collaborate with the Brown County Historical Society in publishing a historical journal focusing on Northeastern Wisconsin. The journal is an outlet for scholarly contributions by faculty, students, and others. The History Fund, established to honor the memory of Professor Emeritus Schafer Williams, supports endeavors which advance the study of history.

Program of Study

The history program consists of core courses and several areas of advanced studies, providing students several alternatives to fit their major to other academic interests, professional programs, and areas of concentration. Students should consult a faculty adviser to work out an appropriate program of study in history and other fields.

Each student must take a minimum of 36 credits in history: 12 credits from the freshman-sophomore core, and the remaining 24 credits from the junior-senior level courses.

The core program consists of the following freshman-sophomore courses:

448-100 History of the Modern World
448-175 Historical Perspectives on Global Affairs
448-201 Ancient Civilization
448-202 The Middle Ages
448-203 History of Europe I
448-204 History of Europe II
448-205 History of the United States I
448-206 History of the United States II
448-207 Roots of Black America
448-208 Development of Modern Science
448-250 Traditional Asian Civilization
448-251 Modern Asian Civilization
493-101 Foundations of Western Culture I
498-102 Foundations of Western Culture II
493-250 European Economy and Society
493-251 Business and American Life
493-274 Red Man in White America

Students must take 12 credits from this core. The "mix" of courses will depend on the academic program and professional preparation students wish to pursue and should be prepared in consultation with the adviser.

During the junior-senior years students may choose the required 24 upper-level credits from three area tracks (Europe-Western Civilization; United States; Third World) and two thematic tracks (socio-political and cultural-intellectual). Each major must take at least 3 credits in each of the area tracks and 3 credits in each thematic track. Each major must take the history seminar (448-480).

The upper-level program contains traditional as well as interdisciplinary courses which cover a broad range of periods, themes, and special studies to serve the academic needs and interests of majors and nonmajors.

History faculty members sponsor and supervise field work in museums and historical surveys for students who wish to engage in projects for credit or pay. Students with particular skills or interests are encouraged to inquire about these opportunities to gain valuable practical experiences.

History and Related Programs

History faculty sponsor the International Studies program, which contains substantial segments drawn from the history program. A U.S. Studies program is being prepared.

History faculty sponsor Great Decisions: Issues and Options in International Affairs (448-375), an annual public affairs forum which examines contemporary global policy issues and problems, particularly their effect on U.S. foreign and domestic policy. Students taking the course for credit are expected to have some preparation or knowledge in history, international affairs, political science, or economics. Videotapes of the presentations are broadcast by educational and commercial television stations and used by educational and civic organizations.

Students wishing to undertake independent studies, senior distinction projects or an honors program in history should consult the history adviser and the supervising faculty member.

Literature and Language

Professors: Elmer Havens, American literature, English prose fiction; **Raquel Kerslen,** Spanish literature and language, Latin American studies; **Werner Prange,** German language and literature; **E. Michael Thron,** English literature, Shakespeare; **Louise Witherell,** French language and literature.

Associate Professors: Sidney Bremer, American literature, women in literature, urban studies; **Julie Brickley,** mythology, contemporary novel, women writers; **Tom Churchill,** creative writing, fiction; **Ken Fleurant,** French language and literature, Canadian studies; **Walter Herrscher,** American literature, the short story; **Estella Lauter,** literary theory, criticism, modern and contemporary poetry, women and the arts; **Michael Murphy,** English literature, Irish literature; **Peter Stambler,** creative writing, poetry; **Martha Wallach** (chairperson), German language and literature.

The literature and language program provides students with communication skills and with an understanding of—and appreciation for—our literary heritage. Although students frequently choose to study literature and language primarily for personal growth and enjoyment, the program is designed to prepare students for graduate work and professional training as well as for a variety of careers in business, industry, teaching, and government. A recently developed emphasis provides a supportive area of study in foreign language for students interested in international business.

The literature and language program has three major areas of emphasis: American and English literature; French, German and Spanish language and literature; and creative writing. Students may choose one of these areas or combine courses from several areas to serve their particular career needs or personal interests.

The literature and language program may be combined with any interdisciplinary program. Students interested in the humanities usually choose the interdisciplinary program in Humanistic Studies; students interested in the fine arts or performing arts usually choose Communication and the Arts. Depending on personal interests and goals, students might find other interdisciplinary programs appropriate, such as Human Development, Urban Studies, Regional Analysis, or Social Change and Development.

Graduates in literature and language have found satisfying careers in personnel work, public relations, business management, advertising, journalism, politics, administration, free-lance writing, editing, social work, teaching, and other fields requiring communications skills combined with a humanities background.

Students with specific career interests frequently combine their work in literature and language with studies in other disciplinary or professional programs, such as psychology, theater, music, art, or business administration. Students desiring teaching certification combine literature and language programs with a professional program in Education.

Program of Study

All of the emphasis areas in literature and language have the same general requirements: 24 credits of junior/senior level courses, distributed to assure a balanced program of study. In preparation for these required courses, students are expected to complete an appropriate selection of freshman/sophomore level courses.

CLEP exams in English literature, American literature, English composition, and all other appropriate areas are accepted for credit in the literature and language program.

Requirements for specific areas of emphasis within literature and language are described below. While this material can be helpful in planning programs, students should seek faculty advice in selecting courses to satisfy their own needs and interests.

AMERICAN AND ENGLISH LITERATURE

During their freshman and sophomore years, students choosing an emphasis in American and English literature will usually take 552-105, Introduction to Expository Writing (waived for qualified students), and a minimum of 9 credits of introductory literature courses such as these:

552-104 Introduction to Literature
552-106 Great Books
552-214, 215 Introduction to English Literature I, II
552-216, 217 Introduction to American Literature I, II
552-250 Masterpieces of Literature

Study in a foreign language is also strongly recommended.

During their junior and senior years, students will take 24 credits of upper division literature courses distributed in this way:

552-323 Approaches to Literature (required)
552-431 Shakespeare (required)
A course in pre-1800 English literature (required)
A foreign literature in translation course (required)

Elective courses in literature and language, 12 credits, such as:

552-310 Major English Drama
552-314 Major English Poetry
552-315 English Novel: 1700-1860
552-316 English Novel: 1850-present
552-330 Major American Drama
552-331 Major American Prose Fiction
552-332 Major American Poetry
552-333 Literary Themes (War; Alienation; Fantasy; Protest; etc.)
552-335 Literary Eras (Medieval; Renaissance; Romantic; Victorian, Modern; etc.)
552-490 Seminar in Literature

CREATIVE WRITING

During their freshman and sophomore years, students choosing an emphasis in creative writing are expected to take 552-105, Introduction to Expository Writing (waived for qualified students), and a minimum of six credits in 552-212, Introduction to Creative Writing: Fiction; 552-213, Introduction to Creative Writing: Poetry; or 552-301, Intermediate Creative Writing.

In addition, students should take a minimum of six credits in the following introductory literature courses:

552-104 Introduction to Literature
552-214,215 Introduction to English Literature I, II
552-216,217 Introduction to American Literature I, II

Study in a foreign language is also recommended.

During their junior and senior years, students will take 24 credits of upper division courses divided between writing and literature courses. Nine to 12 credits of writing courses may count towards the program, chosen from such courses as these:

552-301 Intermediate Creative Writing (no prerequisite)
552-302 Fiction Writing Workshop, 3 or 6 cr.
552-303 Poetry Writing Workshop, 3 or 6 cr.
552-304 Advanced Expository Writing, 3 cr.

The 12 credits of literature courses should include Shakespeare (552-431) and an appropriate selection of other courses. Students should consult with an adviser to draw up programs to meet their needs.

FRENCH/GERMAN/SPANISH/ LANGUAGE, LITERATURE AND CULTURE

Studying the language and the literature of a given society cannot be separated from cultural understanding of that society. The three are closely interwoven threads in any civilization. While studying language, even at the elementary level, we already begin to communicate with others and understand their culture in ways that are not possible in translation. The literature and language program offers courses for students throughout the University who need or simply want to develop their understanding of French, German or Hispanic languages and societies. It also offers a program for those who would like to comajor in one or a combination of these three areas.

Cultural understanding and knowledge of a second language can be of great value in academic fields such as linguistics, music, art, history, anthropology, sociology, political science, international busness, law, and the health sciences. In addition, studies have shown that English skills are often enhanced by concentrated study of the structure of another language.

Students who begin their study of French, German or Spanish should enroll in introductory courses numbered 554-101 for French, 556-101 for German, and 558-101 for Spanish. Language courses offered are:

554/6/8-101 Introduction to French/German/Spanish I
554/6/8-102 Introduction to French/German/Spanish II
554/6/8-201 Intermediate French/German/Spanish I
554/6/8-202 Intermediate French/German/Spanish II
554/6/8-225 French/German/Spanish Conversation and Composition
554/6/8-325 Advanced Written and Oral Expression in French/German/Spanish

Literature and culture courses are recommended for anyone who would like to gain a deeper knowledge of the language in addition to an understanding of the literature and culture. Students who have studied another language in high school should count a year of high school work as roughly equivalent to a semester of college work. Students who have studied a language are eligible for additional credit (see following explanation of retroactive credit).

For a literature and language comajor in French, German or Spanish, students need a minimum of:

1. Language proficiency equal to the 325 level.

2. 24 upper-level credits including:

a. 554/6/8-325 Advanced Written and Oral Expression in French/German/Spanish

b. 554/6/8-329 Representative French/German/Spanish Authors

c. 3-6 credits of the culture of a French/German/Spanish speaking country (see adviser for list of acceptable courses).

d. 12-15 additional credits. In addition to the upper-level French, German and Spanish literature courses appearing in the following list, several courses from other units or independent study courses (such as Phonetics or Business French/German/Spanish) may be acceptable if they meet individual program needs. Consult with adviser.

554/6/8-350 Major French/German/Spanish Drama
554/6/8-351 Major French/German/Spanish Prose Fiction
554/6/8-352 Major French/German/Spanish Poetry
554/6/8-436/7/8 Major French/German/Spanish Writers
554/6/8-333 Literary Themes
554/6/8-335 Literary Eras

Certification to teach French/German/Spanish carries additional requirements. Education and language advisers can provide details for interested students.

Comajors are encouraged to study a second foreign language and take introductory courses in areas such as history, philosophy, linguistics and English or American literature. They are also encouraged to take advantage of travel and study opportunities abroad whenever possible. Advisers can help identify appropriate programs for study during the summer, January interim, an entire semester, or academic year, and help with arrangements for transfer of credit.

FOREIGN LANGUAGE AND BUSINESS

Language study can be an asset to business students, especially those interested in international aspects of business. Students in the business administration major of Managerial Systems who need a supportive field of study can meet this requirement by taking an 18 credit package of courses in foreign language and culture chosen with the help of the adviser in the Humanistic Studies concentration. Nine of these credits must be on the upper level. Selected readings on subjects of value to business students are available in most language courses.

OTHER LITERATURE AND LANGUAGE PROGRAMS

Qualified students may develop individual programs through literature and language to meet specific needs and interests. For example, by combining courses in several literatures, it is possible to develop a program with strong emphasis on world or comparative literature. Twenty-four upper-level credits are required in the literature and language program divided among at least two national literatures (English/American, French, German, Spanish). Students are normally expected to show proficiency in at least one foreign language and take appropriate introductory courses. A sample program might include:

552-104 Introduction to Literature
French through 225 level (17 credits or equivalent)
552-105 Introduction to Expository Writing
552-323 Approaches to Literature

554-325 Advanced Written and Oral Expression in French
552-335 Literary Eras (British)
554-335 Literary Eras (French)
554-329 Representative French Authors
554-351 Major French Prose Fiction
552-431 Shakespeare
552-438 Major Spanish Writer: Cervantes (in translation)

Although it is recommended that work for some upper-level courses be done in the original language, these courses are available in translation under the 552 *number*. Similar programs can be created emphasizing any combination of language and literature courses.

RETROACTIVE CREDIT FOR PREVIOUS LANGUAGE STUDY

Students can earn up to 14 additional credits for previous language study if they pass a foreign language course with a grade of "C" of better. In that case credit will be given for UWGB language courses preceding the one in which the student is enrolled, to a maximum of 14 credits. For example, if a student has had four years of high school German and gets a "C" or better in German 225 (Composition and Conversation), he or she will receive 3 credits for the course plus 14 retroactive credits for UWGB language courses preceding 225.

Music

Professors: Robert Bauer, director of bands, flute, music education; **Arthur Cohrs,** keyboard, music theory; **Irwin Sonenfield,** music theory/history, composition.

Associate Professors: Jerome Abraham, music theory, history; **Trinidad Chavez,** director of choral activities, voice, vocal ensembles, conducting, music education; **Lovell Ives,** jazz, arranging, trumpet; **Wayne Jaeckel** (chairperson), woodwinds, jazz, music theory; **Terence O'Grady,** music theory/history.

Assistant Professors: Mark Fonder, assistant director of bands, low brass; **Susan Matthews,** voice; **Margaret Charnon,** piano.

Lecturers: Michael Arendt, French horn; **Robert Johanek,** bassoon; **Julia Steinbach,** piano; **Jean Ranck,** piano, organ; **Michael Nerad,** trumpet; **Ralph Holter,** strings; **John Kolar,** guitar; **Sandra Pahl,** flute; **Nancy Stowe,** voice; **Marlyce Reed,** clarinet.

The four year program in music, which is accredited by the National Association of Schools of Music (NASM), offers specialization in applied performance, and teacher certification in music education. The program emphasizes quality training in vocal and instrumental music along with a broadly based general education and the opportunity for students to structure programs to meet their own needs through various combinations of UWGB's programs of study.

Applied instruction is available in four year sequences in piano, organ, voice, flute, oboe, clarinet, saxophone, bassoon, horn, trumpet and cornet, trombone, baritone, tuba, percussion, guitar, violin, viola, cello and string bass. Junior and senior recitals are required of applied performance majors, while only junior recitals are required of students in teacher certification programs and the music business track. In addition, the music student has many opportunities for solo and group performance both on campus and in the larger community.

Ensembles providing performance opportunities include Marching Band, Concert Band, Wind Ensemble, Concert Choir, Oratorio Chorus, and Jazz Ensembles, as well as woodwind, brass, percussion, string and vocal ensembles, Collegium Musicum, New Music Ensemble, and others. Musical theater is an opportunity for students in music, drama or dance. UWGB students also receive credit for performing with the Green Bay Symphony Orchestra.

Students who wish to specialize in music take a placement examination in basic musicianship covering musical notation, fundamental skills of constructing and aurally identifying scales, intervals, and chords, and keyboard proficiency. Students who do not demonstrate the necessary prerequisite skills are advised to take 705-101, Basic Musicianship, before enrolling in the music theory/literature sequence. Students should give special attention to the core curriculum in *theory/literature* (705-151, 152, 251, 252, 351, 352) and applied music at the 100 and 200 levels to prepare for entrance into many upper-level courses.

Program of Study

There are three basic areas of teacher certification in music: instrumental music, grades kindergarten through 12; choral music, grades kindergarten through 12; and general music, grades kindergarten through 12. In addition, a teaching minor in instrumental music is offered in conjunction with another certification in a major area such as general elementary music, elementary education, and all other secondary certification plans. Students who want to pursue music education should plan their programs carefully to make sure they fulfill all requirements for certification. The *Teacher Certification Handbook* available from UWGB's Education program office is a necessary tool for planning.

All music education students take a basic core of courses from aesthetic awareness and expressive traditions (18-21 credits): music theory/history, and ear training and sight singing (24 credits minimum).

Other course work will depend upon the student's choice of specialization in instrumental music, choral music, general music.

Another career opportunity is the combination music major and business minor program which can lead to careers in music merchandising, publication, manufacturing, management, and other aspects of the music industry. Students in this program combine courses in music and aesthetic awareness with courses in business administration. Such courses include accounting, management, finance, advertising, and some practicum courses.

In addition, students with an interest in musical theater may combine course work in acting, dance and movement in their programs of study.

Music students choose courses from among UWGB's interdisciplinary programs to support their disciplinary study in music. Most students select the program in Communication and the Arts, which provides courses in aesthetic awareness and expressive traditions. Since 1971, nearly 100 percent of UWGB's graduates in music have been placed in public education, music business, or graduate study. The music disciplinary program has the best placement record in the University.

SAMPLE PROGRAM

Following is an outline of a typical program plan for students pursuing an emphasis in applied performance in music. Sample programs for music education and music business emphases are available from program advisers. All students should plan their programs with the advice of music faculty.

Aesthetic Awareness and Expressive Traditions (concentration in Communication and the Arts)

Tool courses (6 credits minimum):
242-121 Masters and Masterpieces in Music

242-141 Introduction to the Performing Arts: Theater and Music
242-142 Performing Arts Perspectives: Experience and Evaluation
242-221 Popular Music Since 1955
242-261 Foundations of Aesthetic Experience
(Course work equivalent to two years' college level study in French or German may be used to meet part of the tool subject requirement.)

Advanced courses (12 credits minimum):
242-310 Criticism of the Performing Arts
242-329 Cross Cultural Communication II: Jazz History
242-329 Cross Cultural Communication II: American Show Music
242-329 Cross Cultural Communication II: Ethnomusicology
242-361 Increasing Aesthetic Awareness
242-370 Modern American Culture
242-372 The Phenomenon of Style: Traditional Styles
242-373 The Phenomenon of Style: Avant-garde Styles

Music Theory/History (22 credits minimum)
705-151 Materials and Values in Music I
705-152 Materials and Values in Music II
705-251 Literature and Styles in Music I
705-252 Literature and Styles in Music II
705-351 Literature and Styles in Music III
705-352 Literature and Styles in Music IV

Ear Training and Sight Singing (2 credits minimum concurrently with 705-151, 705-152)
705-115 Ear Training and Sight Singing
705-116 Ear Training and Sight Singing

Major Applied Instrument (20 credits minimum; 4 years)
2 credits per semester in first and second year
3 credits per semester in third year; half recital required
3 credits per semester in fourth year; full individual recital required.

Minor Applied Instrument
If major instrument is percussion, wind, strings, guitar, or voice, elementary proficiency in piano (707-042) is required.

Conducting (3 credits minimum)
705-331 Choral Conducting
705-332 Instrumental Conducting

Music Elective (6 credits minimum)
705-316 Instrumental Arranging
705-411 Composition
705-412 Composition
705-417 Jazz Arranging
242-498 Directed Study:
Counterpoint
Pedagogy
Performance Practice of Major Applied Medium
History of Major Applied Medium

Ensemble Performance (8 credits minimum; 8 semesters) Participation in at least one major ensemble each of first six semesters of applied study. Participation in minor ensembles highly recommended with minimum requirements of two semesters during 400 level applied study (see list under second item).

Major ensemble performance (6 credits minimum required; 6 semesters):
707-151, 351 Orchestra
707-162, 362 Oratorio Choir
707-241, 441 Concert Band, Wind Ensemble
707-242, 442 Marching Band
707-261, 461 Concert Choir

Minor ensemble performance (2 credits minimum recommended):
707-143, 343 Jazz Ensemble
707-144, 344 Woodwind Ensemble
707-145, 345 Brass Ensemble
707-146, 346 Percussion Ensemble
707-148, 348 Collegium Musicum
707-150, 350 New Music Ensemble
707-153, 353 String Ensemble
707-163, 363 Vocal Ensemble
707-164, 364 University Singers

Electives in Music (705) and/or Applied Music (707) (7 to 10 credits)

Students following the above pattern of enrollment will earn about 70-73 credits in music and 18 credits in broad-field course work in aesthetic and expressive traditions. In addition, all students complete all-University requirements.

This totals 114-117 credits of minimum expectations, which means that students will have at least an additional 7-10 credits in elective courses to complete the minimum of 124 credits for graduation.

Philosophy

Professor: Frederick Kersten, phenomenology, ontology, value theory, aesthetics, foundational problems in the social and natural sciences, the philosophy of Husserl.

Associate Professors: Orville Clark, aesthetics, philosophy of the arts, German 19th century philosophy, 20th century thought in relation to ecological crises, Native American culture, Indian view of nature; **Gary Greif,** foundations of value formations, general theory of culture, philosophical foundations of psychology; **Gilbert Null** (chairperson), history of western philosophy, logic, ontology, epistemology, Husserlian phenomenology, philosophy of science and mathematics.

The study of philosophy increases awareness and appreciation of the fundamental intellectual, aesthetic, and ethical values of the world in which we live. Students selecting a disciplinary program in philosophy have an opportunity to examine the basic ideas of the major thinkers in the history of Western thought from the early Greeks to the present, and are able to reflect on some of the most critical programs confronting society and culture.

They also may concentrate on particular areas of study within the discipline such as logic, ethics, metaphysics, aesthetics, philosophy of science, political and social philosophy, philosophy and literature, philosophical problems in psychology, phenomenology, and existentialism.

Courses in philosophy deal with a wide range of human problems and issues and may be combined with other disciplines and professional programs, such as mathematics, art, literature, history, psychology, social sciences, education, and others, in order to broaden educational and professional opportunities.

Program of Study

Several of the concentrations provide appropriate interdisciplinary support to a philosophy program. Students choose the concentration that permits them most closely to relate their studies to their own particular goals.

Philosophy is excellent preparation for many professional fields, including teaching, law, fine arts, physical and social sciences, diplomatic service, and the field of publications.

These courses are required for a philosophy disciplinary program:
736-302 History of Philosophy I
736-314 History of Philosophy II
736-324 Contemporary Philosophical Movements
736-404 Major Philosophical Figures

Students should take at least one of these courses:
736-405 Major Philosophical Issues
736-406 Philosophical Problems in the Sciences

Other courses are chosen with the help of the adviser.

Theatre

Professors: Jack Frisch, directing, criticism; **Richard Sherrell,** theatre history, directing.

Associate Professor: Patricia Ridge (chairperson), acting, directing.

Assistant Professor: Raymond Gabica, costume design.

The theatre discipline aims to prepare students in the whole area of theatre arts, to develop critical and philosophical facilities, and to expand their capacity for artistic expression.

Areas of emphasis include:
Performance (acting and directing)
Theatre history, literature, and criticism
Technical theatre (design; stagecraft)
Dance

The program provides a rigorous artistic/academic environment for the study and production of past and present forms of theatre. By including plays and styles of past theatrical experiments one can keep in touch with the accumulated culture of the past and learn from this experience. The program also provides an environment that encourages experimentation with new theatre forms. This balance is aimed at providing for theatre a living future as well as to celebrate some of the greatness of the past.

UWGB's theatre program generally schedules 10 shows per year—five theatre faculty productions and five student theatre productions. Two well-equipped facilities are available. They are the University Theatre and the Experimental Theatre. Casting is open, and previous experience is not required in order to be considered for roles. Many opportunities for backstage work are available. Credit can be earned for participating in productions in any capacity. The best way to learn theatre is to do theatre, and the long hours that go into that creative process will enrich a student's understanding of theatre.

Here are some of the things students can expect from the theatre program at UWGB:

—a place to create theatre and an opportunity for self-expression through the theatre arts;

—a chance to work under varying degrees of guidance, from rigorous faculty direction and supervision to almost complete independence;

—involvement with the history and literature of the theatre and an opportunity to appreciate them through various research activities;

—preparation for teaching theatre arts;

—advance acquaintance with the discipline of a professional life in the performing arts;

—a production program which seeks to promote theatre as a significant element in enriching the daily lives of persons in the community.

—involvement in a discipline that demands excellence and quality in academic and artistic pursuits.

Students are encouraged to participate in community theatre productions, summer stock, and other theatre activities outside the University. Faculty members recognize that important learning experiences can and do occur in other theatre environments. It is possible to earn degree credit for off campus theatre activities, as long as a faculty member is willing to serve as an adviser.

Program of Study

Theatre students must complete a minimum of 28 credits in lower division course work and 30 credits in upper division course work from this list:

Performance
*709-131, *132 Beginning Acting I, II
709-231, 232 Intermediate Acting I, II
709-331, 332 Advanced Acting I, II
*709-351, *352 Directing I, II
709-235, 335 Theatre Performance in the Community: Acting or Directing

Design/Technical Theatre
*709-221, *222 Theatre Production Techniques I, II
*709-321 Scene Design
*709-322 Costume Design
*709-323 Lighting Design
709-325 Three-Dimensional Stage Make-Up
709-423 Advanced Stage Lighting
709-424 Advanced Technical Practices
709-235, 335 Theatre Performance in the Community: Technical Theatre

Theatre History, Literature, Criticism
*709-309, *310 Theatre History I, II

Dramatic literature courses in other disciplines by arrangement with adviser.

Dance and Movement
4 credits minimum:
709-141 Movement for Theatre
709-128 Elementary Jazz Dance
709-137 Elementary Ballet
709-145 Elementary Modern Dance
709-228 Intermediate Jazz Dance
709-245 Intermediate Modern Dance
709-328 Advanced Jazz Dance
709-345 Advanced Modern Dance
709-235, 335 Theatre Performance in the Community: Dance

General
*242-241, *242 Introduction to Theatre I, II
709-233, 234 Voice and Speech for the Actor I, II
709-403, 404 Seminar in Theatre Arts
709-405 Theatre Management

*Required course for students emphasizing theatre.

Although there are several interdisciplinary programs or concentrations with which a program in theatre might be combined, most students take supporting course work in aesthetics and expressive traditions through the concentration in Communication and the Arts.

A minimum of 9 credits of freshman-sophomore level tool courses are required in these areas. From those 9 credits, 3 credits of 242-261 Foundations of Aesthetic Experience is required of all students emphasizing theatre. The additional 6 credits must reflect course work outside of the theatre discipline.

Theatre students must complete a minimum of 9 credits in course work from this list:
242-121 Masters and Masterpieces of Music
242-160 Introduction to Language
242-200, 201 History of Visual Arts I, II
242-210 Film and Society
242-241, 242 Introduction to the Performing Arts (will not apply as tool course credit for theatre students)
242-243, 244 Native American Cultures: Film and Performance I, II
242-261 Foundations of Aesthetic Experience
242-272 Women in the Visual and Performing Arts

Upper Level Courses
(12 credits minimum)
242-243,244 Native American Cultures: Film and Performance I, II
242-310 Criticism of the Performing Arts
242-329 Cultural Cross-Communication II: American Show Music or Jazz History
242-361 Increasing Aesthetic Awareness
242-364 Aesthetic Awareness Through Artistic Creation
242-370 Modern American Culture

242-372 Phenomenon of Style: Traditional
242-373 Phenomenon of Style: Avant-garde
242-380 The Arts: London
242-462 Senior Seminar in Aesthetic Awareness

Some students in theatre emphasize course work in communications as well as aesthetic and expressive traditions. Students in dance often select more course work in musicology and music history, while technical theatre students may choose courses in art history and environmental design.

Natural Sciences and Mathematics

Human Biology

(Majors in Human Adaptability and Nutritional Sciences

Professors: Harry G. Guilford (chairperson), vertebrate anatomy, parasitology; **William C. Kaufman,** human physiology, general physiology, temperature and circulatory physiology.

Associate Professors: Dawson C. Deese, food science, physiological aspects of nutrition, biochemistry; **Charles A. Ihrke,** genetics, plant breeding and agricultural genetics, cellular biology; **Elaine N. McIntosh,** community nutrition, dietetics, nutrition education; **Dorothea B. Sager,** reproductive physiology, developmental biology; **Richard J. Stevens,** neurophysiology, human physiology.

Assistant Professors: Joseph A. Mannino, physical anthropology, ethology; **Donna Z. Randall,** general chemistry, chemistry for nursing or nonmajors; **Richard Washburn,** exercise physiology, kinesiology.

Human Biology provides a curriculum with a unique perspective emphasizing the study of the human as a biological organism in a cultural/social/physical environment. The curriculum focuses on genetics, evolution, and variability of the human species, on structure and function, reproduction and development of the human organism, on nutrition and health, and on the ability of humans to adapt physiologically and behaviorally to environmental stresses.

The curriculum provides future citizens and policymakers with a knowledge of human biology and a preparation for decision making that applies biological knowledge to biosocial issues. It offers professional preparation for careers such as dietetics, food sciences, secondary school teaching, and fitness preprofessional preparation for careers in medicine, dentistry, public health, genetic counseling, and health service administration; and it offers a foundation for advanced study in the biological sciences.

Programs of Study

Human Biology offers two interdisciplinary majors, Human Adaptability and Nutritional Sciences.

1. A student may select an interdisciplinary major of 30 upper-level credits in Human Adaptability or Nutritional Science,
   OR
2. A student may select a comajor combining a core of no less than 12 upper-level credits in either Human Adaptability or Nutritional Sciences with a disciplinary emphasis (24 upper-level credits) in such areas as biology, chemistry, psychology or anthropology.

Each student in Human Biology prepares for the interdisciplinary major or the disciplinary comajor by completing introductory courses in basic biology as well as minimal tool subjects. As shown in the accompanying diagram, each student must take a core consisting of Principles of Biology I and Principles of Biology II or principles of Biology I and Anatomy and Physiology I and II, and one upper level course in three of the following four areas: evolution, genetics, nutrition, human structure/function. Minimum tool subjects required of each student are Statistics, Introduction to Expository Writing, and a course in either oral communication, literature, or a foreign language. The remainder of the program is defined by the major selected by the student (Human Adaptability or Nutritional Sciences) and by the tracks selected within that major.

For students who decide to major in Human Adaptability, there are currently two tracks, Health Science and General Human Adaptation. If students choose to major in Nutritional Sciences, the tracks are Community Nutrition and Food Science.

Students may elect to combine either Human Adaptability or Nutritional Sciences with a disciplinary program (comajor) or with an interdisciplinary program (minor). Human Biology may also be combined with a professional program in Public and Environmental Administration, Business Administration, or Education.

Human Adaptability

Since humans' success as a species has resulted from a variety of physiological and behavioral adaptive capabilities, majors in Human Adaptability study the biological, physiological, anthropological, and behavioral bases of the human organism's ability to adapt to and survive the environment. The Human Adaptability major, therefore, gives special emphasis to an understanding of normal growth and development, structure and function, and behavior of the human as it exists today and in relation to the human's biological ancestry. It also focuses on an understanding of the adaptive responses exhibited by humans to stresses such as disease, climate, exertion, toxic substances, and to psychological pressures. Study of the structure, development, physiology and behavior in various animals is included to aid in the understanding of the human organism.

Human Adaptability is an appropriate major for students interested in the health sciences, medicine, dentistry, public health, pharmacology, physiology, and graduate education in biology. It is also a sound comajor for students interested in health services administration, anthropology, psychology or chemistry.

With the help of an adviser, students majoring in Human Adaptability may select from two tracks, Health Science or General Human Adaptation.

HEALTH SCIENCE TRACK

The Health Science track emphasizes the fundamental physiological, structural, and genetic bases for the functioning of the human organism and related psychological factors. This track is appropriate for students interested in preparing for specific health professions such as medicine, dentistry, environmental health, toxicology, or for graduate study in such fields as physiology, pharmacology, and public health.

Sample Program

Tool subjects:
204-202 Principles of Biology I
204-203 Principles of Biology II
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
225-302 Organic Chemistry I
225-303 Organic Chemistry II
*225-311 Analytical Chemistry
226-103 Principles of Physics I
226-104 Principles of Physics II
552-105 Introduction to Expository Writing
600-104 Elementary Functions: Algebra and Trigonometry
600-202 Calculus and Analytic Geometry
600-260 Introductory Statistics
One course in speech or literature or foreign language.

Core:
Genetics
204-303 Genetics
Evolution
478-342 Human Evolution
OR
478-312 Evolutionary Processes
Structure/Function
478-402 Human Physiology
Nutrition
Optional

Focus:
156-303 Cultural Ecology
204-302 Principles of Microbiology
204-340 Comparative Anatomy of Vertebrates
204-347 Developmental Biology
478-318 Mammalian Reproduction
478-364 Human Variability
478-413 Neurophysiology
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-433 Human Development III: Adulthood and Aging

GENERAL HUMAN ADAPTATION TRACK

The General Human Adaptation track emphasizes a breadth of understanding of the human organism. Courses in human genetics, reproduction and development, nutrition and evolution explore the biological heritage of humans while courses in human physiology, behavior and human variability explore the interrelationship of humans with their physical and cultural environments. The track is appropriate for application in secondary education, and in health-related fields such as administration of health services, public health, and fitness. It also is appropriate for students with general interests in human biology. Three sample programs from this track follow; the first focuses on evolution, the second on genetics and reproduction, and the third on fitness.

Sample Program
Evolution Focus

Tool subjects:
204-202 Principles of Biology I
204-203 Principles of Biology II
*225-111 Principles of Chemistry I
*225-112 Principles of Chemistry II
552-105 Introduction to Expository Writing
600-101 Intermediate Algebra
600-260 Statistics
*754-103 Fundamentals of Physics I
*754-104 Fundamentals of Physics II
A course in speech or literature or foreign language.

Core:
Genetics
204-303 Genetics
OR
478-310 Human Genetics
Evolution
478-342 Human Evolution
Structure/Function
478-320 Human Growth, Development and Senescence
Nutrition
479-302 Nutrition and Culture

Focus:
156-303 Cultural Ecology
204-340 Comparative Anatomy
204-345 Animal Behavior
478-312 Evolutionary Processes
478-364 Human Variability
478-402 Human Physiology
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence

*Recommended

Sample Program
Genetics and Reproduction Focus

Tool subjects:
204-202 Principles of Biology I
204-203 Principles of Biology II
*225-111 Principles of Chemistry I
*225-112 Principles of Chemistry II
552-105 Introduction to Expository Writing
600-101 Intermediate Algebra
600-260 Introductory Statistics
*754-103 Fundamentals of Physics I
*754-104 Fundamentals of Physics II
One course in speech or literature or foreign language.

Core:
Genetics
204-303 Genetics
204-304 Genetics Laboratory
Evolution
478-312 Evolutionary Processes
Structure/Function
478-318 Mammalian Reproduction
Nutrition
Optional

Focus:
204-302 Principles of Microbiology
204-347 Developmental Biology
478-310 Human Genetics
478-321 Introduction to Population Dynamics
478-331 Human Development I: Infancy and Early Childhood
478-364 Human Variability
478-402 Human Physiology
478-412 Principles of Parasitology

Sample Program
Fitness Focus

Tool subjects:
204-202 Principles of Biology I
*225-111 Principles of Chemistry I
*225-112 Principles of Chemistry II
478-203 Anatomy and Physiology I
478-204 Anatomy and Physiology II
552-105 Introduction to Expository Writing
600-101 Intermediate Algebra
600-260 Introductory Statistics
*754-103 Fundamentals of Physics I
*754-104 Fundamentals of Physics II
One course in speech or literature or foreign language.

Core:
Genetics
478-310 Human Genetics
Evolution
478-342 Human Evolution
Structure/Function
478-320 Human Growth, Development and Senescence

Nutrition
479-300 Nutritional Significance of Food

Focus:
478-350 Introduction to Exercise Physiology
478-351 Kinesiology
478-333 Introduction to Sports Physiology
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
827-320 Practicum in Recreation and Leisure
827-331 Program Planning in Therapeutic Recreation

Nutritional Science

Nutritional Science majors study human nutritional needs, nutrient functions, food quality, food supply, food preservation and food preparation. Nutritional Science is an interdisciplinary problem-centered study of the factors which affect the nutritional quality of life as related to the quality, quantity, availability and utilization of food.

Students in Nutritional Science may select a track in either Community Nutrition or Food Science. The track in Community Nutrition (which may include dietetics) provides appropriate training in nutrition and related natural and social sciences and in communication skills preparing students for employment as nutritionists or dietitians in hospitals or other health agencies at local, state, federal, or international levels. Food Science emphasizes the fundamentals of food composition and analysis, food resources, utilization, distribution, and food safety. It prepares students to work as technicians or scientists in areas of food processing or research. When combined with professional courses in education, nutritional science is an appropriate major for students who are preparing to teach in primary or secondary schools.

A Nutritional Science major may also prepare students for industrial careers in consumer relations, food evaluation, and in product promotion when the nutrition major is combined with appropriate courses in communications and social sciences. This emphasis can fulfill requirements for entrance to graduate programs and also provide a valuable background for professional schools of medicine, dentistry, and pharmacy.

Nutritional Sciences can be combined with other academic programs to meet students' individual career goals. The relationship between nutritional science, health, and environmental studies becomes a viable reality by combining the nutritional major with the interconcentration program in Environmental Health Sciences. Other appropriate combinations include chemistry, biology, business management, or communications, including art.

The Nutritional Science major must take appropriate courses to develop skills in gathering and interpreting data and in effective communication. The requirement includes a course in statistics, and one or more courses in communication processes. Students who wish to attend graduate school are advised to take calculus and a foreign language.

Sample programs for community nutrition and food science tracks are given below as guidelines. These programs are only examples; each student should develop an individualized program with the help of faculty advisers. All-University requirements, electives, and special emphases such as education or communication are not shown in these examples.

COMMUNITY NUTRITION TRACK

Sample Program

Tool subjects:
204-202 Principles of Biology I
204-203 Principles of Biology II
225-108 General Chemistry
225-300 Bio-Organic Chemistry
225-301 Bio-Organic Chemistry Laboratory

246-133 Principles of Public Address
OR
892-255 Interviewing Skills

552-105 Introduction to Expository Writing
600-101 Intermediate Algebra
600-260 Introductory Statistics
820-102 Introduction to Psychology
900-202 Introduction to Sociology

Core:
Genetics
204-303 Genetics
Evolution
478-342 Human Evolution
Nutrition
479-300 Nutritional Significance of Food
Structure/Function
Optional

Focus:
204-302 Microbiology
225-330 Biochemistry
225-331 Biochemistry Laboratory
479-302 Nutrition and Culture
479-421 Community Nutrition I
479-422 Community Nutrition II
479-485 Advanced Human Nutrition
*479-488 Nutrition in Disease
*575-382 Principles of Management
*820-338 Psychology of Learning
900-302 Social Stratification

Sample Program
Community Nutrition (Dietetics)

Tool subjects:
204-202 Principles of Biology I

225-108 General Chemistry
OR
225-111 Principles of Chemistry I

225-112 Principles of Chemistry II
225-300 Bio-Organic Chemistry

225-301 Bio-Organic Chemistry Laboratory
OR
225-302 Organic Chemistry I

225-304 Organic Chemistry Laboratory I
225-303 Organic Chemistry II
225-305 Organic Chemistry Laboratory II

246-133 Principles of Public Address
OR
892-255 Interviewing Skills

298-202 Macroeconomic Analysis
478-203 Anatomy and Physiology I
478-204 Anatomy and Physiology II
479-212 Food Preparation
552-105 Introduction to Expository Writing
600-101 Intermediate Algebra
600-260 Statistics
820-102 Introduction to Psychology
900-202 Introduction to Sociology

Core:
Genetics
204-303 Genetics
Evolution
478-342 Human Evolution
Nutrition
479-300 Nutritional Significance of Food
Structure/Function
Optional

*Recommended

Focus:
204-302 Microbiology
225-330 Biochemistry
225-331 Biochemistry Laboratory
479-312 Quantity Food Production and Service
479-485 Advanced Human Nutrition
479-488 Nutrition in Disease
479-421 Community Nutrition I
479-422 Community Nutrition II
820-338 Psychology of Learning
875-383 Principles of Management

FOOD SCIENCE TRACK

Sample Program

Tool subjects:
204-202 Principles of Biology I
204-203 Principles of Biology II
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
*225-113 Principles of Chemistry III
225-302 Organic Chemistry I
225-304 Organic Chemistry Laboratory I
225-303 Organic Chemistry II
225-305 Organic Chemistry Laboratory II
246-133 Principles of Public Address
552-105 Introduction to Expository Writing
600-104 Elementary Functions: Algebra and Trigonometry
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II

Core:
Genetics
204-303 Genetics
Structure/Function
478-402 Human Physiology
Nutrition
479-300 Nutritional Significance of Food
Evolution
Optional

Focus:
204-302 Principles of Microbiology
225-330 Biochemistry
225-331 Biochemistry Laboratory
225-311 Analytical Chemistry
*225-413 Instrumental Analysis
479-302 Nutrition and Culture
479-404 Food Science
479-409 Analysis of Food and Food Products
479-485 Advanced Human Nutrition

*Recommended

Human Biology and Other Programs

Human Biology and a Disciplinary Comajor

Students who select a disciplinary comajor with Human Biology complete 36 credits of course work at the 300/400 level. Twelve credits are selected from Human Biology and 24 credits are selected from the specific discipline.

The comajor provides a depth of knowledge in a disciplinary field which complements the interdisciplinary focus of human biology. Human biology majors often select biology, chemistry or psychology comajors, but have the option of selecting mathematics, economics, anthropology, geography, sociology, earth science, or other appropriate disciplines that integrate with human biology. Faculty advisers help students select courses to meet their objectives.

Human Biology and a Minor in Business Administration

Students in Human Biology may pursue a minor in Business Administration in order to gain a basic understanding of administrative processes. Knowledge of Nutritional Science or Human Adaptability combined with the skills of Business Administration allows students to apply the specialized knowledge of their concentration in a business organization, for example, the food industry, food service industry, or an industrial laboratory. For detailed information concerning this minor, see the description of the Business Administration major.

Human Biology and Teacher Certification

The major in Human Biology combined with a comajor such as biology or chemistry fulfills requirements for teacher certification as approved by the Wisconsin Department of Public Instruction, through the professional program in Education. The programs in Education and teacher certification are explained elsewhere in this book and in an available brochure.

Human Biology and Public and Environmental Administration

Students also may combine Human Biology with the professional program in Public and Environmental Administration. Students with majors in Human Biology and Public and Environmental Administration are prepared for administrative positions in the Health Sciences and Social Services. Programs in Public and Environmental Administration are explained more fully in another chapter.

Environmental Health Sciences

With urbanization and industrialization there has been a substantial increase in a variety of physical, chemical and biological factors which are recognized as health hazards. Examples are noise, air and water pollutants, increased use of food additives and increased sources of food contamination. One of today's pressing challenges is to find ways to cope effectively with these problems and to minimize the deleterious effects of these environmental hazards on human health.

The Environmental Science program provides training to prepare students for entry-level positions in the environmental health field. This field has need for people with diverse backgrounds in the basic sciences. All students in this program, however, must take courses in the environmental and health sciences, management, and problem solving in addition to foundation courses in several natural science disciplines and mathematics. Students whose primary interest is in analyzing and monitoring environment-related health factors should plan their program within the Science and Environmental Change concentration. The program in Human Biology should be chosen by students whose primary interest is in the effects of environmental factors on the health of human individuals and populations, including the role of these factors in nutrition, food safety, and human health.

Science and Environmental Change

Professors: H. J. Day, hydrology, water resource management; **Hallett J. Harris,** animal and wetland ecology; **David Jowett,** biometrics, biomathematics, ecosystems modeling; **Thomas H. McIntosh,** soils, agriculture, remote sensing, biogeochemistry; **Joseph M. Moran** (chairperson), meteorology, air pollution; **V. M. G. Nair,** plant and forest pathology, mycology; **John F. Reed** (emeritus), botany; **Paul E. Sager,** limnology, aquatic biology; **Leander J. Schwartz,** microbiology, plant physiology, resource recovery; **Nancy J. Sell,** industrial resource recovery; **Keith L. White,** ecology and resource management.

Associate Professors: Steven I. Dutch, structural geology, mineral resources; **Fritz A. Fischbach,** environmental health, aeroallergens, biophysics; **Dennis M. Girard,** statistics, mathematics; **Alice I. Goldsby,** microbiology; **Robert W. Lanz,** mechanical engineering, waste heat recovery methods, conventional and alternate energy technologies; **Allison P. Loomer** (emeritus), mathematics; **Anjani K. Mehra,** solar and alternate energy technologies; **Bruce Mielke,** mathematics and computer science; **Michael D. Morgan,** botany, ecology; **Jack C. Norman,** radiochemistry, alternate energy sources; **Nikitas L. Petrakopoulos,** applied mathematics, theoretical physics; **Charles R. Rhyner,** solid waste management, microcomputer based instrumentation; **Ronald H. Starkey,** organic chemistry and air chemistry; **Ronald D. Stieglitz,** sedimentary geology, land use and ground water resources; **Thomas E. Van Koevering,** secondary school science education, chemistry; **Robert B. Wenger,** solid waste management and mathematical optimization; **James H. Wiersma,** water chemistry, analytical chemistry.

Adjunct Associate Professor: Lynn L. Frederick, water resources.

Assistant Professors: Richard Bleck-smith, mathematics; **Daniel S. Kalman,** mathematics, mathematics education, and computer science; **William A. Shay,** mathematics and computer science; **Richard B. Stiehl,** vertebrate zoology, ornithology, mammalogy.

Lecturers: Lee C. Hansen, horticulture, **Bruce E. O'Neill,** mathematics; **Kathleen C. Stiehl,** mathematics and computer science.

Science and Environmental Change (SEC) is a program of study in the natural sciences. A student who majors in SEC has an opportunity to gain a sound understanding of the scientific principles that govern natural processes.

Through formal course work, independent study, and research activities, the SEC major develops a realistic awareness of the interdependency of the various components of the environment and of the nature of environmental change.

The SEC program is structured so that students acquire a broad base of knowledge in the biological, physical, and mathematical sciences. This basic grounding in science coupled with selected junior-senior level disciplinary and interdisciplinary courses permits students to develop a program of study in either of two ways:

1. An academic program primarily interdisciplinary (drawing on resources from several subjects or disciplines,

OR

2. A program which emphasizes a particular discipline (biology, chemistry, or others), but also includes an important interdisciplinary component.

Programs of Study

REQUIREMENTS

Each SEC major completes introductory courses in science and mathematics along with courses in ecology and environmental science. Students also fulfill all-University requirements in the humanities, social sciences, natural sciences, and senior seminar.

As a base for the SEC major, students need to acquire certain analytical skills plus a broad understanding of the physical and biological sciences. This competency is gained through 37 credits of course work in introductory science and mathematics; biology (8 credits), chemistry (8 credits), earth science (4 credits), mathematics (9 credits at sophomore level or above), and physics (8 credits).

The ecology and environmental science aspect of the program helps to develop awareness and understanding of the interrelatedness of the components of the environment and their sensitivity to disturbance. Course work in ecology and environmental science with a focus on management, modeling, and problem solving is required for a 12 credit total at the junior-senior level.

DISCIPLINARY EMPHASIS

Students selecting a disciplinary emphasis complete 36 credits of course work at the junior-senior level, including 24 credits in a specific discipline along with the 12 credit course requirement in ecology and environmental science. Normally, SEC majors select biology, chemistry, earth science, mathematics or physics, but in some instances communication processes, economics, geography or another disciplinary area may be appropriate. Faculty advisers from each discipline are available to help students tailor course selections to meet their objectives. Disciplinary programs are described elsewhere in this catalog. Individual brochures describing disciplinary programs of study are available in the SEC advising office.

INTERDISCIPLINARY EMPHASIS

An interdisciplinary program of study requires 30 credits of course work at the junior-senior level: 12 credits in ecology and environmental science plus 18 credits related to a specific problem area. Interdisciplinary programs include:

—Aquatic Studies
—Biological Resources Management
—Energy Science and Technology
—Science Communications
—Waste Management/Resource Recovery
—Business and Applied Science

Also, students who have interests in other areas of the environmental sciences can design, in consultation with an SEC adviser, programs of study based upon those interests. All study programs have in common a fundamental grounding in the natural sciences and yet, each is designed to fulfill specific concerns that cross traditional disciplinary boundaries. Descriptive interdisciplinary programs are available in the SEC advising office.

PREPROFESSIONAL AND PROFESSIONAL PROGRAMS

In addition to disciplinary and interdisciplinary programs of study, SEC provides preprofessional training in agriculture, dentistry, engineering, medicine, pharmacy, and veterinary studies. Further, SEC majors may fulfill requirements for teacher certification in several areas including biology, chemistry, computer science, earth science, mathematics, physics, and broad-field science. SEC majors may also take course work in other professional areas such as Business Administration, Public and Environmental Administration, and Recreation Resources.

Students planning to enter graduate or professional programs in engineering, medicine or the natural sciences are strongly advised to take calculus and calculus-based physics. Entrance into and success in these postgraduate programs will depend in part on preparation in mathematics and physics.

Student Advising

SEC has a formal advising program to guide students in designing their academic programs and in making career choices. Faculty advisers represent the wide range of scientific and mathematical specialties housed within SEC and they are present in the concentration advising office on a regularly scheduled basis.

SAMPLE STUDY PLANS

Following are typical study plans for students who select areas of interdisciplinary emphasis. All-University requirements and electives are not included. Furthermore, only the minimum 30 credit junior-senior interdisciplinary program is illustrated. Students should seek the advice of faculty advisers in developing programs to meet individual interests and needs.

Aquatic Studies

Aquatic Studies provides students with the opportunity to study the natural functioning of aquatic systems (lakes, rivers, groundwater) along with the impact of human activities upon these systems. Scientific understanding and management of an aquatic system requires knowledge of the effects of physical and chemical changes on aquatic communities. These skills are developed through interdisciplinary courses in aquatic ecology, water chemistry, and hydrology. Emphasis in any one of these three areas in the aquatic studies program is possible by completing other related courses. Students completing the aquatic studies program find employment as specialists in industry and municipalities concerned with water treatment and analysis, with environmental consulting firms and with state and federal agencies responsible for managing and protecting water resources. The program serves as preparation for graduate study.

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
600-202 Calculus and Analytical Geometry I
600-255 FORTRAN: A Scientific Programming Language

Sophomore Year
225-311 Analytical Chemistry
296-202 Earth's Physical Environment
600-260 Elementary Statistics
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II

Junior Year
204-302 Microbiology
204-341 Ichthyology
225-300, 301 Bio-Organic Chemistry with Laboratory
600-364 Biometrics
862-322 Ecosystems Analysis I
862-323 Ecosystems Analysis II
862-382 River Basins in Transition

Senior Year
225-413 Instrumental Analysis
862-330 Qualitative Hydrology
862-434 Water Chemistry
862-460 Resource Management Strategy
862-403 Limnology

Science Communications
(With an emphasis in Aquatic Studies)

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
246-133 Fundamentals of Public Address
246-102 Introduction to Mass Communications
296-202 Earth's Physical Environment

552-105 Introduction to Expository Writing
OR
246-203 Newswriting Laboratory

Sophomore Year
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
242-231 Introduction to Graphic Communication
246-305 Elements of Electronic Media
600-256 Introduction to Computer Science I
600-257 Introduction to Computer Science II

Junior Year
242-331 Graphic Communication Studio I
246-390 Scientific and Technical Communication
600-260 Statistics
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II
862-302 Principles of Ecology
862-330 Qualitative Hydrology

Senior Year
204-341 Ichthyology
246-308 Cable and Satellite Telecommunication
246-380 Communication Law
862-382 River Basins in Transition
862-402 General Limnology
862-460 Resource Management Strategy

Biological Resources Management

This interdisciplinary program provides training in ecological aspects of biological resources management and the role of economic and political institutions. Using the ecosystem approach, students become familiar with the problems and potential of biological resources protection and use (for example, wetlands, wildlife). Graduates may be employed by state and federal biological resource agencies, or land use planning agencies, or by private environmental groups. Graduates acquire an excellent background for advanced study of biological resources, regional planning, or biological resources administration.

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
296-202 Earth's Physical Environment

Sophomore Year
204-320 Field Botany
350-301 Environmental Politics and Administration
600-260 Elementary Statistics
600-364 Biometrics
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II

Junior Year
204-342 Ornithology
600-255 FORTRAN: A Scientific Programming Language
834-340 Economics of Land Use
862-322 Ecosystems Analysis I
862-323 Ecosystems Analysis II
862-307 Ecology of Fire

Senior Year
834-356 Environmental Impact Analysis
862-466 Vegetation Management
862-366 Integrated Pest Management

Energy Science and Technology

Energy Science and Technology examines energy supply and demand through course work in conventional energy systems, alternate energy systems, and energy conservation. The goal is to develop an understanding of the scientific principles underlying energy production and utilization. Opportunities exist for independent study in solar energy, wind energy, energy conservation, biofuels, and energy education. Resources are drawn from various disciplines including physics, chemistry, earth science and biology. There is a special emphasis on the economic and management aspects of energy problems and students should plan to take courses in these areas in addition to the SEC required courses. Employment opportunities for students completing this track include design and construction of alternate energy systems or energy education for private industry or government agencies.

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
225-113 Principles of Chemistry III
600-202 Calculus and Analytical Geometry I
600-203 Calculus and Analytical Geometry II

Sophomore Year
296-202 Earth's Physical Environment
600-255 FORTRAN: A Scientific Programming Language
754-201 Principles of Physics I
754-202 Principles of Physics II
862-302 Principles of Ecology

Junior Year
226-320, 322 Thermodynamics and Kinetics with Laboratory
226-417, 418 Nuclear Physics and Radiochemistry with Laboratory
298-305 Natural Resource Economic Policy
862-415 Solar and Alternate Energy Systems

Senior Year
754-405 Electronics for Scientists
862-327 Urban Technological Design
862-414 Conventional Energy Technology
862-460 Resource Management Strategy
862-345 Geology of Energy Resources

Waste Management/Resource Recovery

Waste Management/Resource Recovery is designed for students interested in developing scientific and management skills necessary to deal with the problems of solid and liquid wastes. This program considers methods of recovering useful materials or fuels from the waste stream generated by society and techniques of disposing the remainder in an environmentally acceptable and economically efficient manner. In pursuing this area of study, students likely will support their interdisciplinary courses with advanced courses in biology, chemistry, earth science, mathematics and resource management. The major may be strengthened by courses in Public and Environmental Administration or Business Administration. For students completing a program of study in this area, potential employment opportunities exist in the public sector in agencies concerned with managing and regulating waste disposal and resource recovery practices, and in the private sector in businesses and industries where waste must be dealt with in an acceptable manner. Opportunities are also available for further study at the graduate level.

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
205-111 Principles of Chemistry I
205-112 Principles of Chemistry II
600-202 Calculus and Analytical Geometry I
600-203 Calculus and Analytical Geometry II

Sophomore Year
225-311 Analytical Chemistry
296-202 Earth's Physical Environment
600-255 FORTRAN: A Scientific Programming Language
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II

Junior Year
862-302 Principles of Ecology
862-320, 321 The Soil Environment with Laboratory
862-334 Solid Waste Management
862-342 Environmental Geology

Senior Year
862-318, 319 Industrial Pollution Control Techniques with Field Trips
862-430 Quantitative Hydrology
862-355 Water and Waste-Water Treatment
862-434 Water Chemistry
862-460 Resource Management Strategy

Business and Applied Science

This program is a double major obtained through the programs in Science and Environmental Change and Business. Central features of the business and applied science major include: 1) physical and life sciences, 2) business administration, 3) mathematics, and 4) cooperative education opportunities with interested corporations. The program combines coursework to enter an MBA (Master of Business Administration) program, graduate work in the sciences, or further study in engineering. The cooperative education component provides employment during the junior and senior years. Typically two students share one job opportunity at one corporation; one would work full time for a semester while the other would attend school full time and then trade duties the following semester. This program of study is very rigorous and should only be attempted by serious students with strong academic qualifications who want to enter into management within technical areas of business and industry.

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
296-202 Earth's Physical Environment

552-105 Expository Writing
OR
575-101 Effective Business Communication

600-202 Calculus and Analytical Geometry I
600-203 Calculus and Analytical Geometry II
600-255 FORTRAN: A Scientific Programming Language

Sophomore Year
226-201 Principles of Physics I
226-202 Principles of Physics II
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis
575-300 Introductory Accounting
575-302 Accounting for Administrators
600-209 Multivariate Calculus
600-320 Linear Algebra

Junior Year
246-133 Fundamentals of Public Address
575-305 Business Law
575-322 Basic Marketing
575-343 Corporate Finance
575-382 Principles of Management
600-260 Introductory Statistics
600-355 Applied Mathematical Optimization
862-302 Principles of Ecology
862-303 Conservation of Natural Resources
862-313 Mechanics I
862-314 Mechanics II

Senior Year
225-483 Industrial Chemistry
226-320 Thermodynamics and Kinetics
575-362 Principles of Personnel Management
575-384 Industrial Management
575-389 Behavioral Science: Applications for Managers
575-488 Rational Decision Making in Administration
575-489 Problems of Business Management
600-355 Ordinary Differential Equations
600-455 Microprocessors and Microcomputers
862-318, 319 Industrial Pollution Control Techniques with Field Trip
862-334 Solid Waste Management

Biology

Professors: Harry G. Guilford, parasitology, anatomy; **Hallett J. Harris,** animal ecology; **William Kaufman,** human physiology; **V.M.G. Nair,** plant-forest pathology, mycology; **John F. Reed** (emeritus), botany-plant anatomy; **Paul Sager,** limnology, aquatic biology; **Leander Schwartz,** microbiology, plant physiology; **Keith White** (chairperson), plant ecology.

Associate Professors: Alice Goldsby, microbiology, parasitology; **Charles Ihrke,** genetics; **Elaine McIntosh,** nutrition, community health, **Michael Morgan,** plant ecology, plant physiology; **Dorothea Sager,** reproductive biology, embryology; **Richard Stevens,** human neurophysiology.

Assistant Professor: Richard Stiehl, vertebrate zoology, ornithology, mammalogy.

The biology program prepares students for careers in traditional areas such as ecology, field biology, genetics, microbiology and physiology. Students can select biology course work that will prepare them for medical, dental, veterinary, or other professional schools. Another alternative is a program of study preparing students for careers in applied areas including aquatic studies, biological resource management, environmental health, human adaptability, nutritional sciences, solid waste management, and science communications (technical writing, journalism, and nature interpretation).

Facilities in biology include well-equipped teaching laboratories and numerous small laboratories designed for student-faculty research projects. Some major equipment and facilities include: natural areas for teaching and research (Cofrin Arboretum, Toft Point, Lily Lake, and others), Carl Richter Natural History Collection (emphasizing ornithology), small animal facilities, herbarium, greenhouse, plant growth chambers, fungal collection, human physiology laboratory including environmental chambers, instrumental and organic chemistry laboratories, microclimatological equipment, boats and other aquatic studies equipment, and computer facilities.

Program of Study

Entrance to the biology major program begins with two introductory courses: Principles of Biology I (204-202) and Principles of Biology II (204-203). Students who have a background equivalent to these courses, can, upon successful completion of a challenge exam, receive credit for them.

Beyond the introductory level, biology majors take a minimum of 24 credits in junior and senior level courses including at least one laboratory and one field course. Of the 24 credits, at least 3 credits must be taken in each of the following categories: ecology; genetics and evolution; anatomy and physiology; systematics and classification. The remaining 12 credits and more may be selected from the above categories or from the list of additional courses, as well as from appropriate January interim, independent study, and graduate courses.

Career goals and other interests are major factors influencing what courses students select. It is strongly recommended that students also take basic courses in chemistry, mathematics, and physics.

Following is the list of junior and senior level courses from which a biology student constructs his or her program of 24 credits.

Ecology (minimum 3 credits)
862-302 Principles of Ecology
862-322 Ecosystems Analysis I
862-323 Ecosystems Analysis II
862-403 Limnology
If 862-322 is selected, then 323 is also required and 302 cannot be taken for credit.

Genetics and Evolution (minimum 3 credits)
204-303 Genetics
204-304 Genetics Laboratory
478-310 Human Genetics
478-312 Evolutionary Processes
478-342 Human Evolution
479-401 Agricultural Genetics and World Food Production

Anatomy and Physiology (minimum 3 credits)
204-311 Plant Physiology
204-317 Structure of Seed Plants
204-340 Comparative Anatomy of Vertebrates
204-346 Comparative Physiology
204-347 Developmental Biology
204-405 Microbial Physiology
478-313 Brain Functions in Human Behavior
478-318 Mammalian Reproduction
478-402 Human Physiology
478-404 Animal Physiology Lab
478-413 Neurophysiology

Systematics and Classification (minimum of 3 credits)
204-310 Plant Taxonomy
204-312 Mycology
204-315 Biology of Lower Green Plants
204-320 Field Botany
204-341 Ichthyology
204-342 Ornithology
204-343 Mammalogy
204-350 Field Zoology
204-355 Principles of Entomology
204-402 Advanced Microbiology

Additional Courses
204-302 Principles of Microbiology
204-305 Biological Microtechnique
204-345 Animal Behavior
478-412 Principles of Parasitology
862-363 Plant and Forest Pathology

In addition to formally scheduled biology courses, students have opportunities to work with individual faculty members on an independent study basis. This is an excellent chance to probe more deeply into areas of special interest. There also are some opportunities for students to work in intern training programs with private, state, and national agencies, and in industry. Credit for these experiences is available by special arrangement.

A biology major combines disciplinary work with junior and senior level courses in an interdisciplinary program. Biology students interested in such areas as aquatic studies, biological resource management, solid waste management, or science communication will normally do interdisciplinary course work in Science and Environmental Change. Human Biology is usually the interdisciplinary program selected by biology majors with an interest in human adaptability or nutritional sciences. Biology students with an interest in land use planning may select interdisciplinary course work in Regional Analysis.

As an alternative to a disciplinary major in biology, some students with an interest in biology choose to develop an interdisciplinary major in areas such as Human Biology, Science and Environmental Change, and Regional Analysis. These 30 credit programs focus on a problem area by drawing together course work from several disciplines. For example, a student interested in aquatic studies can select a program that includes courses from biology, chemistry, hydrology, and resource management.

UWGB biology graduates are employed in industry, in government agencies (Environmental Protection Agency, Food and Drug Administration, National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Department of Agriculture, Wisconsin Department of Natural Resources, and others), by environmental consulting firms, and are teaching in primary and secondary schools and universities. Each year approximately 40 percent of the biology graduates are accepted by graduate and professional schools.

For students interested in education, teacher certification in biology or broad field sciences can be obtained by combining a program in professional education with the appropriate science courses. Students aiming for biology related administrative positions may prepare by combining course work in biology with a professional program either in Managerial Systems (business administration) or Public and Environmental Administration.

Chemistry

Professor: Nancy J. Sell, physical and solid state chemistry.

Associate Professors: Dawson Deese, biochemistry; **Jack C. Norman,** physical chemistry and radiochemistry; **Ronald Starkey,** organic chemistry and air chemistry; **Thomas E. Van Koevering,** chemical education; **James H. Wiersma,** analytical chemistry and water chemistry.

Assistant Professor: Donna Randall, general chemistry.

Chemistry is a fundamental science important in studying and solving industrial, environmental, and social problems. Chemists play an important role in addressing many of the major problems facing the world today, such as the energy crisis, the world food shortage, or water and air pollution.

UWGB offers a chemistry major with all the strength of a traditional chemistry program plus added breadth which places chemistry in the context of solving today's and tomorrow's problems. The breadth is usually gained by combining a chemistry major with course work in the interdisciplinary concentrations in Science and Environmental Change, Human Development, or the Human Adaptability or Nutritional Sciences majors in Human Biology. The chemistry program is accredited by the American Chemical Society.

UWGB's chemistry program is flexible. It may be designed as preparation for graduate study; could emphasize preparation for immediate employment in industry, government agencies, or secondary education; may serve as a base for professional study in medicine, dentistry, pharmacy, or veterinary medicine; or as part of a broader program in nutritional sciences, environmental health, or the life sciences.

The professional program in Education can prepare chemistry students for teacher certification. Careers requiring administrative skills may be prepared for by enrolling in the program in Public and Environmental Administration along with studies in chemistry.

UWGB graduates with majors in chemistry are employed by industry (such as Nicolet and Charmin Paper Companies, RCA, General Aniline Film, and American Can Company), working in government agencies (such as the Wisconsin Department of Natural Resources), teaching high school chemistry, and attending graduate and professional schools (for example, UW-Madison and the Institute of Paper Chemistry).

Many new jobs requiring chemists, particularly in the areas of environmental monitoring and energy research, are becoming available. UWGB graduates are especially well qualified for these jobs.

In addition to regular classrooms and laboratories, chemistry facilities include numerous small laboratories especially designed for student research projects. Major equipment used both in regular classes and independent study include: infrared spectrophotometers, visible-ultraviolet spectrophotometers, atomic absorption spectrometers, nuclear magnetic resonance spectrometer, X-ray diffraction spectrometer, liquid scintillation counter, high pressure liquid chromatographs, gas chromatographs, X-ray fluorescence spectrometer, automatic analyzer, polargraph, gamma ray spectrometer, neutron source, electrophoresis apparatus, digital and analog computers.

Program of Study

Graduation requirements for chemistry are:

Completion of the following lower level courses:
225-111 Principles of Chemistry I, 4 cr.
225-112 Principles of Chemistry II, 4 cr.
225-113 Principles of Chemistry III, 2 cr.
754-201 Principles of Physics I, 5 cr.
754-202 Principles of Physics II, 5 cr.

A minimum of 24 credits from the following:

Required courses:
225-302, 303 Organic Chemistry I and II, 6 cr.
225-304, 305 Organic Chemistry Labs I and II, 2 cr.
225-311 Analytical Chemistry, 4 cr.
226-320 Thermodynamics and Kinetics, 3 cr.
226-321 Structure of Matter, 3 cr.
226-322 Thermodynamics and Kinetics Lab, 1 cr.
226-323 Structure of Matter Lab, 1 cr.

One or more courses from:
225-330 Biochemistry, 3 cr.
225-402 Advanced Organic Chemistry, 3 cr.
225-410 Inorganic Chemistry, 3 cr.
225-413 Instrumental Analysis, 4 cr.
226-417 Nuclear Physics and Radiochemistry, 3 cr.

Additional courses which may be taken to complete the minimum of 24 credits:
225-331 Biochemistry Lab, 1 cr.
225-403 Advanced Organic Chemistry Lab, 1 cr.
226-418 Nuclear Physics and Radiochemistry Lab, 1 cr.
479-406 Analysis of Food and Food Products, 2 cr.
479-485 Advanced Human Nutrition, 3 cr.
862-318 Industrial Pollution Control Techniques, 2 cr.
862-422 Environmental Biogeochemistry, 3 cr.
862-434 Water Chemistry, 4 cr.
862-450 Air Pollution Chemistry and Meteorology, 3 cr.

The following mathematics courses are required as tool subjects:
600-202 Calculus and Analytic Geometry I, 4 cr.
600-203 Calculus and Analytic Geometry II, 4 cr.

SAMPLE PROGRAM

A sample program that a chemistry major might follow is given below. All-University requirements, interdisciplinary concentration requirements, and electives are not included.

Freshman Year
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
225-113 Principles of Chemistry III
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II
600-255 FORTRAN: A Scientific Programming Language

Sophomore Year
225-302 Organic Chemistry I
225-303 Organic Chemistry II
225-304 Organic Chemistry Lab I
225-305 Organic Chemistry Lab II
754-201 Principles of Physics I
754-202 Principles of Physics II

Junior Year
225-311 Analytical Chemistry
226-320 Thermodynamics and Kinetics
226-321 Structure of Matter
226-322 Thermodynamics and Kinetics Lab
226-323 Structure of Matter Lab

Senior Year
225-402 Advanced Organic Chemistry
225-413 Instrumental Analysis
226-417 Nuclear Physics and Radiochemistry
226-418 Nuclear Physics and Radiochemistry Lab
862-434 Water Chemistry

Chemistry-Physics

Professors: George O'Hearn, secondary education; **Nancy Sell,** solid state physics and industrial pollution control.

Associate Professors: James W. Busch, secondary education; **Dawson Deese,** biochemistry; **Fritz Fischbach,** biophysics, environmental health; **Robert Lanz,** engineering, physics, energy, technologies; **Anjani K. Mehra,** solid state physics, solar energy; **Jack C. Norman,** nuclear physics and radiochemistry; **Charles C. Rhyner,** radiological physics, electronics; **Ronald Starkey** (chairperson), organic chemistry and air chemistry; **Thomas Van Koevering,** chemical education; **James H. Wiersma,** analytical chemistry and water chemistry.

Assistant Professor: Donna Randall, general chemistry.

Chemistry-physics is an interdisciplinary program providing students with fundamental and *advanced concepts of* the physical-chemical world. Chemistry and physics, being complementary, help to develop a more complete view of matter, energy, and their transformations as they pertain to the physical world and the human environment.

Program of Study

Students must precede their chemistry-physics comajors with the following freshman-sophomore courses:

Principles of Chemistry:
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
225-113 *Principles of Chemistry* III

Principles of Physics:
754-201 Principles of Physics I
754-202 Principles of Physics II

Upper division courses must include:
226-320 Thermodynamics and Kinetics
226-321 Structure of Matter
226-417 Nuclear Physics and Radiochemistry
862-313 Mechanics I

And at least 2 credits from the following laboratory courses:
226-322 Thermodynamics and Kinetics
226-323 Structure of Matter Laboratory
226-324 Advanced Physical Laboratory
226-418 Nuclear Physics and Radiochemistry Laboratory

In addition, at least one course from each of the following groups must be selected:

Group I
225-300 *Bio-Organic Chemistry*
225-303 Organic Chemistry II
225-311 Analytical Chemistry
225-410 Inorganic Chemistry

Group II
754-315 Mechanics III
754-317 Electromagnetic Radiation
754-404 Electricity and Magnetism

Group III
225-413 Instrumental Analysis
754-405 Electronics for Scientists

Group IV
225-330 Biochemistry
862-306 Biophysics
862-412 Bio-Energetics
862-422 Environmental Biogeochemistry
862-434 Water Chemistry
862-450 Air Pollution Chemistry and Meteorology

Students interested in a program in chemistry or physics should see separate descriptions under each heading.

Earth Science

Professors: H. J. Day, hydrology, watershed management, water supply, pollution control; **Thomas H. McIntosh,** soils, agricultural land management, remote sensing, biogeochemistry; **Joseph M. Moran,** climatic change, *Quaternary* climatology and geology.

Associate Professors: Steven I. Dutch, structural geology, pre-Cambrian geology, tectonics; **Ronald D. Stieglitz,** (chairperson), sedimentary geology, Quaternary geology, applications of geology to land use problems.

Earth science is the study of the interactions among physical components of the environment—minerals, rock, soils, water, and air—and how these interactions are governed by natural laws. Students may focus their studies on geology, hydrology, soil science, or meterology/climatology. Alternatively, a student may select a broad range of courses and acquire a general background in earth science. Either way, earth science serves as a valuable component of a program in resource management, education or business.

There are many career opportunities for earth scientists. *Emerging* awareness of the need to use natural resources wisely is increasing demand for knowledgeable earth scientists in industry and a variety of government agencies that deal with land use decisions. Petroleum companies and metallic mineral industries have recently increased their hiring of earth scientists. People who know something about the finiteness of earth's resources and who can convey the need for a new conservation ethic are needed at all levels of formal education. Similarly, resource conservation agencies need people who can bridge the gap between the scientific aspect of wise land use and public awareness and understanding of issues involved. The job market is *particularly strong for* land use planners who have a thorough physical science background.

Earth science students interested in regional planning, resource management, or land management typically combine work in earth science and Environmental Change or Regional Analysis. Earth science and Regional Analysis offer cooperative programs focusing on analysis of the land and its uses. Students who wish to pursue graduate study in geology, soil science, hydrology, or meteorology are advised to add course work in Science and Environmental Change.

For those interested in business, earth science may be combined with courses in business administration. A career in earth science communications may be pursued through a major linking earth science with Communication and the Arts.

Also, for those interested *in education,* a disciplinary program in earth science combined with a professional program in secondary education and a concentration program meets requirements for teacher certification designated by the Wisconsin Department of Public Instruction. Entry into some areas of agricultural science is possible through a major in earth science and a concentration in Science and Environmental Change or Regional Analysis.

Program of Study

All students in earth science must complete the introductory courses, Earth's *Physical Environment* (296-202) and Geologic Evolution of the Earth (296-302) plus lab (296-303). In addition, students select at least one course in three of the following four areas: geology, hydrology, land and soil resources, or meteorology/climatology. The remaining 8 to 11 credits should focus on a specific area of earth science. Course credits should total 24 at the junior-senior *level. Also,* students emphasizing geology are advised to attend a six to eight week summer field camp following their junior year.

In addition, certain prerequisite courses are necessary depending upon the student's degree objectives. Usually these courses include biology, chemistry-physics, mathematics, social sciences, and communications. An earth science adviser will assist students in developing programs to meet specific interests and career objectives.

Courses appropriate for earth science disciplinary programs are listed by area:

General Earth Science
296-110 Dinosaurs: Rise to Ruin
296-200 Basic Earth Science
296-202 Earth's Physical Environment
296-230 Geology of Wisconsin
296-302 Geologic Evolution of the Earth
296-303 Geologic Evolution of the Earth Laboratory
862-141 Elementary Astronomy
862-341 Intermediate Astronomy
862-422 Environmental Biogeochemistry

Geology
296-306 Drifting Continents
296-310 Paleobiology
296-340 Rock and Mineral Resources
296-350 Geologic Field Methods
296-366 Structural Geology
296-380 Geomorphic Processes
296-402 Stratigraphy and Sedimentation
296-441 Mineralogy
296-442 Petrology
296-470 Glacial Environment and Chronology
862-342 Environmental Geology
862-345 Geology of Energy Resources

Land and Soil Resources
296-420 Soil Classification and Geography
416-250 Displays of Geographic Information
416-351 Elements of Cartography
416-353 Air Photo Interpretation
416-451 Computer Cartography
416-453 Advanced Air Photo Interpretation
834-235 Wisconsin Landscapes and Regions
834-356 Environmental Impact Analysis
862-284 Husbandry of the Land
862-320 Soil Environment
862-321 Soil Environment Laboratory
862-421 Soils of Wisconsin Field Trip
862-454 Remote Sensing by Satellite
862-460 Resource Management Strategy
862-462 Land Use Tour of Wisconsin
008-761 Global Environmental Monitoring
008-773 Soil-Plant Relationships
009-741 Land Use, Institutions and Policy

Hydrology
862-330 Descriptive Hydrology
862-331 Oceanography
862-335 Water and Waste Water Treatment
862-382 River Basins in Transition
862-383 River Basins in Other Regions
862-403 Limnology
862-430 Quantitative Hydrology
862-434 Water Chemistry
008-759 Coastal Zone Management

Meteorology/Climatology
296-222 The Ocean of Air: An Introduction to Weather and Climate
462-325 Regional Climatology
862-350 Meteorology
862-351 Synoptic Meteorology Laboratory
862-450 Air Pollution Chemistry and Meteorology
008-776 Bioclimatology

Mathematics, Computer Science, and Statistics

Professor: David Jowett, statistical computing, experimental design, multivariate statistical analysis.

Associate Professors: William Conley, computer science, algebra; **Dennis M. Girard,** biometrics, multivariate statistical analysis, statistical computing, linear algebra, analysis, graph theory; **Allison P. Loomer** (emeritus), algebra, analysis, history, geometry; **Bruce Mielke,** computer science, algebra; **Nikitas L. Petrakopoulos,** applied mathematics, analysis, mathematical modern culture, mathematical physics; **Robert B. Wenger** (chairperson), mathematical optimization, analysis, operations research.

Assistant Professors: Richard Blecksmith, number theory, algebra, computer methods; **Dan Kalman** (on leave), algebra, topology, computer science, curriculum development, mathematics education; **William Shay,** computer science, numerical analysis, algebra, topology.

Lecturers (1983-84): **Bruce O'Neill,** complex analysis, functional analysis; **Kathleen C. Stiehl,** mathematics education, computers in elementary education.

Mathematics is a classical field of study which has formed an important part of our intellectual heritage for centuries. Two intertwining threads run throughout much of this time period: a curiosity about mathematics for its own sake—pure mathematics—and an interest in mathematics as a tool for analyzing and solving real world problems—applied mathematics. Mathematics is applied in fields as diverse as business, engineering, physical and life sciences, social sciences, computer science, and statistics.

The mathematics program at UWGB is designed to provide opportunities for study in both the pure and applied aspects of mathematics. Depending upon educational goals and career objectives, students can select a program of study in one of four areas of emphasis: pure mathematics, applied mathematics, computer science, and statistics.

In the pure mathematics emphasis area students select courses which develop a sense of the aesthetic qualities in mathematics, an appreciation of the logical clarity and structure of mathematics, and an understanding of the scope and development of mathematical ideas. Students also are encouraged to gain some experience with applications that inspire the development of the discipline.

The student who selects applied mathematics as an emphasis area studies mathematical methods and techniques for analyzing or solving problems which may exist in almost any field of endeavor. In earlier times applied mathematics referred almost exclusively to problems of physics or engineering but more recently, mathematical techniques have been employed in the social, industrial, and management realms, as well. The common characteristic of applied mathematics is the construction of a mathematical model, a mathematical system which abstracts a portion of the real world situation under study. Mathematical conclusions are then drawn from the system and interpreted in the real world context.

The computer science program is designed to meet the growing need for expertise in this rapidly expanding field. Course offerings provide background in such areas as: artificial intelligence, software design, database management, business applications, language design, interfacing and hardware applications, and mathematical applications.

The UWGB campus has excellent computing facilities. Most of the computing power is supplied by the Telefile T-85 central processor unit (CPU) and is multiprocessed with the Xerox Sigma-6 CPU. This dual processed system is capable of supporting 80 on-line terminals and has access to 2 million bytes of MOS memory. Other hardware features include a disk storage capacity of 1.5 billion bytes, two tri-density tape drives, two line printers, graphics terminals,

and a Telebeam projector available as an instructional tool.

In addition, the computer center supports a microcomputer laboratory consisting of two dozen Franklin ACE 1000's. These microcomputers support Apple software. Also there is a DEC PDP 11/03 MINC laboratory computer used in the science laboratories and in processing data from the campus weather station; and a Magnavox system with a plasma graphics terminal and large digitizing table for analysis and production of maps in the spatial analysis laboratory. Students have opportunities to learn to use these and other microcomputers through coursework and projects.

Software capabilities include the following languages: PASCAL, FORTRAN, COBOL, LISP, SNOBOL, APL, assembly language, C, ADA, LOGO and BASIC. In addition, an Extended Data Management System (EDMS) maintains student and library records and is taught as part of the curriculum.

The study of statistics includes three main parts: collecting data, organizing and summarizing data, and drawing conclusions from data. Courses in the statistics emphasis area include mathematical statistics, probability, experimental design, continuous and discrete multivariate analysis, and business and industrial statistics. Persons trained as statisticians find employment in business, industry, and government.

Depending upon their individual interests and goals, students majoring in mathematics might find one of several interdisciplinary programs appropriate for completing degree requirements. For example, those interested in science or environmental problems would select Science and Environmental Change as a minor and those interested in business would select Business Administration. A student interested in the humanities could minor in Humanistic Studies.

Students who demonstrate superior aptitude for mathematics may find employment opportunities on campus: classroom assistant, paper checker, tutor, laboratory supervisor, computer programmer/consultant, research assistant, statistics assistant. Such part-time work reinforces ideas and techniques learned in courses, provides opportunity to discover new applications, and gives experience which will be helpful in obtaining full-time employment upon graduation.

Numerous career opportunities are available for persons with academic degrees in mathematics. Those interested in using mathematics to solve on-going problems find employment in industry, government and business. Any one of the four emphasis areas can serve as a background for seeking employment in these sectors. Specific job titles which are frequently used in this setting are systems analyst, programmer/analyst, statistician, operations researcher, applied mathematician, information scientist, and actuary.

Many who call themselves mathematicians are teachers by profession. There are essentially three different types of mathematics teaching: elementary and secondary school teaching, junior or community college teaching, and college or university teaching. Those who are interested in elementary or secondary teaching combine undergraduate study in mathematics with education courses which are designed to meet accreditation requirements. Teaching at the junior or community college level usually requires a master's degree and at the college or university level a Ph.D. degree.

Mathematics placement examinations are used in advising entering freshmen about the level at which they should enter university courses. There are four levels:

Level 1. Assumes mastery of first year high school algebra; student enters 600-101; performance below this level results in recommendation to enter 601-094.

Level 2. Assumes mastery of first two years of high school algebra; student enters 600-104, 150, 151, 152, 281, 201, 260; performance below this level results in recommendation to enter 600-101.

Level 3. Assumes mastery of first two years of high school algebra and grade 12 course on functions, or mathematical analysis, including trigonometry; student enters 600-202 or any course cited under level 2 except 600-104; performance below this level results in recommendation to enter 600-104.

Level 4. Assumes student has been accelerated and has mastery of high school calculus; placement exam not required; with this level and advice of faculty, student can enter 600-203 or any course cited under level 3; upon earning a "C" or better in 600-203, an additional 4 credits for 600-202 are granted.

Program of Study

All students majoring in mathematics, regardless of area of emphasis, are required to take:
600-202, 203 Calculus and Analytic Geometry I, II
600-320 Linear Algebra I

At least 21 additional credits are required at the 300 (junior) level or above within each emphasis area. Some additional sophomore level courses are required as well.

PURE MATHEMATICS

In addition to the general requirements for a mathematics major listed above, students selecting the pure mathematics emphasis must fulfill these requirements:
600-209 Multivariate Calculus
600-305 Ordinary Differential Equations
600-321 Linear Algebra II
600-328 Introduction to Algebraic Structures
600-385 Foundations of Geometry

At least two of these:
600-311 Advanced Calculus
600-312 Real Analysis
600-410 Complex Analysis

At least three additional credits to be chosen from mathematics courses at the 300 level or above.

APPLIED MATHEMATICS

In addition to the general mathematics requirement listed above, students in applied mathematics must fulfill these requirements:
600-209 Multivariate Calculus
600-305 Ordinary Differential Equations
600-321 Linear Algebra II

An additional 15 credits at the 300 level or above will be selected in consultation with an adviser and be based upon the application area of interest to the student. For example, if a student is interested in mathematical optimization the following would be an appropriate selection of courses:
600-311 Advanced Calculus
600-312 Real Analysis
600-350 Numerical Analysis
600-355 Applied Mathematical Optimization
600-450 Theory of Algorithms
008-764 Mathematics of Operations Research and Management Science

COMPUTER SCIENCE

In addition to the general mathematics requirement listed above, students in computer science must fulfill these requirements:

600-241 Discrete Mathematics (pending)
600-256 *Introduction to Computer Science I*
600-257 Introduction to Computer Science II
600-351 Data Structures, Storage, and Retrieval
600-353 Computer Organization and Programming
600-357 Theory of Programming Languages

An additional 15 credits to be chosen from one or two of the following areas of interest:

Mathematical Applications
600-350 Numerical Analysis
600-355 Applied Mathematical Optimization
600-450 Theory of Algorithms

Interfacing and *Hardware Applications*
600-352 Computer Graphics (pending)
600-455 Microprocessors and Microcomputer Systems
600-456 Advanced Topics in Microcomputing

Language Design
600-352 Computer Graphics (pending)
600-454 Artificial Intelligence
600-457 Compiler Theory

Business Applications
600-352 Computer Graphics (pending)
600-355 Applied Mathematical Optimization
600-450 Theory of Algorithms
600-451 Data Base Management Systems
600-452 Operating Systems

Software Design
600-451 Data Base Management Systems
600-452 Operating Systems
600-457 Compiler Theory

Artificial Intelligence
600-352 Computer Graphics (pending)
600-451 Data Base Management Systems
600-454 Artificial Intelligence

STATISTICS

In addition to the general mathematics requirements listed above, a program in statistics has the following requirements:

600-209 Multivariate Calculus
600-321 Linear Algebra II
600-360 Theory of Probability
600-361 Mathematical Statistics

At least one of these:
600-364 Biometrics
600-465 Business and Industrial Statistics

And, at least one of the following:
008-704 Discrete Multivariate Statistical Analysis
008-767 Statistical Design and Analysis of Experiments
008-768 Multivariate Statistical Analysis

Students in the statistics program ordinarily begin their study with 600-260, Introductory Statistics, and take in addition to the required courses listed above, one or more courses in computing. Students planning to continue studies in statistics at the graduate level are encouraged to complement their programs with one or more of these courses: Advanced Calculus, Real Analysis, Complex Analysis, and Introduction to Algebraic Structures.

Sample Study Programs

Following are two sample study programs. Keep in mind that they are only samples, each student plans an individual program with the help of an adviser.

A student with an emphasis in **pure mathematics** might select a typical sequence of courses such as this:

Freshman Year
600-202 Analytic Geometry and Calculus I
600-203 Analytic Geometry and Calculus II
600-256 Introduction to Computer Science I
600-257 Introduction to Computer Science II

Sophomore Year
600-209 Multivariate Calculus
600-305 Ordinary Differential Equations
600-320 Linear Algebra I
600-321 Linear Algebra II

Junior Year
600-328 Introduction to Algebraic Structures
600-351 Data Structures, Storage, and Retrieval
600-385 Modern Geometry

Senior Year
600-311 Advanced Calculus
600-312 Real Analysis
600-410 Complex Analysis

A student in **computer science** might choose a typical sequence of courses similar to this:

Freshman Year
600-202 Analytic Geometry and Calculus I
600-203 Analytic Geometry and *Calculus II*
600-256 Introduction to Computer Science I
600-257 Introduction to Computer Science II

Sophomore Year
600-241 Discrete Mathematics (pending)
600-320 Linear Algebra I
600-351 Data Structures, Storage, and Retrieval
600-353 Computer Organization and Programming

Junior Year
600-352 Computer Graphics (pending)
600-357 Theory of Programming Languages
600-457 Compiler Theory

Senior Year
600-451 *Data Base Management* Systems
600-452 Operating Systems
600-454 Artificial Intelligence

Other courses applicable in mathematics include:
008-704 Discrete Multivariate Statistical Analysis
008-764 Mathematics of Operations Research and Management Science
008-767 Statistical Design and Analysis of Experiments
008-768 Multivariate Statistical Analysis

Physics

Professors: George T. O'Hearn, secondary education; **Nancy J. Sell,** solid state physics and industrial pollution control.

Associate Professors: James W. Busch, secondary education; **Fritz A. Fischbach,** biophysics, environmental health; **Robert W. Lanz,** engineering physics, energy technologies; **Anjani Mehra,** solid state physics, solar energy; **Jack C. Norman,** nuclear physics and radiochemistry; **Charles R. Rhyner,** radiological physics, electronics.

Physics is concerned with the properties of matter and energy and the laws which describe their behavior. It is a science of measurement, experimentation, and systemization of the results of experiments.

Physicists contribute widely to understanding the basic properties of nature

and apply their understandings to produce a vast variety of devices and processes for the modern age. Physicists work in such areas as nuclear, solid state, radiation, atmospheric, solar, electronic, and biophysics.

In addition to classrooms and laboratories, facilities at UWGB include numerous laboratories designed for faculty-student research projects. The laboratories are served by a computer terminal linked to a Telefile 85 mainframe.

Major equipment available for classes and independent study include: EAI Miniac Analog Computer, X-ray diffraction unit, multichannel analyzer, liquid scintillation counter, X-ray spectrometer, neutron source, storage oscilloscope, noise and vibration meters, microwave units, lasers; infrared, ultraviolet and visible spectrophotometers.

The undergraduate study of physics is a general scientific base for many possible career opportunities. With a bachelor's degree, graduates are equipped for technical work in industrial or government laboratories, or teaching in a secondary school. A degree in physics also provides good preparation for graduate study in other fields such as meteorology, mathematics, computer science, and some fields of engineering.

Physics students can gain additional career preparation through professional programs. Students who wish to work in administrative positions can prepare by enrolling in a professional program in either Public and Environmental Administration or Managerial Systems in addition to their studies in physics. The professional program in Education can prepare students for teaching certification.

Program of Study

Graduation requirements for the major in physics are:

Completion of the following lower level courses:
225-111 Principles of Chemistry I, 4 cr.
225-112 Principles of Chemistry II, 4 cr.
225-113 Principles of Chemistry III, 2 cr.
754-201 Principles of Physics I, 5 cr.
754-202 Principles of Physics II, 5 cr.

A minimum of 24 credits at the 300-400 level:

Six required courses:
226-321 Structure of Matter, 3 cr.
226-417 Nuclear Physics and Radiochemistry, 3 cr.
754-315 Mechanics III, 3 cr.
754-317 Electromagnetic Radiation, 3 cr.
754-404 Electricity and Magnetism, 3 cr.

The remainder of the credits are selected from the following list:
226-320 Thermodynamics and Kinetics, 3 cr.
226-322 Thermodynamics and Kinetics Laboratory, 1 cr.
226-323 Structure of Matter Laboratory, 1 cr.
226-324 Advanced Physical Laboratory, 1 or 2 crs.
226-418 Nuclear Physics and Radiochemistry Laborabory, 1 cr.
754-405 Electronics for Scientists, 4 cr.
862-306 Biophysics, 3 cr.
862-341 Intermediate Astronomy, 3 cr.
862-350 Meteorology, 3 cr.
862-414 Conventional Energy Technology, 3 cr.
862-415 Solar and Alternate Energy Systems, 3 cr.

At least 15 credits in mathematics which must include:
600-202 Calculus and Analytic Geometry I, 4 cr.
600-203 Calculus and Analytic Geometry II, 4 cr.
600-305 Ordinary Differential Equations, 3 cr.

Each student is strongly encouraged to take additional courses in mathematics, computer science, and statistics.

SAMPLE PROGRAM

A sample program which a physics major might follow is given below. All-University requirements, the interdisciplinary concentration, and electives are not included.

Freshman Year
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II
225-113 Principles of Chemistry III
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II

Sophomore Year
600-209 Multivariate Calculus
600-320 Linear Algebra I
600-255 FORTRAN: A Scientific Programming Language
754-201 Principles of Physics I
754-202 Principles of Physics II

Junior Year
226-320 Thermodynamics and Kinetics
226-321, 323 Structure of Matter and Laboratory
226-322 Thermodynamics and Kinetics Laboratory
226-417, 418 Nuclear Physics and Radiochemistry and Laboratory
600-305 Ordinary Differential Equations
600-309 Systems of Ordinary Differential Equations
754-315 Mechanics III
754-317 Electromagnetic Radiation
862-306 Biophysics

Senior Year
226-324 Advanced Physical Laboratory
754-404 Electricity and Magnetism
754-405 Electronics for Scientists
862-350 Meteorology
862-414 Conventional Energy Technology

Courses

Physics course descriptions are listed under Physics (754), Chemistry-Physics (226) and Science and Environmental Change (862). Students who wish to pursue a program in physics will find the following courses relevant.
225-111 Principles of Chemistry I, 4 cr.
225-112 Principles of Chemistry II, 4 cr.
225-113 Principles of Chemistry III, 2 cr.
226-320, 322 Thermodynamics and Kinetics (with lab), 3-4 cr.
226-321, 323 Structure of Matter (with lab), 3-4 cr.
226-324 Advanced Physical Laboratory, 1 or 2 cr.
226-417, 418 Nuclear Physics and Radiochemistry (with lab), 3-4 cr.
600-455 Microprocessors and Microcomputer Systems, 3 cr.
754-201 Principles of Physics I, 5 cr.
754-202 Principles of Physics II, 5 cr.
754-315 Mechanics III, 3 cr.
754-317 Electromagnetic Radiation, 3 cr.
754-404 Electricity and Magnetism, 3 cr.
754-405 Electronics for Scientists, 4 cr.
862-306 Biophysics, 3 cr.
862-313, 314 Mechanics I, II, 3 cr. each
862-341 Intermediate Astronomy, 3 cr.
862-350 Meteorology, 3 cr.
862-414 Conventional Energy Technology, 3 cr.
862-415 Solar and Alternate Energy Systems, 3 cr.

Social Sciences

Human Development

Professor: Eric Knowles, social, environmental, and personality psychology, self and social awareness, social and group processes, research methods.

Associate Professors: Thomas Hogan, education and psychological measurement, research methodology; **Fergus Hughes** (chairperson), life-span human development, cognitive development, perceptual development, children's play; **Richard D. Logan,** middle childhood and adolescence, personality theory, cross cultural study of human development, psychology of adaptation, coping and survival.

Assistant Professors: Andrea Lindstrom, personality, abnormal development, guidance and counseling, gerontology; **Lloyd D. Noppe,** cognitive styles, creative thought, formal operations, life-span human development; **Dean Rodeheaver,** social gerontology, cognitive development in adulthood and old age, gender roles.

The Human Development concentration is concerned with the study of human development from conception to death. It provides basic understanding of changes, tasks, and crises that occur throughout the normal human life span as well as examination of factors that promote both normal development and deviations from normal development. It is an interdisciplinary program in that it examines the contributions to our understanding of developmental processes which have been made by psychologists, sociologists, biologists, and anthropologists.

Students who plan careers working with people major in Human Development in order to acquire broad background knowledge about human development and behavior. Students whose ultimate goals are to provide educational, guidance, or other social services to persons of various ages, who are planning careers in health related fields, or who are planning academic careers in human development or psychology, frequently choose a Human Development major.

Programs of Study

Numerous areas can be emphasized within Human Development. These include: general child development, child development and family studies, adolescence and youth, adulthood and aging, language development, biological development, and cross-cultural comparative studies. Students interested in an in-depth examination of the functioning of the older adult in our society or interested in pursuing a career in gerontology might choose a Human Development submajor in social gerontology. In addition, Human Development may be combined with the Education, or Social Services professional programs (or as a minor with the Social Work degree program), with communication processes (linguistics), with physical education and recreation, and with psychology, anthropology, or sociology. Advisers can provide information on these programs, and will discuss other possibilities not covered here.

For students planning careers in early childhood, elementary, or secondary education, for example, Human Development provides a preprofessional program of courses that covers fundamentals of child development, cognitive development, play and creativity, observation of behavior, and developmental deviations. Students who desire Wisconsin certification in early childhood education take in addition a sequence of methods and student teaching courses offered by the professional early childhood education program within Education. Students desiring elementary or secondary education certification also fulfill professional course requirements through the Education professional program. All students desiring certification should obtain the *Handbook of Teacher Certification* through an adviser, which gives requirements of the State Department of Public Instruction for certification.

Students preparing for graduate study in psychology can take either a Human Development major or a combined major in Human Development/psychology. Graduate programs typically prefer a firm and general foundation in the basic subject matter of the field; some exposure through courses or other experiences to the specialty the student will enter; and a strong background in the methods and tools of the field. The particular course program a student selects depends on the area of graduate specialty desired. Students planning for graduate education should consult early in their undergraduate careers with a concentration adviser so that courses, course sequences, and field and research experiences may be planned.

SAMPLE PROGRAMS

All Human Development majors must take the following background courses and tool subjects, for a total of nine credits:

481-210 Introduction to Human Development
OR
820-102 Introduction to Psychology

478-102 Introduction to Human Biology
OR
156-110 Introduction to Physical Anthropology

255-205 Social Science Statistics
OR
600-260 Introductory Statistics

In addition, courses required for a concentration major in Human Development depend on the career goals of the individual student. The programs described below are just a few examples of the many ways in which Human Development majors may combine the concentration with professional programs or disciplines to satisfy various career objectives. Remember that programs vary, depending on the individual student's need. Students interested in Human Development should consult an adviser rather than simply following the sample programs listed here.

Human Development/Psychology

481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-433 Human Development III: Adulthood and Aging
481-429 Theories of Personality
820-300 Experimental Psychology

820-306 Psychology of Perception
OR
820-417 Cognitive Psychology

820-309 Psychology of Motivation
820-337 Social Behavior Dynamics (or other advanced social psychology course)
Plus four elective courses in areas of interest, selected after consultation with a Human Development adviser.

Human Development/Social Services
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-342 Cultural Impacts on Human Development
481-429 Theories of Personality
481-433 Human Development III: Adulthood and Aging
481-435 Abnormal Behavior

481-436 Counseling with Children and Adolescents
AND/OR
481-437 Counseling with Adults and the Aged

Two or three advanced courses in Human Development, Social Services, psychology, or sociology (to be selected in consultation with a concentration adviser), plus 18-21 required credits in the professional program in Social Services.

Human Development/Elementary Education
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-433 Human Development III: Adulthood and Aging
481-431 Cognitive Development
481-435 Abnormal Behavior

Five electives chosen from:
481-334 Play and Creative Activities in Childhood
481-336 Sex Role Development in Contemporary Society
481-342 Cultural Impacts on Human Development
481-429 Theories of Personality
481-436 Counseling with Children and Adolescents
481-437 Counseling with Adults and the Aged
Related upper division courses in psychology, sociology, education, or anthropology, plus courses required for certification by the professional program in Education.

Human Development/Therapeutic Recreation
478-320 Human Growth, Development, and Senescence
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-334 Play and Creative Activities in Childhood
481-433 Human Development III: Adulthood and Aging
481-435 Abnormal Behavior
481-436 Counseling with Children and Adolescents
481-437 Counseling with Adults and the Aged
Two upper division courses in Human Development, Human Biology, Physical Education, or psychology (to be selected in consultation with a concentration adviser) plus courses required by the professional program in Recreation Resources.

Regional Analysis

Professors: Donald Gandre, transportation systems, regional geography (United States and Great Lakes areas of the United States and Canada); **Martin Greenberg,** international and regional politics, middle east and third world politics, political violence, alternative political futures; **James Murray,** regional economics, economic development, quantitative methods; **William Smith,** environmental psychology, social psychology, polar regions, environmental design program.

Associate Professors: Kumar Kangayappan, economic development, economic theory, comparative economic systems; **William Kuepper** (vice chancellor), regional geography (Africa), climatology, settlements; **William Laatsch** (chairperson), cultural geography, northern lands, settlement; **Ismail Shariff,** economic theory, economic development, international trade.

Assistant Professor: William Niedzwiedz, planning, remote sensing, environmental impact analysis.

The Regional Analysis concentration provides students with the opportunity to apply basic skills from several disciplines or subjects to understanding the human and physical characteristics of various regions of the earth. These characteristics are studied with particular regard to their interrelationships and arrangements within a given area. The focus is reflected in the several programs within Regional Analysis.

Programs of Study

Programs within Regional Analysis fall into three categories: the general program; area tracks; the applied programs. Each program requires a total of 30 credits of junior or senior level courses, plus 6 credits of tool subjects in addition to all-University requirements.

All students are encouraged to enhance their programs with upper-level techniques courses in regional economic analysis, statistics, cartography, remote sensing, and computer science.

Area Tracks

Area tracks offer students opportunities to focus majors on a particular area of the earth. Regions appropriate for an area emphasis vary in size and uniformity but all allow course work in a variety of concentrations and disciplinary programs. While an interested student may suggest any region for a possible emphasis, several are particularly appropriate for study based on resources available in Regional Analysis and in other academic departments at the University.

The Applied Programs

Geared to the student who may have a particular career orientation, these programs allow specialization in land use analysis and planning, transportation analysis, regional economic development, and applied and analytical techniques. Applied programs include:

Regional Planning. Students completing this program will have a basic knowledge of the components of land use and their relationships; land analysis and classification; research techniques, and presentation formats. Students also will be able to appreciate and understand land use and related problems at local, regional, national, and international scales. Land use planning is a likely career field. Graduate school is another possibility.

Transportation Analysis. This program provides an understanding of the character of existing transportation systems, along with their development, change, and future prospects. In addition, the relationship and influence of transportation to or on other environmental components and economic activities is considered in a number of courses. Students completing the program will have acquired some basic knowledge about employment opportunities in: transportation planning with governmental agencies at the regional, state, or federal level; transportation planning with private consulting firms; and transportation operations with industrial firms or carriers.

Regional Economic Development. This track provides a good background on how our economy works. It also includes courses which prepare students for some practical applications of this knowledge. In addition to offering insights into the system and all of its problems, it provides an intellectual and technical base for people who want to help improve the quality of life in the locales where most people function—communities and regions. Students pursuing this program qualify for employment as economic development specialists for regional planning commissions; in federal, state, and local government departments of economic and industrial development; industrial development units of major transportation and manufacturing firms; economic development positions in government and business. It also is suitable undergraduate preparation for a graduate degree in economics, regional science, or planning.

Applied and Analytical Techniques. The program on techniques provides an opportunity to gain quantitative and analytical capabilities in a broad spectrum of the social sciences, natural and physical sciences, and the arts. The emphasis is on demonstrating and applying various theories and quantitative techniques in an empirical setting to real-world problems and issues. By taking the appropriate combination of courses and undertaking research projects, students are able to gain an in-depth understanding and knowledge in applying these techniques to the issues and problems of local, regional, national and international character.

This program qualifies graduates for positions in government, universities, community organizations, and industry as researchers and policy analysts. Examples of such positions include university extension assignments, neighborhood associations, community development corporations, marketing groups, planning agencies, and research organizations. The track also serves as suitable preparation for graduate work in economics, regional science, environmental studies, and planning.

Human Settlement. This program is concerned with both the processes and forms of settlement. To these ends students gain understanding of the "push" and "pull" of migrations and the nature of the "cultural baggage" carried by the migrants. The scale of these studies varies. At times the earth is viewed as if from a satellite and only the largest forms—such as urban areas, cultivated lands, wild areas, and the well defined linear features of communication and transportation—are observed, described, and analyzed. At a more detailed level of investigation, students continue to focus on forms and processes of settlement, but common elements of the landscape take on new significance. These elements include economic activities, human spatial behavior, and elements of material culture. In addition to understanding the nature of human constructs on the earth's surface, students learn about values, institutions, and technologies that influenced these forms.

While basically a part of a liberal arts sequence, a student completing this program could consider employment in land use planning, historic, and ethnic preservation, museums, and community development.

SAMPLE PROGRAMS

Following are sample programs for several of the emphases within Regional Analysis. Other sample programs are available. Keep in mind that these are examples. Each student plans his or her own program with the help of a faculty adviser.

Following are samples for the general program, for one of the area tracks (Great Lakes Region), and for one applied program: regional planning.

General Program

Background courses:
298-202 Macro Economic Analysis
416-102 The Regions of Earth: An Introduction to Geography
416-202 Introduction to Cultural Geography
820-290 Environmental Psychology
834-222 The Ocean of Air: An Introduction to Weather and Climate
834-235 Wisconsin Landscapes and Regions

Core Courses (6 courses required):
834-320 Introduction to Regional Analysis
834-322 Regional Planning
834-325 Behavior in Designed Environments I
834-362 Analysis of Great Lakes Region of Africa
834-372 Analysis of Great Lakes Region of North America
834-472 Senior Seminar in Regional Analysis

Related courses (4 courses required)

Great Lakes Region of North America (area track)

Lower-level courses (several of the following):
416-102 The Regions of Earth: An Introduction to Geography
416-202 Introduction to Cultural Geography
416-215 Economic Geography
448-206 History of the United States from 1865 to the Present
862-286 Forest Vegetation of Wisconsin

Core courses (6 courses required):
834-320 Introduction to Regional Analysis
834-335 Transportation Systems in the United States
834-372 Analysis of the Great Lakes Region of North America
One area course outside of the United States
834-401 Regional Economic Analysis
834-472 Senior Seminar in Regional Analysis (topic dealing with Great Lakes Area)

Related courses (4 courses required)

Regional Planning (applied program)

Lower-level courses (several of the following:
296-202 The Earth's Physical Environment
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis
416-202 Cultural Geography
416-215 Economic Geography
552-105 Introduction to Expository Writing
834-222 The Ocean of Air: An Introduction to Weather and Climate
862-284 Husbandry of the Land

Core courses (required):
834-320 Introduction to Regional Analysis
834-322 Regional Planning
834-372 Analysis of the Great Lakes Region of North America
One area course outside of the United States
834-421 Techniques and Methods of Planning Analysis
834-472 Senior Seminar in Regional Analysis

Related courses (4 required)

Social Change and Development

Associate Professors: Bela O. Baker, social psychology, social change, motivation, thinking; **Julie E. Brickley,** mythology, women's studies, social change; **Anthony H. Galt,** social anthropology, social change, Mediterranean society; **Harvey J. Kaye** (adviser), political economy, historical sociology, Latin America, Britain, sociology of culture and ideology; **Craig A. Lockard,** social history, Southeast and East Asia, revolutionary change; **Carol A. Pollis** (chairperson), sociology, families, intimacy and social change, education; **Larry Smith,** (on leave 1983-84), economics, social and economic development in U.S. and foreign third sector communities; **Lynn E. Walter,** cultural anthropology, Latin America, women's studies, ethnicity.

Assistant Professor: Walter Groves, criminology, criminal justice, social change.

Lecturer: Flewel Kupferberg, visiting professor from Aalborg University, Denmark, (1983-84), social theory, Soviet Union.

Social change is a dominant feature of life in the 20th century, and it promises to retain its central importance in the 21st century as proliferating information processing technologies continue to have a tremendous impact on culture, social structure, and political economy. The various programs in Social Change and Development are organized to provide students with sophisticated analytical and methodological skills for understanding these change processes and the social problems, costs, and opportunities generated by them. It is an appropriate major for individuals interested in graduate work in the social sciences, law school, a variety of human service careers relating to women's issues, community development, social activism, or criminal justice, and a variety of careers associated with socio-economic development programs and international relations.

Faculty members in Social Change and Development represent a number of disciplines and specialties within those disciplines as indicated above. Many of them have had significant international experience which adds depth to their area specialties. They share a general intellectual framework which emphasizes historical, comparative, and critical analysis of change processes. Such a framework stresses the interdependence of systems and subsystems within a society as well as interdependence between societies. Thus, for example, the extent and focus of poverty in a society are often closely related to its social and economic practices or to those practices in other societies. Programs designed to alleviate poverty will not succeed unless they take account of and act on its systemic nature. Such a framework also stresses a solid understanding of the past as necessary to astute analysis of the present and future and seeks to enable the student to develop a macro or "large picture" perspective. This kind of analytical skill is very useful in a world characterized by vast amounts of information.

Program of Study

Students who are considering a major in Social Change and Development should discuss their backgrounds and interests with the program adviser as early as possible. The adviser can provide further information on career alternatives related to social change and on ways to tailor an academic plan to meet individual needs. While we have special strengths in law and social change, development and international studies, and women's studies, many other possibilities can be accommodated. Internships and field experiences are encouraged as valuable adjuncts to the classroom; students need to plan these early in their academic career.

All majors are required to complete a four-course sequence which provides a common, integrated intellectual framework for the study of social change and development. These courses are:

875-333 Social Change in a Selected Region
875-360 Models of Social Change
875-361 Historical Perspectives on Social Change
875-470 Senior Seminar in Social Change and Development

The 875-333 course content changes depending on the faculty member teaching it. The 875-470 course is oriented toward applications and allows for individual projects around a theme. Majors must also complete a tool subject requirement to achieve a specified level of competence in a foreign language or in methods of social research. This requirement is an important complement to the analytical emphasis of the common course sequence.

A minor in Social Change and Development is particularly appropriate for majors in social science disciplines, social services, business, science, or the arts. It can be creatively combined with many professional and liberal arts programs. The program adviser should be consulted for specific information on these possibilities.

In addition to the common course sequence listed above and the tool subject requirement, majors must select a minimum of 18 credits in 300 and 400 level courses to form a program emphasis. The three sample programs which follow suggest some of the possibilities.

Law and Social Change

Lower division courses:
575-206 Law and the Individual
736-100 Ethics
736-111 Elementary Logic

Upper division courses:
778-410 Intergovernmental Relations
875-311 Role of Punishment in Society
875-320 Constitutional Law
875-325 Law in Society
875-330 Law and the Judicial Process
900-304 Deviant Behavior
900-404 Criminology

Development and International Studies

Lower division courses:
156-100 Varieties of World Culture
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis
448-210 Rise of the International Economy from 1400 to the Present
478-206 Fertility, Reproduction and Family Planning
875-270 Third World: Development or Despair

Upper division courses:
156-303 Cultural Ecology
298-404 Economics of Developing Areas
448-350 Social History of Europe since the Industrial Revolution
448-356 History of Africa
448-358 History of Latin America
875-345 Women in Cross-Cultural Perspective
875-365 Human Resources and Economic Growth
875-371 Motivation and Social Change
875-450 Schooling, Education and Social Change

Women's Studies

Lower division courses:
493-206 Women in Literature
875-235 Sex and Society
875-241 Women and Changing Values
900-208 Marriage and the Family

Upper division courses:
156-304 Family, Kin, and Community
242-477 Women as Creative Agents
448-345 Women in American Perspective
875-340 Woman as Worker

875-342 Women, Myth, and Identity
875-345 Women in Cross-Cultural Perspective
875-440 Women and Religion

Urban Studies

Professor: Nicholas Pollis, social psychology, altruism and helping behavior, organizational behavior, urban stress.

Associate Professors: Ronald Baba (chairperson), social ecology decision making systems relating to the quality of the urban environment, urban planning, environmental design, impact of the designed environment on human behavior and health, problem solving and creativity systems; **Sidney Bremer,** literature and women's studies, the urban novel and artistic images of the city, fiction by and about women and ethnic figures, stereotypes and minority groups, American cultural and intellectual traditions; **Per K. Johnsen,** psychology, environment and behavior, social and behavioral consequences of design, human spatial behavior, privacy and territorality; **Peter Kellogg,** urban life and history, ethnicity in the U.S., modern U.S. history, civil rights; **David M. Littig,** urban politics, public policy, urban transportation, Latin American politics; **E. Nelson Swinerton,** political science (on leave); **C. Jarrell Yarbrough,** political science, constitutional law, public law, political theory, American government, urban and environmental public policy.

Assistant Professors: John I. Gilderbloom, urban sociology, public policy, housing, community politics, research methods, urban planning; **Gerrit Knaap,** urban economics, regional economics, public finance, environmental economics, land use planning.

The United States is an urban nation, and the keys to understanding the dynamic forces that shape its political economy, culture, and society may be uncovered through the study of its urban system. The major forces shaping our social structure, our central social and environmental problems, and the prospects for our future are directly related to the nature of contemporary urban life. Thus, the study of the city provides a rich context for undergraduate education. An urban focus is an obvious necessity for students who plan careers in design, administration, planning, human services, and related professions; however, because the city is a critical determinant of the nature of modern life, it also serves as a relevant vehicle for disciplinary studies in the social, behavioral, and policy sciences.

The city may be viewed from a variety of perspectives. It may be seen as a demographic phenomenon, a metabolic system, a politico-economic system, a value-shaping system, a physical construction, and a people-processing system. Therefore, it is not surprising that the study of the city requires a broad spectrum of empirical tools representing a range of practitioners. The observations of the statistician and the novelist are equally important to explaining and understanding the city and its impacts on society. The Urban Studies concentration offers a unique and effective approach to the study of the city.

The concentration provides an integrated view of the city as a specific focus for analysis and uses this view as a foundation for investigating contemporary social and environmental problems and the policy questions important to solving them. The concentration also focuses on the city as a place of diversity, excitement, and creative activity. The program of study provides students with a set of theoretical models of urban phenomena which are then synthesized into an interdisciplinary definition of the city. This interdisciplinary focus brings the theoretical power of the several disciplines in the concentration to bear on urban phenomena. The result of this synthesis is a richer and more sophisticated understanding of the city than would otherwise be possible.

The elements of this interdisciplinary focus are presented in the concentration's core courses. After completing an appropriate selection of core courses, each student selects an area of emphasis in consultation with a faculty adviser. Thus, the student develops an interdisciplinary view of the urban place and then a chooses specialization in: a **thematic area** such as ethnic studies, U.S. Studies, or Women's Studies; a **professional field** such as urban planning, environmental design, or urban administration; or a **discipline** such as political science, sociology, or psychology. A concentration in Urban Studies offers a creative and effective way to integrate the major disciplines to achieve a liberal education with a concrete focus and several possible courses of study leading to graduate work and/or professional practice.

The Urban Studies concentration offers students unique opportunities to combine theoretical material from the classroom with practical experience in the community. Each faculty member at UWGB is responsible for significant community service activities. As a result, the Urban Studies faculty plays an active role in the local Plan Commission, the Transit Authority, the Redevelopment Authority, and other such policy-making bodies. Other contacts include state and federal agencies and other civic, educational, and service institutions. This broad range of contacts is rich with opportunities for field work placements and internships for students. Also Urban Studies courses often focus on problems and issues important to the community. In many instances, the products of student projects have had significant impacts on local decision making.

Because of the University's location in Green Bay, teaching and research tend to focus on cities which fall into the mid-range of population size. These cities exhibit high population growth rates and represent a rapidly expanding market for urban professionals. Thus, the concentration offers students exceptional opportunities to prepare for careers where there is most likely to be a growing demand in coming years.

Program of Study

All Urban Studies majors are required to complete Introduction to Urban Studies, 944-200. In addition, the Urban Studies curriculum includes a 6-credit requirement for tool courses which focus on specific methodological or quantitative skills. While this requirement is normally fulfilled by the completion of Social Science Statistics, 255-205, and Foundations for Social Research, 255-301, other courses may be selected after consultation with the Urban Studies adviser.

The heart of the Urban Studies program is a group of core courses which are carefully designed to give each student a solid foundation in understanding the city and the nature of urban life. These courses have been separated into four groups. Students must complete five core courses including one from each group.

Social and Behavioral Sciences
944-302 Urban Behavior
944-303 Urban Sociology

Policy Sciences
944-309 Urban Economics
944-305 Urban Politics and Policy

Decision Processes
944-304 Urban Planning
944-307 Urban Public Law

Humanities
944-313 Urban History
944-306 Urban Aesthetics

The remaining credit requirements for a major in Urban Studies depend on the specific area of emphasis chosen by the student.

Example programs are presented in detail in the brochure, *UWGB Programs in Urban Studies*, available in the concentration office.

These different courses of study allow students to prepare for a variety of professional careers or graduate study in a number of disciplines or professional fields. Obvious choices include careers in human services, education, city planning, urban administration, law, communications, journalism, and a number of business careers. In addition, the concentration offers excellent preparation for graduate study in political science, psychology, sociology, history, and many professional programs including human services, urban planning, urban administration, public administration, business administration, or women's studies.

Anthropology

Professor: James Clifton, applied anthropology, Native American studies, religion, ethnohistory.

Associate Professors: Anthony Gall (chairperson and adviser), cultural anthropology, cultural ecology, Italy, European Mediterranean; **Richard Logan,** culture and personality, psychological anthropology, Africa; **Lynn Walter,** cultural anthropology, women's studies, Ecuador, South America.

Assistant Professor: Joseph Mannino, physical anthropology, human variability, medical anthropology.

Anthropology is the comprehensive study of humans. It encompasses both the biology of human populations past and present and the study of culture and cultural development. It is an area with much intrinsic fascination, a broad perspective on the nature of human life, and many applied uses.

Because of the broad scope of the field, which ranges from the study of aesthetic systems to the study of human genetics, a program in anthropology combines readily with most of the interdisciplinary concentrations; for example, Human Development, Humanistic Studies, Human Biology, Communication and the Arts, Regional Analysis, or Social Change and Development.

Skills and special perceptions gained through the study of anthropology can be applied to a variety of vocational and professional interests, including government work, social service and health-related professions, museum and field work, environmental impact analysis and cultural resource management, education, and advanced graduate study. More than ever, anthropology is expanding its professional horizons in the direction of applied areas, and excellent opportunities for graduate study in fields such as medical anthropology, cultural resource management, educational anthropology, and urban anthropology now exist around the United States. The adviser can offer suggestions about career oriented programs to combine with anthropology.

Program of Study

Students intending to study anthropology should see the chairperson/adviser early in their college careers. Generally an anthropology program should be preceded by at least three of the lower division courses:

156-100 Varieties of World Culture
156-110 Introduction to Physical Anthropology
156-210 Introduction to Cultural Anthropology
156-215 Introduction to Prehistoric Archaeology
156-220 Myth, Ritual and Religion

The 24 upper division anthropology credits required for an anthropology major are drawn from both anthropology listings and courses taught in other departments. Normally this program includes the following as a core:

156-303 Cultural Ecology
156-304 Family, Kin, and Community

156-342 Human Evolution
OR
156-364 Human Variability

246-322 Modern Linguistics

The remaining 12 credits are selected from upper level anthropology and related course offerings with the approval of an adviser.

Anthropology students are encouraged to take part in archaeological and ethnographic field schools offered during the summer by many colleges and universities both within the United States and abroad. Transfer credit is granted for such activities. Independent study on a group or individual basis can be arranged for students whose interests fall outside the range of UWGB anthropology course offerings.

The anthropology program also sponsors an internship in museum anthropology at Green Bay's Neville Public Museum which allows hands-on experience in various aspects of museum work.

Economics

Professor: James M. Murray, regional economics, regional economic development, new planned communities, labor economics, minority economics, economic and social security.

Associate Professors: Kumar Kangayappan (chairperson), economic theory, economic development, land economics, economics of poverty, monetary theory and policy; **Ismail Shariff,** economic development and policy, business cycles, international trade, cooperative economic principles and descriptive methods of regional analysis; **Larry Smith** (on leave 1983-84), population economics, agricultural economics, economic development, economic history and social change, resource economics, technological innovation and adaptation, discrimination and minority problems, monetary history and theory; **Michael D. Troyer,** health economics, management of nonprofit organizations, health planning, business ethics and social responsibility, labor economics, resource economics, and public finance.

Assistant Professor: Gerrit Knaap, urban economics, regional economics, public finance, environmental economics, and land use planning.

Economics is the systematic study of the use of resources and the processes involved in producing, distributing, and consuming goods and services. It involves analyzing how an economy evolves, how it is organized, and how it functions. It also includes the study of institutions, including households, business firms, government, money, education, and human values.

When related to an appropriate interdisciplinary program, the disciplinary program in economics is oriented to analyzing contemporary economic problems and determining alternative aproaches to solving these problems. It prepares students for active roles in business, industry, governmental agencies, educational institutions, and a host of community organizations. It also provides appropriate preparation for graduate studies in economics or business and for law school.

Some of the most common employers of persons with specialization in economics are banks and investment firms, government agencies, market research departments and firms, insurance companies, management consulting firms, advertising agencies and departments, labor unions, and business firms.

Students in economics often work in related fields such as insurance, real estate, market research and analysis, land use planning, financial planning, credit and collection agencies, advertising management, sales management, statistics, systems analysis, and administration at federal, state, county, and municipal levels.

Program of Study

Economics is frequently combined with social science or business concentrations, especially Regional Analysis, Social Change and Development, Urban Studies, and Managerial Systems. A program including courses in economics, mathematics, computer science and/or natural and physical sciences within the concentration in Science and Environmental Change also is recommended.

Students planning a program in economics may take courses in other disciplines or concentrations for economics credit. The chairperson of the disciplinary program may approve such an arrangement. Particularly relevant courses may be found in history, the social sciences, or in several of the concentrations.

It is generally recommended that students take Economics 202, Macro Economic Analysis, and 203, Micro Economic Analysis, before enrolling in upper level courses.

The economics disciplinary program encourages self or cooperative education and rewards it through credit by examination. Those with prior experience in economics are encouraged to discuss with a faculty adviser gaining credit by examination for 298-202 and 298-203.

A sample program for an economics major is listed below. All-University requirements, the interdisciplinary concentration, and electives are not included.

Freshman Year
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis

600-101 Intermediate Algebra
OR
600-104 Elementary Functions: Algebra and Trigonometry

Sophomore Year
298-302 Intermediate Macro Economic Theory
298-303 Intermediate Micro Economic Theory
298-330 Money and Banking
600-201 An Overview of Calculus Techniques
600-256 Introduction to Computer Science I

298-304 Contemporary Labor Markets
AND/OR
298-305 Natural Resources Economic Policy
AND/OR
298-306 Public Finance and Fiscal Policy
AND/OR
298-308 Business Cycles

Junior Year
298-307 Sources of Contemporary Economics Concepts
600-260 Introductory Statistics

298-401 Regional Economic Analysis
AND/OR
298-402 Resource Economics Analysis
AND/OR
298-404 Economics of Developing Areas

Senior Year
298-403 International Trade
298-406 Comparative Economic Systems and Institutions
298-498 Directed Study (combining economics and interdisciplinary concentration)

Geography

Professor: Donald A. Gandre, economics, transportation, urban land use, United States and Canada, Great Lakes Region.

Associate Professors: William G. Kuepper (vice chancellor), climatology, low-latitude environments, migration, Africa; **William G. Laatsch** (chairperson) settlement, northern lands, rural landscapes, historical.

Geography is the systematic study of the location, variations, and interrelations of natural and cultural features of the earth. Since UWGB has as its special mission an institution-wide focus emphasizing "interdisciplinary, problem-centered study of humans and their environment," the study of geography is particularly appropriate, for it is one of the disciplines that can effectively examine the world and its problems with a view to comprehensive understanding.

An emphasis in geography enables a student to understand spatial variation and relationships in terms of particular topics or to consider a number of physical and human phenomena within a particular region or regions.

Program of Study

Programs which emphasize geography normally fall into three clusters: physical geography; cultural geography; regional geography.

Students emphasizing **physical geography** would likely take the following courses: The Earth's Physical Environment, Geomorphic Processes, Landform Geography: Topics and Regions, Regional Climatology and Soil Classification and Geography. Courses appropriate to **cultural geography** majors include: Introduction to Cultural Geography, Economic Geography, Urban Geography, Social Demography, and Geography of Conflict Areas.

Students interested in **regional geography** would select a number of area courses such as: Introduction to Regional Analysis, Geography of Africa, Geography of the United States and Canada, and the like. Students in this area also would undertake some study in a systematic or topical field such as climate, landform, or cultural geography.

All geography students are expected to be competent in a number of skill areas. These include: public address, statistics, expository writing, computer science, cartography, air photo interpretation, field methods, and remote sensing. The geography laboratory houses computing, digitizing, and plotting equipment as well as advanced cartographic and interpretation devices.

Geography students combine their geography studies with an interdisciplinary program. For example, physical geography students would likely choose Science and Environmental Change for the interdisciplinary work. Students emphasizing regional or cultural geography would probably choose Regional Analysis, Urban Studies or Social Change and Development. Prospective geography students should refer also to the descriptions of those concentrations. Each student will plan a program of study appropriate to his or her needs with the help of faculty advisers.

Political Science

Professors: Martin H. Greenberg, international politics, foreign military policies, comparative politics, Middle East; **Michael E. Kraft** (chairperson), American politics, Congress, public policy analysis, environmental politics; **Edward W. Weidner** (chancellor), problem-oriented higher education, development administration.

Associate Professors: Daniel J. Alesch, public planning, state and local government, program planning and evaluation; **Bruce B. Clary,** public policy, urban policy and management, administrative theory, social science theory and methods; **David M. Littig,** urban politics, transportation policy, political behavior, Latin America; **C. Jarrell Yarbrough,** political theory, public law, American politics, environmental policy and administration.

Political science is concerned with the systematic study of political behavior, political processes, governmental institutions, and public policies. The program at UWGB gives special attention to governmental activities directed at a wide range of contemporary public problems, from urban transportation to international conflict.

Courses deal with specific problems, public policy, or political processes and behavior affecting resolution of public problems. Some courses stress the structure, functions, and operation of governmental institutions, including formulation and implementation of public policies in local, state, national, and international political systems. Others examine the cultural, social, economic, and ideological contexts of political systems in an effort to understand political behavior and decision making in government. One set of courses focuses on politics and political behavior, including the nature and role of public opinion, interest groups, political parties, and elections. Another is concerned primarily with the history of political ideas and how they relate to modern political issues. A third emphasizes methods of inquiry and analysis used in the study of government, politics, political behavior, and public policy.

The political science program complements a variety of concentrations and professional programs at UWGB, especially those in the social sciences and in administration: Urban Studies, Social Change and Development, Regional Analysis, Public and Environmental Administration, and the Business Administration major. With its emphasis on understanding public problems and the role of government and politics, political science is particularly useful for students planning careers in journalism, law, planning, education, business, foreign service, politics, and public service positions with private and public agencies at the local, state, regional, and federal level.

Program of Study

A major in political science consists of 24 credits of upper-division courses (300 level or above) and 6 credits of lower-division courses. A minor in political science requires 16 credits of work in the discipline. Many courses are acceptable for political science credit, including those preceded by the disciplinary number (778) and others designated by the faculty as acceptable.

Each major must include at least one course in each of four subfields of the discipline: American government and politics (which includes public policy and public law); political theory; comparative government and politics; and international politics. Up to six credits of directed study may be applied toward the minimum requirements for the major. Transfer students completing a major in political science must take a minimum of 12 of the 24 upper-division credits at UWGB.

Most students begin work in the program with either Introduction to Political Science (100) or American Government and Politics (101). Those who wish to satisfy the social science all-University requirement may combine American Government and Politics (101) with Public Policy and Administration (350-102), Environmental Politics and Administration (350-301), or Political Behavior (778-218). Another sequence that meets all-University requirements combines Introduction to Political Science (100) with Freedom and Social Control (875-204) or Political Behavior (778-218). Other lower-division courses suitable for beginning students are Political Behavior (218) and Understanding Presidential Elections (215).

These courses are acceptable for political science credit:

Lower-Division Courses

350-102	Public Policy and Administration
778-100	Introduction to Political Science
778-101	American Government and Politics
778-215	Understanding Presidential Elections
778-218	Political Behavior
778-298	Independent Study

Upper-Division Courses (by subfield)

350-410	Administration of Local Government I
778-310	American Presidency
778-312	Community Politics
778-313	Elections and Voting Behavior
778-410	Intergovernmental Relations
778-412	Political Parties and Pressure Groups
778-416	American Legislative Process
944-305	Urban Politics and Policy

Public Policy:

350-301	Environmental Politics and Administration
350-305	Regulatory Policy and Administration
350-460	Public Policy Analysis
944-311	Studies in Urban Resources: Shoreline Management
944-351	Transportation and the City

Public Law:

778-320	Constitutional Law
778-330	Law and the Judicial Process

Comparative Government and Politics:

448-352	History of Modern China
448-354	History of Modern Southeast Asia
778-351	Comparative Political Systems
778-353	Politics of Developing Systems
875-385	Dynamics of Revolutionary Change

Political Theory:

778-340	Political Theory

International Politics:

416-378	Geography of Conflict Areas
778-360	International Politics
778-368	Geopolitics of World Regions
778-460	American Foreign and Defense Policies

778-498	Independent Study (available for each of the above fields)

Psychology

Professors: Eric Knowles (chairperson), experimental social, environmental, and personality psychology; **Nicholas Pollis,** social psychology, group processes, intergroup relations, organizational development, urban stress; **William Smith,** human-environment relations, group processes.

Associate Professors: Bela Baker, cognition, motivation, impact of change; **Fergus Hughes,** developmental psychology and aging; **Per Johnsen,** social, environmental, community, and architectural psychology; **Charles Matter,** cognitive processes, perception, aesthetic perception, behavorial toxicology; **Robert Mendelsohn,** community, clinical, social, and cognitive psychology.

Assistant Professors: Andrea Lindstrom, personality, clinical, gerontology; **Lloyd Noppe,** life-span human development, cognitive styles, creative thought, formal operations; **Dean Rodeheaver,** adult development, sex role socialization.

Psychology is the systematic and scientific study of behavior and experience. It seeks to explain the physiological, personal, social, and environmental conditions that influence thought and action. Research with humans and animals aims at understanding, predicting, and influencing behavior. In the past 100 years, psychology has moved from being a branch of philosophy to being both an experimental science and an active helping profession.

The psychology program provides solid undergraduate training in all areas of psychology. Graduates have found careers and have been admitted to post-graduate education in all branches of psychology. The program at UWGB is particularly strong in social, developmental, community, and environmental psychology. Course offerings, facilities, and experiences in these areas allow advanced and specialized training. Students have opportunities for practical experiences in a variety of community agencies, computer facilities, an animal research laboratory, a human research laboratory, and various child care facilities.

Psychology helps to deepen understanding of individual and social behavior and provides a strong general background for many careers. Psychology graduates are employed in a variety of positions with social and community service agencies, businesses, research institutes, and governmental agencies. Preparation for specialized professional work such as testing, counseling, university teaching, and many research activities usually requires a post-graduate degree (master's or doctorate). Preparation for post-graduate education should combine a broad program in liberal arts with a sound background in general psychology and should emphasize research skills and experiences.

Many graduates continue their professional training in such fields as social work, education, medicine, and business as well as in psychology. Students considering post-graduate education should meet with the chairperson or a member of the faculty early in their undergraduate career so that an appropriate course of study and experiences can be planned.

Programs of Study

The study of psychology can be combined with any of the interdisciplinary concentrations in the University, depending on the student's particular focus and areas of emphasis. Students should examine opportunities offered by each of the concentrations and should consult with a faculty member in psychology. Often, interdisciplinary programs in the social sciences are selected by students interested in social, environmental, clinical, developmental, or general psychology; those in the humanities are selected by students interested in philosophical and aesthetic psychology; those in the life sciences are selected by students interested in physiological, population, and biological psychology; and those in the physical sciences are selected by students interested in quantitative or mathematical psychology.

Combining psychology with one of the professional and preprofessional programs, such as Environmental Design, the Business Administration major, Education, Public and Environmental Administration, Recreation Resources, or Social Work, can strengthen knowledge or career orientation in that particular area.

REQUIREMENTS

Students electing psychology develop programs of study that meet these minimum requirements:

3 credits introduction to the discipline, chosen from:
481-210 Introduction to Human Development
820-102 Introduction to Psychology

3 credits in statistics, chosen from:
255-205 Social Science Statistics
600-260 Introductory Statistics

4 credits in experimental methods:
820-300 Experimental Psychology

3 credits in general psychology, chosen from:
820-306 Psychology of Perception
820-309 Psychology of Motivation
820-338 Psychology of Learning
820-417 Psychology of Cognitive Processes
820-450 Psychological Stress and Adaptation

3 credits in social behavior, chosen from:
820-335 Psychology of Attitude and Public Opinion
820-337 Social Behavior Dynamics
820-415 Organizational Psychology
820-416 Psychology of Intergroup Relations
820-438 Group Dynamics

3 credits in developmental psychology, chosen from:
481-331 Human Development I: Infancy and Early Childhood
482-332 Human Development II: Middle Childhood and Adolescence

11-12 credits in areas of specialization, chosen from:
Any 300 or 400 level psychology course
246-324 Psycholinguistics
302-406 Evaluation and Testing in Education
478-313 Brain Functions in Human Behavior
478-413 Neurophysiology
481-336 Sex Role Development in Contemporary Society
481-431 Cognitive Development
481-432 Cultural Impacts on Human Development
481-433 Human Development III: Adulthood and Later Maturity
481-436 Counseling with Children and Adolescents
481-437 Counseling with Adults and the Aged
600-364 Biometrics
736-406 Philosophical Problems in the Sciences: Psychology
834-325 Behavior in Designed Environments I
834-326 Behavior in Designed Environments II
875-311 The Role of Punishment in Society
875-371 Motivation and Social Change
944-435 Socio-Cultural Aspects of Urban Stress

Appropriate Selected Topics (483X) or Directed Studies (498) on approval of adviser.

Sociology

Associate Professors: Harvey J. Kaye (chairperson), political economy and inequality, historical and comparative sociology, sociology of culture; **Carol Pollis,** sociology of sexuality, families and intimate relationships, education, social change and societal development, theory.

Assistant Professors: John Gilderbloom, urban and political sociology, housing and public policy, research methods; **Walter Groves,** criminology, deviance, punishment and social structure.

The program in sociology is designed to provide understanding of the variety of sociological approaches used in studying both large scale and small scale patterns of social relationships and processes by which these patterns change over time. On the one hand, sociology involves the scientific study of social behavior and social systems. But sociology is also a humanistic discipline concerned with values, social problems, social conflict, and planned change. It seeks to engage students in a critical analysis of ideas of current social concern from sociological perspectives.

Sociology is often seen as more of a liberal arts field than a specific vocational one. People with an undergraduate major in the field, therefore, have career opportunities among the many employers seeking people with liberal arts backgrounds.

Careers may be found in adoption and child care agencies, schools, community and service organizations, recreation programs, courts and correctional institutions, government agencies, hospitals, labor unions, personnel departments and many other organizations. The kinds of careers available to students with sociology majors might include working with programs dealing with housing, child care, or nutrition; working as counselors in the areas of guidance, rehabilitation, and vocational selection; working in research organizations as interviewers *or statisticians*; and teaching.

Students who want more specific career preparation may combine sociology with one of the professional programs in Business, Education, Public and Environmental Administration, Social Services, or Recreation Resources or with a preprofessional program in prelaw, city planning, or community development.

Program of Study

Requirements for a comajor in sociology are consistent with those of many sociology programs throughout the country. These requirements recognize the need for breadth and specialization of knowledge and the need for understanding theoretical and empirical bases upon which sociological knowledge is built. Students are asked to take courses dealing with major theories and research methods of the discipline and to design a program that aims for some specialization or focus consistent with their interests and concentration program. Some examples of such areas of focus are *population or demography*, criminology and delinquency, social equality and inequality, urban sociology, organizations, and development sociology.

Additional breadth of knowledge, specialization, and problem focus are gained by combining sociology with one of the concentration or interconcentration programs.

A comajor in sociology requires 24 credits of upper division courses—those at the 300 level or above—and 6 credits of lower division courses—those at the 200 *level or* below. These requirements are:

Lower Division Requirements (6 credits)
900-202 Introduction to Sociology
255-205 Social Science Statistics
OR
600-260 Introductory Statistics

Upper Division Requirements (24 credits)
255-301 Foundations of Social Research
900-307 Social Theory

A minimum of 9 credits from the following sociology courses:
900-302 Social Stratification
900-304 Deviant Behavior
900-311 Collective Behavior and Social Movements
900-312 Social Change
900-356 Social Demography
900-404 Criminology
900-406 Comparative Social Systems
900-407 Sociology of Organizations
900-484 Senior Distinction
900-498 Directed Study

A maximum of 9 credits from courses such as the following, approved for credit toward a sociology major:
156-303 Cultural Ecology
156-304 Family, Kin and Community
820-337 Social Behavior Dynamics
820-438 Group Dynamics
875-360 Models and Social Change
875-378 Drug and Alcohol Use in Society
944-303 Urban Sociology

Ways of combining the major in sociology with a specific concentration or interconcentration program should be discussed with one of the faculty. Students are encouraged to take advantaged of internships when they fit with a program and to seek learning experiences which will actively involve them in their own learning.

Professional Studies

Business Programs

(Majors in Business Administration and Managerial Accounting)

Professor: John Powers, small business feasibility, small business management, and director, Small Business Feasibility Center.

Associate Professors: William Conley, quantitative methods and computer sciences; ***John Harris,*** *management* and organization behavior; **Robert Obenberger,** general marketing, promotion, and marketing for nonprofit organizations; **Michael Troyer** (chairperson), management of service operations, nonprofit organization management and finance, and economics; **Karl Zehms,** financial accounting theory, nonprofit accounting, and information systems.

Assistant Professors: Maurice Better, labor and economics and coordinator, School for Workers; **Ian Redpath,** law; **John Farah,** sales and public relations.

Instructor: David Shalow, corporate finance, investments, risk and insurance.

Lecturers: Laurey Berk, corporate finance, investments, personal finance; ***Richard Fille,*** *finance and investments*; **Larry Franke,** managerial accounting; **Larry Kostroski,** management, director of Small Business Development Center; **Lee Larsen,** managerial accounting, cost accounting, and budgeting; **Marilyn Sagrillo,** auditing theory and practice and accounting information systems; **Sheldon Satter,** personnel management, compensation and benefits planning, and employment practices; **Daniel Spielmann,** law and collective bargaining; **Dale Thomas,** industrial management and director, Small Business and Outreach program; **Ann Wolf,** basic financial and management accounting theory and practice.

Programs in business offered through the Managerial Systems concentration, are designed to prepare graduates for success as business professionals. Today's business professional is an analyst, decision maker, and organizer who must function effectively within changing economic, social, and political environments. Each student earning a degree will have the opportunity to acquire sound technical knowledge in his or her field of speciality, broad preparation in the other functional business disciplines, and general analytical and decision making knowledge and skills.

Analytical capabilities and superior skills in written and oral communications are especially beneficial for success in business. The program is structured to enhance and develop these skills and abilities.

The advancing business professional is characterized by breadth of perception and an ability to deal with people through understanding, and maturity of judgment. These attributes are fostered and developed through the University's interdisciplinary study program in the liberal arts and sciences. An important goal is to prepare students to become business leaders of the future.

Students may select a **major in managerial accounting** or a **major in business administration.** The business administration major offers programs in finance, management (including personnel management and labor relations), marketing, and nonprofit organization management. Within each of these areas students may pursue a variety of career-directed professional programs. The accounting major prepares students for careers in public accounting or managerial accounting. The business administration or managerial accounting graduate may earn either the Bachelor of Science or Bachelor of Arts degree. Degree recipients will be prepared for immediate entry into a variety of professional positions in business, human service, public or governmental organizations.

Admission Requirements

Freshman and sophomore students pursuing a degree in business administration or managerial accounting are enrolled in a prebusiness curriculum consisting of all-University requirements courses and lower division business foundation courses. In order for students to be considered for admission to the business core as a managerial accounting and/or business administration major, they must apply for admission to the major and be accepted by the business faculty. Application must be made in the second semester of the student's sophomore year.

To be eligible for admission, students must meet these criteria:

1. Possess a minimum 2.3 or better grade point average (GPA) on all college work completed prior to the date of application, with 44 earned credits required as a minimum base for GPA calculation.

2. Complete the following business foundation courses with a minimum grade of "C" or better in each course and a minimum GPA of 2.3 or better for all six: 298-202, 298-203, 552-105 (or 575-101), 600-150, 600-152, 600-260, and 575-300. Managerial accounting majors substitute 600-151 for 600-150.

Only the most qualified applicants are admitted from this pool of students who are eligible. The number of students admitted is determined by budget, enrollment, and other considerations and may be cause for altering the eligibility standards. The criteria apply to all full time and part time students, including transfer students. Special students who eventually elect to pursue a business degree must meet the above eligibility requirements.

Selection of students for admission to the major from the pool of eligible candidates is made on the basis of the grade point average achieved on those courses specified under number 2 above. This GPA criterion, which ranges from 2.3 up, will be announced at the beginning of the term preceding the term in which it is applied to those seeking admission.

Application Procedures

Applications must be submitted in the second semester of the sophomore year (48-62 earned credits) and after students complete the six business foundation courses described above. A student who has not completed all of the above courses may be granted conditional admission **if the remainder of those courses are in progress at the time of application.** Students conditionally admitted will be granted permanent admission when they satisfactorily complete these courses. Application forms are available in the Registrar's Office and in the Managerial Systems Office. An official, current University transcript must accompany the completed application.

To be considered for fall semester admission, students must complete and file their application on or before March 1. To be considered for spring semester admission, students must complete and file their application on or before October 15. Students who have questions about admission to the programs in business administration or managerial accounting should contact the Managerial Systems Office.

Programs of Study

A major in business requires 36 credits specifically within the business program. It is comprised of four components:

Pre-Business and Business Foundation Courses: This component provides breadth, perspective, and skills necessary to a sound professional background.

Business Core Courses: This group of six courses covers the broad functional areas in business providing the student a general business perspective and a firm basis for selecting and developing a field of emphasis.

Business Emphasis Courses: These courses enable students to acquire substantial knowledge in a particular field of business or administration. In this component students may complete a major in managerial accounting, or a major in business administration with a field of specialty in marketing, finance, management (including personnel management) or nonprofit organization management. Within each field there are a variety of career directions students might pursue. For example, in marketing there are six different career-directed tracks including general marketing/brand management, retailing/wholesaling, and market research/market analysis.

Supportive Field: Business administration majors also must complete a minimum of 18 credit hours in nonbusiness courses selected from a concentration other than Managerial Systems. The supportive field may be in the humanities, fine arts, social sciences, or natural sciences and mathematics. Accounting majors satisfy this requirement within the required course work of the major.

Specific Program Requirements

Specific requirements of each component in the business student's program of study are described in the following section.

PRE-BUSINESS AND BUSINESS FOUNDATION PROGRAM

All-University Requirements (30 credit hours)
All-University requirements are described at the beginning of this section of the catalog.

Foundation Subjects (26-30 credit hours)
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis

246-133 Fundamentals of Public Address
OR
Equivalent course in speech delivery

552-105 Introduction to Expository Writing (or 575-101 Effective Business Communication)
575-217 Quantitative Methods for Administrative Decisions
575-300 Introductory Accounting
*600-150 BASIC: A Programming Language
600-152 An Overview of Computer Concepts
600-260 Introductory Statistics

*Students pursuing the accounting major, in place of 600-150, should take:
600-151 *Introduction to COBOL*: A Business Data Processing Language
AND
600-201 An Overview of Calculus Techniques

BUSINESS CORE COURSES (18 credits)
*575-302 Accounting for Administrators
575-305 Business Law I
575-322 Basic Marketing
575-343 Corporation Finance
**575-362 Principles of Personnel Management
575-382 Principles of Management

*Nonprofit organization students should substitute 575-316, Governmental and Institutional Accounting.

**Accounting majors in lieu of 575-362, should complete 575-306, Business Law II.

BUSINESS EMPHASIS (Accounting or Business Administration)

Accounting Major (35 credits)

This program is designed for students who wish to pursue a professional career in accounting. Typical graduates attain entry level professional positions in business, industry, public accounting, and government. Graduates are qualified for the Certified Management Accountant (CMA) Examination and the Certified Public Accountant (CPA) Examination.

Course work required includes:
575-301 Intermediate Accounting
575-312 Managerial Accounting I
575-313, 314 Financial Accounting: Theory and Practice I,II
575-316 Governmental and Institutional Accounting
575-410 Income Tax Theory and Practice
575-411 Financial Information Systems
575-412 Auditing Standards and Procedures
575-414 Advanced Managerial Accounting
575-442 Problems of Investment
298-330 Money and Banking
A 300-or 400-level course in marketing
A 300-or 400-level course in management
AND
Two of the following three courses
575-345 Risk Management
575-442 Principles of Investment
575-415 Income Taxation II

Electives are chosen in consultation with an accounting adviser to achieve 124 degree credits.

Business Administration Major (36 credits)

Students select five upper level courses beyond the principles or introductory courses in their field of specialty and select one additional upper level course in each of the two areas not chosen as the field of speciality (excluding nonprofit organizational management). Thus a speciality in finance would lead to selecting 15 credits of finance, 3 credits of marketing, and 3 credits of management.

Students choosing nonprofit organization management must complete the designated course in each of four areas, including management, marketing, finance, and accounting (575-385, Management of Nonprofit Organizations; 575-429, Marketing Strategies for Nonbusiness Organizations; 575-448, Financial Management of Nonprofit Organizations; and 575-316, Governmental and Institutional Accounting), and then select 9 credits of additional upper-level course work in consultation with an adviser.

Emphases and the tracks *within each* are:

Finance Emphasis
Corporate Financial Management
Financial Institution Management

Marketing Emphasis
Brand Management/General Marketing/MBA Preparatory
Sales/Sales Management
Advertising/Advertising Management
Retailing/Wholesaling
Market Research/Market Analysis
Non-Business Marketing

Management Emphasis
General Management
Personnel Management
Small Business Management

Nonprofit Organization Management Emphasis
This area focuses on the unique administrative characteristics of nonprofit organizations and prepares graduates for further study or employment in health care, educational, social service, religious, charitable, philanthropic, planning, or other community and human service organizations of a public or private nature. The emphasis can readily be linked with a variety of other University programs that provide career preparation, including social work, arts management, nursing, and others.

Electives are chosen in consultation with a business administration adviser to total 124 degree credits.

***SUPPORTIVE FIELD* (18 credits)**

This requirement for business administration majors provides additional interdisciplinary perspective, judgment, and expertise in subject areas which support students' career objectives.

Following are some examples. Students interested in careers in the printing or art industries would select a field of specialty in management or marketing and a supportive field in graphic communication. Students interested in entry-level management positions in the paper industry might complete their supportive field of study in chemistry and physics. Students who seek entry into international business might appropriately take a supportive field of study that includes foreign languages. A supportive field of study including courses in money and banking, regional economics, geography, and regional studies would be appropriate for a student interested in finance and the banking industry. A student with an interest in health care or human services might combine nonprofit organization management with an outside field in human development or human biology.

Business advisers help students identify programs consistent with their aptitudes and career objectives.

Business Administration Minor for Nonbusiness Majors

A minor in business administration for nonbusiness majors consists of 21 credits. Students pursuing the minor must complete a major in an area of study other than those offered by Managerial Systems, for example, Science and Environmental Change, Communication and the Arts, Humanistic Studies, Regional Analysis, or other programs.

The business minor acquaints students with the basics of the administrative process so that, upon graduation, they are more capable of applying their major areas of expertise in any sort of organization. For example, a student with a background in biology might find employment in a laboratory at a local paper company. A fundamental awareness of business administration coupled with knowledge of biology might enable the new employee to function more effectively and be more "promotable" in a business organization such as a paper company. Almost all graduates in any field of study will eventually be either employed by or closely interact with business, governmental, or nonprofit organizations. The minor enables students to function and participate more effectively in such behavioral settings.

Requirements

A total of 21 credits in the areas of business administration is required to complete a minor:

575-300 Introductory Accounting

575-305 Business Law I
OR
575-343 Corporation Finance

575-322 Basic Marketing
575-382 Principles of Management

Three other upper division courses in business administration must be selected in conjunction with a business administration faculty member.

For more information about the minor, prospective students may contact the Managerial Systems concentration office.

Education

Professors: Michael Kazar (emeritus); **George O'Hearn,** science education.

Associate Professors: Lyle Bruss (adjunct) educational planning; **Dennis Bryan,** curriculum development and evaluation; **James Busch** (chairperson), science education; **Margaret Laughlin,** curriculum and social studies education; **Norris Sanders** (emeritus); **Richard Presnell,** environmental education; **Philip Thompson,** English, language arts and aesthetic education; **Thomas Van Koevering,** science education and environmental education.

Lecturers: Robert Darula, counseling and human relations skills; **Marge Engelman,** adult education; **Joan Thron,** children's literature.

The Education professional program can prepare students for the teaching profession and/or for a variety of education-related professional areas. UWGB has certification programs in these subjects and grade levels:

Early childhood education (nursery and/or kindergarten)
Elementary education (grades K-6, 1-6, and/or 4-8)
Elementary art teacher
Elementary music teacher
Secondary education:
- Anthropology
- Art (secondary or K-12)
- Athletic coaching
- Biology
- Chemistry
- Communication arts
- Computer science
- Conservation
- Drama
- Earth science
- Economics
- English
- English as a second language (elementary, secondary or K-12)
- French (secondary or K-12)
- Geography
- German (secondary or K-12)
- History
- Journalism
- Mathematics
- Music: instrumental, general or choral (secondary or K-12)
- Native American languages: Oneida (secondary or K-12)
- Physical science
- Physics
- Political science
- Psychology
- Science: broad field
- Social Studies: broad field
- Sociology
- Spanish (secondary or K-12)
- Speech

All of these certification programs are fully approved by the Wisconsin Department of Public Instruction for preparation for licensure as a teacher in Wisconsin.

Persons who have completed UWGB's certification programs also qualify for certification in most other states.

For students whose career goals are not the traditional roles of classroom teacher in the formal public or private school context, the education program offers opportunities, too. Such students may pursue noncertification programs which are individually planned to relate to their particular educational needs and career goals. Some examples of such career fields—many of which are recent developments in our society—include: environmental education and nature center programs, labor education programs, business and industry education programs, educational media, social services agency educational programs, educational advocacy, parent education, education for the elderly, youth and adult community programs, leisure education. Noncertification programs like these also may be valuable components of an undergraduate program for students who plan to continue their educations in graduate or professional schools, such as law, medicine, and other fields.

The Education program emphasizes integration of theory and practice. As a part of many courses, students have opportunities to work in community schools and agencies to gain practical experience in their selected fields. A student teaching experience lasting from eight weeks to a full 14-week semester is required for certification. A limited number of paid, semester-long internships are available as alternatives to student teaching for selected students. Also, credit can be arranged for a variety of field experience assignments through independent study and/or the course entitled, Field Experience in Environmental Education (302-451).

Many recent news stories have given the impression that there are no jobs for teacher education graduates. In fact, the employment opportunities vary greatly depending upon the area of certification. In secondary mathematics and physical sciences, for example, there is a critical shortage of new teachers. Students who are interested in a teaching career are strongly advised to consult an education adviser or the UWGB Placement and Career Counseling Office early in their university studies to obtain up-to-date information about job opportunities in education and advice on combinations of fields and grade levels of certification which offer the best prospects for employment.

Many job opportunities outside of education are open to persons with preparation in professional education because of the humanizing aspects of their professional preparation, their experience in working with people, and their training in organization and planning.

Teacher preparation is a cooperative responsibility of the Education faculty and various other departments of the University. While pursuing degree requirements in their chosen major, students also follow a program to meet requirements of the Wisconsin Department of Public Instruction for teacher certification as approved for UWGB. These include the academic requirements of the selected teaching major(s) and minor(s), professional education requirements, and the required skills development subjects in human relations and reading.

Admission to Teacher Education

Admission and program requirements and procedures described below are those in effect at the time this catalog was prepared. At times some changes may be necessitated by new state requirements, so students should contact the Education Office for current requirements which may affect their programs.

Preliminary Admission: When they are admitted to the University, students may choose any certification program in which they expect to complete requirements. Students planning to complete a teacher certification program are urged to confer with the education program adviser before they enroll or during their first semester at UWGB. Any student in good standing may enroll in foundation courses in education or in an education program not leading to certification.

Final Admission: Students may be admitted to the teacher certification program any time after their third semester or when they have completed 45 credits if they satisfy the following criteria:

A. A 2.5 cumulative grade point average.

B. Demonstration of competency in basic mathematics by passing the Advanced 2 Level of the Metropolitan Achievement Test in Mathematics with a scaled score of 815.

C. Demonstration of competency in English by meeting the UWGB English proficiency requirement described elsewhere in this catalog.

D. Freedom from physical or mental/psychological impairment which would substantially limit a person from performing the essential functions of a teacher candidate or teacher. Such physical or mental/psychological impairment shall not disqualify a person who with reasonable accommodation can perform the essential functions of a teacher. An examination and recommendation by an appropriate medical and/or other professional specialist will be required if deemed necessary.

Students who fail to meet one or more of these criteria may be considered on a special petition basis. Persons deciding to enter the teacher certification program later than the beginning of the junior year, as transfer students or as post graduates for initial certification, must also meet the above criteria.

Continuation in Teacher Education: Students may continue in the education program as long as they continue to meet conditions for final admission specified above and maintain these grade point averages:
—2.5 overall
—2.5 in professional Education program
—2.5 in certification major(s) and minor(s) (for secondary and K-12 certification students)

Re-entry into Teacher Education: Students who drop out of UWGB or the teacher certification program, or who are dropped due to failure to meet requirements for continuation in the program, will be readmitted if they meet requirements for continuation at the tme they apply for readmission. If more than one year elapses from the drop date to the date of readmission, such students will be required to have their certification program approved and will need to comply with any changes in certification program requirements which have occurred since their programs were initially approved.

Special Students: Students with bachelor's degrees from an accredited university or college can pursue a teacher certification program for initial certification or extension of their existing certification to additional grade levels or subjects by enrolling as special students. Such students should consult the Education Office for specific requirements and procedures.

Programs of Study

A student's program of study in education combines interdisciplinary and disciplinary course work constituting a liberal arts major that is related through courses in education to the certification sought or to other educational and career goals.

To be eligible for recommendation for certification as a teacher in the State of Wisconsin, a fully matriculated student at the University of Wisconsin-Green Bay must:

A. be enrolled in the UWGB teacher certification program (see above for requirements and procedures for admission and continuation in the teacher education program),

B. meet competency levels in subject matter areas outlined in the approved certification program,

C. meet competency levels required in the tool areas of human relations and reading as required by Wisconsin Department of Public Instruction Administrative Code,

D. meet competency levels required in the professional education sequence,

E. complete requirements for the bachelor's degree,

F. receive the recommendation of appropriate faculty for the bachelor's degree, and

G. receive the recommendation of the faculty in Education for teacher certification.

Following is an outline that students may use to plan a program in education:

All-University Requirements (30 credits)
All students must fulfill the all-University requirements described elsewhere in this catalog.

Major (30-36 credits minimum)
(Some programs require substantially more than the minimum requirements. Refer to descriptions in this catalog of specific major areas in which you are interested, or contact the Education program office for specific requirements for certification programs listed.) The major consists of study in an interdisciplinary area or the combination of disciplinary and interdisciplinary areas which is appropriately related to the student's certification field. For students in secondary education, this major must meet subject area competency requirements of the Department of Public Instruction.

Human Relations Requirements (9 credits)
This is required in the State of Wisconsin for all persons receiving teacher certification. It normally consists of 9 credits which may be met by appropriate selection of all-University requirements, and/or the major. The UWGB Education program office has the current list of courses which meet this requirement.

SPECIFIC REQUIREMENTS FOR EDUCATION SPECIALTIES

Early Childhood Certification

Required childhood development courses:
481-331 Human Development I: Infancy and Early Childhood
481-333 Observation and Interpretation of Child Behavior
481-334 Play and Creative Activities in Childhood
481-431 Cognitive Development

Required professional courses:
302-307 Elementary School Teaching Methods in Reading
302-402 Student Teaching (student teaching at both the preschool and kindergarten levels must be completed for certification at both levels.)
302-410 Introduction to the Education of Exceptional Children
302/481-441 History, Philosophy, and Curriculum Programs in Early Childhood Education
302/481-442 Curriculum and Program Development in Early Childhood Education
302/481-445 Early Childhood Center Administration and Community Resources

481-335 Introduction to Experience with Young Children
OR
Approved supervised experience with a group of young children.

Related competencies:
742-116 First Aid and Emergency Care Procedures
OR
A standard first aid certification is required.

The concentration in Human Development is a requirement for all undergraduate students seeking a degree and early childhood certification at UWGB.

Elementary Education (grades K-6, 1-6, or 4-8)

Required subject competencies (may be partially met by appropriate selection of distribution courses):

—Performing and Visual Arts
Sensitivity to the creative arts and the ability to encourage students to pursue creativity in music and art are essential competencies for the elementary teacher. Students are advised to pursue the arts as a means of communication, expression of individual and private worlds, social criticism, and cultural expression.

Art: Competency in art as demonstrated by the completion of one studio art course is required.
957-105 *Drawing*
957-210 Introduction to Painting
957-220 Introduction to Sculpture
957-230 Introduction to Ceramics

Music: Competency in musical terminology, basic note reading, rhythm and basic cord structure must be demonstrated by examination as a prerequisite to the elementary school teaching methods course in music, 302-304. Students with an insufficient background in music may develop this competency through 705-101, Basic Musicianship.

—Mathematics
600-281 Conceptual Foundations of Elementary Mathematics I
600-282 Conceptual Foundations of Elementary Mathematics II

For certification in grades 7 and 8, completion of a minimum of an additional 3 semester hours selected from the following list of courses is required:
600-104 Elementary Functions: Algebra and Trigonometry
600-150 BASIC: A Programming Language
600-152 An Overview of Computer Concepts
600-256 Introduction to Computer Science I
600-260 Introductory Statistics
355-205 Social Science Statistics

Another appropriate math course with the approval of the certification adviser.

—Reading and Language Arts
Students are advised to develop competencies in the area of reading and reading disabilities beyond those provided in the reading methods course. In addition, students are encouraged to elect work in the areas of communication arts and children's literature.

—Science
Competencies in the natural sciences are essential to teaching in the elementary school. Students seeking certification in K-6 or 1-6 are required to select one course, or equivalent, in each of two of the areas listed below, one of which must include laboratory and/or fieldwork. Students seeking certification in grades 4-8 must select one course, or equivalent, in each of the three areas, A, B, and C.

A. Biological Sciences
204-202 Principles of Biology I
478-102 Introduction to Human Biology

B. Earth Science or Environmental Science
296-200 Basic Earth Science
296-202 The Earth's Physical Environment
296-230 Geology of Wisconsin
296/834-222 The Ocean of Air: An introduction to Weather and Climate
862-102 Introduction to Environmental Sciences
862-303 Conservation of Natural Resources

C. Physical Science
225-108 General Chemistry
225-111 Principles of Chemistry I
754-103 Fundamentals of Physics I

—Social Studies
Basic competencies in such areas from the social studies as the study of cultures, societies, value formation, and the relationship between environment and population are needed by the elementary school teacher. A minimum of three courses in the social studies must be completed. Suggested courses particularly relevant to the elementary school teacher include:
156-100 Varieties of World Culture
355-102 The Social System
416-202 Introduction to Cultural Geography
448-205, 206 History of the United States
481-432 Cultural Impacts on Human Development
834/416-235 Wisconsin Landscapes and Regions
900-203 Minority Groups

Required professional courses (36 credits):
One course in cognitive development chosen from:
481-210 Introduction to Human Development
OR
481-331 Human Development I: Infancy and Early Childhood
OR
481-431 Cognitive Development
OR
820-338 Psychology of Learning

302-203 Introduction to Environmental Education in the Schools
302-301 Introduction to Education and Teaching
302-302 Principles and Methods of Teaching Social Studies in the Elementary School
302-304 Principles and Methods of Teaching Music for the Elementary Teacher
302-305 Principles and Methods of Teaching Mathematics and Science in the Elementary School
302-306 Principles and Methods of Teaching Health and Physical Education in the Elementary School
302-307 Principles and Methods of Teaching Reading in the Elementary School
302-309 Principles and Methods of Teaching Language Arts in the Elementary School
302-402 Student Teaching in the Elementary School
302-410 Introduction to the Education of Exceptional Children

Additional courses required for kindergarten:
302/481-441 History, Philosophy and Current Programs in Early Childhood Education
302/481-442 Curriculum and Program Development in Early Childhood Education
302-402 Student Teaching at the Kindergarten Level
481-331 Human Development I: Infancy and Early Childhood

NOTE: It is recommended that students pursuing elementary certification (grades 4-8) who wish to teach in the middle school complete the requirements of one or more teaching minors from the secondary school certification programs. Teachers who complete this requirement will be certified to teach those minor subjects in grades 7-9 in a junior high school. Students intending to teach in a middle school should plan to student teach at the middle school level. Students combining certification in grades 1-6 and 4-8 should plan to split their student teaching assignment between two levels.

Secondary Education
(Also elementary art or music certification)

302-301 Introduction to Education and Teaching (3 cr.)
302-318 Reading and Study Skills in the Secondary School (2 cr.)

One course in cognitive development (3 cr.)
Methods course in subject area (2 cr.)
302-410 Introduction to the Education of Exceptional Children (3 cr.)
Student teaching (8-12 cr.)

NONCERTIFICATION PROGRAMS

As previously explained, noncertification programs can be individually planned to relate to a student's educational and career aspirations. A minimum of 18 credits, approved by an education adviser, is required.

Military Science

Associate Professor: David D. Kons, LTC, U.S. Army.

Assistant Professors: Bradley R. Block, Major, U.S. Army; **John A. Carlson,** Captain, U.S. Army; **Neil B. Hensrud,** Major, U.S. Army; **John T. Johnson,** Captain, U.S. Army.

Military Science is concerned primarily with exploring and developing competence in leadership and management. The Military Science program of instruction has a core curriculum consisting of 72 military skills and 19 professional knowledge subjects integrated in both the basic and advanced courses. While the ultimate purpose of the program is to provide college-trained officers for the U.S. Army Reserve and the Army National Guard, it supports University goals by emphasizing personal depth and developing qualities necessary for leadership. The course of study is conducted by the Reserve Officers Training Corp (ROTC) and is a four-year program consisting of a basic course and an advanced course.

Basic Course (Preprofessional)

The basic course is normally taken in the freshman and sophomore years. However, any student may register for any lower-division military science course. No military commitment is incurred and students may withdraw at any time before the end of the second year. The courses introduce students to select military skills and professional subjects. Students attend class two hours every week and may participate in a wide variety of extracurricular activities ranging from social events to rigorous, confidence-building physical activities.

Advanced Course (Professional)

Satisfactory performance in the basic course, demonstrated leadership potential, and recommendations from program instructors make a student eligible to enter the professional program. Instruction includes introduction of military skills that must be developed before attending an Officer Basic Course (OBC). Such skills are fundamental to the military profession and serve as the basis for all future branch-directed specialty training. Professional subjects also are provided. They describe in basic terms what it is that the United States Army does and how it goes about doing it. A six-week advanced camp is held during the summer between the junior and senior years. This camp permits students to put into practice principles and theories they have acquired in the classroom and exposes them to more military skills. Successful completion of the advanced camp is required prior to receiving a commission.

Two-Year Program

The Military Science program also offers a course of study designed specifically for students who are unable to take ROTC during their first two years of college. Such applicants must successfully complete a six-week basic camp prior to their junior year of college. This summer training takes the place of the basic courses of the four-year program and qualifies students to enter the professional courses. Qualified veterans with prior military service and junior ROTC graduates are eligible to enroll in the advanced course without participating in the basic courses.

Simultaneous Membership Program

Under this program, a person may enlist in the Army National Guard or Army Reserve, attend basic training during the summer and be qualified to enroll in the advanced course as early as the freshman year in college. Upon successful completion of the advanced course, the cadet could receive an early commission and serve as a second lieutenant with the Army National Guard or Reserve while completing a baccalaureate degree.

ROTC Scholarship Program

Army ROTC offers two-and three-year scholarships awarded competitively to students who are already enrolled in college. Students who attend the basic camp under the two-year program may also compete for two-year scholarships while at camp. These scholarships pay for tuition, textbooks, lab fees, and other educational expenses, plus providing a living allowance of up to $1,000 each year the scholarship is in effect.

Nursing

Faculty: Agnes J. Janoscrat, R.N., Ph.D. (instructor); **Mimi Kubsch,** R.N., M.S.N., (acting director); **Lorraine Noll,** R.N., M.S.N., instructor; **Ellen Reifschneider,** R.N., M.S., lecturer; **Harriet C. Wichowski,** R.N., M.S., instructor.

The Bachelor of Science in Nursing completion program for registered nurses is a new professional program on the UWGB campus. The first students were admitted to the B.S.N. completion program for their upper-level nursing major in fall of 1981. National League for Nursing accreditation is being sought.

Program of Study

This program provides opportunities for registered nurses in Northeastern Wisconsin to, 1) earn the professional nursing degree to enhance educational and career mobility; 2) broaden nursing capabilities and thereby increase their contribution to the quality of care in the region; and, 3) develop skill in the use of a theoretical nursing model as a basis for present nursing practice and to adapt to new roles and different functions as needs in health care change.

An increasing concern facing health providers today, in addition to caring for humans in illness, is dealing with effective programs for promoting health and preventing illness. The effect that interaction with the environment has on the health and well-being of humans and how the health professions can facilitate adaptation to such an environment must be examined from several perspectives—biological, sociological, and psychological. Nurses, as the largest category of health care providers, are key contributors in this effort. The academic plan at UWGB, with its emphasis on an interdisciplinary approach to problem solving, provides the opportunity to apply these perspectives from various disciplines to such problems. Equally important, it provides the opportunity for students as well as faculty in the B.S.N. program to interact with students and faculty from other disciplines. Thus students are prepared for a future of collaborative approach to solving health care problems.

The program includes a foundation of natural and behavioral sciences and liberal arts; specific preparation for professional nursing; and the opportunity to integrate an area of interest related to nursing into the major. The main academic focus is the role of the nurse in facilitating the adaptation of humans to external and internal stressors in their environment. Upon completing the program, graduates should be competent in the use of the nursing process as specified by the Roy Adaptation Model and be able to function appropriately in the roles of nursing care provider, manager, teacher, and investigator, and as a member of the profession.

REQUIREMENTS FOR ACCEPTANCE

1. Admission to the University of Wisconsin-Green Bay.

2. Graduation from an accepted associate degree or diploma nursing program.

3. Current Wisconsin license to practice as a registered nurse.

4. Satisfactory completion of course work in these areas:

9 credits of natural sciences (must include anatomy and physiology)
9 credits of social sciences (must include human development)
6 credits of communication skills (course work or equivalent in written and oral communication)

5. A cumulative grade point average of 2.25 (4.0 scale) on the above prerequisite courses for which credit was received.

6. Health record on file in the Health Services Office.

7. Satisfactory completion of prelicensure nursing education evaluation.

After enrolling in the University and completing the required prerequisite courses, registered nurse students are eligible for acceptance to the Bachelor of Science in Nursing completion program. Students are accepted in September and January. Selection of applicants to the nursing program is based on these interrelated factors: nursing program acceptance criteria, approved academic plan on file, course work completed to date, and space availability. Students awaiting State Board of Nursing Examination results who meet the acceptance requirements are evaluated for acceptance on an individual basis.

Good physical and mental health is essential for study and practice in professional nursing. Health requirements must be met prior to enrolling in the first clinical nursing course. A physical examination and health history form must be on file in UWGB Health Services verifying that a physician's examination was completed within one year of the date the student begins clinical nursing course work. Forms are sent to each student with the notice of acceptance to UWGB. Information about specific health requirements is available from nursing program advisers.

Credit for Prelicensure Nursing Course Work

The nursing faculty assesses prelicensure learning in nursing. Evaluation and awarding of credits for applicants' knowledge/skills in basic nursing takes place prior to acceptance into the nursing program. Successful assessment results in receiving 30 credits of lower-level nursing toward the degree. Successful performance is required in order to progress in the nursing program. A fee is charged for assessing and recording these credits.

PROGRAM REQUIREMENTS

A variety of group and individual learning activities in classroom and clinical settings enable students to achieve program objectives and their personal goals. Both structured and experiential modes of instruction are used.

Thirty-one credits of the total 124 credits required for graduation must be completed on the UWGB campus. A grade point average of 2.0 is required. The length of time taken to complete the degree varies with each student.

Students may complete degree requirements on a full-time or a part-time basis. A minimum of three semesters is required to complete courses in the nursing major. To insure that program requirements are met, students are strongly advised to meet with their advisers in the Nursing program at least once a semester to discuss academic progress.

Specific requirements are:

All-University Requirements (30 credits): All students must fulfill all-University requirements described elsewhere in this catalog.

English and Prerequisites for Nursing (24 credits):
All of the courses necessary for the English requirement (proficiency or basic college writing) at the University, and prerequisites for the nursing program.

Prelicensure Nursing Course Work (30 credits):
Assessment is on an individual basis. A minimum of 30 credits is necessary for progression.

Nursing Major (35 credits):
35 credits of upper level courses (300-400 level) complete a major in nursing. Nursing core curriculum consists of 27 of these credits and remaining credits are chosen from areas related to the major.

Public and Environmental Administration

Professor: Michael E. Kraft (chairperson), American government and politics, legislative processes, public policy analysis, environmental policy.

Associate Professors: Daniel J. Alesch, local government planning and management, public budgeting, decision theory; **Bruce B. Clary,** public policy, urban policy and management, administrative theory, research theory and methods.

Changes in society during the current century have produced rising demands for greater effectiveness, efficiency, productivity, and responsiveness in governmental operations. As a result, there is an increasing need for public policy makers and public administration professionals who are able to engage in sophisticated processes of leadership and decision making, public problems identification and analysis, public policy evaluation and development, and public systems planning and management. This need is the central focus of the major in public administration. It emphasizes developing skills in problem identification, analytic techniques, decision making, planning and management, and leadership for social change.

Organizing themes for public administration education at UWGB are the human environment, local government, urban management, and public policy processes. Solid preparation is provided for the several major specialties in the field.

Programs of Study

Students may earn either a major or a minor in Public Administration. As a major, students choose one of five academic tracks: public management studies, public policy studies, administration of local government, environmental administration, and health and human services administration. Many students combine an appropriate track with an optional field specialization, and/or work in a disciplinary, interdisciplinary, or professional program of study, depending on academic interests and career needs. The most frequently chosen complementary fields of study are political science, Business Administration, Science and Environmental Change, Social Services, Urban Studies, Regional Analysis, and Environmental Planning. The optional field specialization is described below.

MAJOR IN PUBLIC ADMINISTRATION

Lower Division Program and Tool Subject Requirements

Required (15 credits total):
298-202 Macro Economic Analysis
OR
298-203 Micro Economic Analysis

350-102 Public Policy and Administration
350-201 Problem Analysis and Decision Making
778-101 American Government and Politics

One course from this group (3 credits):
255-205 Social Science Statistics
575-217 Quantitative Methods in Administration
600-260 Elementary Statistics

One course from this group (3 credits):
600-101 Intermediate Algebra
600-104 Elementary Functions: Algebra and Trigonometry
600-201 An Overview of Calculus Techniques
600-202 Calculus and Analytic Geometry I

One course from this group (3-4 credits):
600-150 BASIC: A Programming Language
600-151 Introduction to COBOL: A Business Data Processing Language
600-152 An Overview of Computing Concepts
600-256 Introduction to Computer Science

One course from this group (3 credits):
246-133 Fundamentals of Public Address
246-333 Public Speaking and Speech Composition
552-105 Introduction to Expository Writing

Core Program in Public Administration

To qualify for a major in public administration each student must complete a nine course (27 credits) program of core study which involves five courses (15 credits) within the general field of public administration and four courses (12 credits) within one of the established academic tracks in Public and Environmental Administration. Also, each student is expected to demonstrate an appropriate level of competency in written and oral communications.

Required (12 credits):
255-301 Foundations for Social Research
298-306 Public Finance and Fiscal Policy
350-315 Planning and Management of Public Systems
350-460 Public Policy Analysis

One course from this group (3 credits):
350-497 Administrative and Planning Internship
350-435 Administrative and Policy Laboratory
350-484 Senior Distinction Project
350-498 Directed Study

Alternatively, students may complete a team research project or a supervised internship.

The balance of the core program requirements is satisfied by completing four courses (12 credits) chosen from the following list in consultation with a faculty adviser.
350-301 Environmental Politics and Administration
350-305 Regulatory Policy and Administration
350-310 Leadership in Organizations
350-410 Administration of Local Government I
350-415 Administrative Planning, Programming, and Budgeting Systems
350-420 Decision Theory and Methods
350-421 Planning Theory and Methods
778-320 Constitutional Law
778-340 Political Theory
778-410 Intergovernmental Relations
778-416 American Legislative Process
820-415 Organizational Psychology
892-355 Theory and Practice of Human Relations Skills
944-305 Urban Politics and Policy

The tracks are:
Public Management Studies
Administration of Local Government
Environmental Administration
Health and Human Services
Public Policy Studies

Field Specialization

For students who wish to develop specialized knowledge and professional competency in a particular subfield of public administration, the faculty recommends additional work. Each student desiring to complete a field specialization meets with the chairperson or the program adviser to review academic interests and career needs and to devise an appropriate set of courses. Similarly, students who desire to supplement their work in public administration with study in related disciplinary, interdisciplinary, and professional programs should arrange to meet with the chairperson or the adviser to review appropriate programs and to devise a suitable array of courses.

Field specializations in each track include those listed below. Specific courses useful in constructing field specializations are listed in brochures available in the Public and Environmental Administration office.

Public Management Studies Track
Administrative Information Systems
Public Budgetary Systems
Public Management Operations
Public Personnel Management
Quantitative Public Management Methods

Public Policy Studies Track
Public Policy Processes
Public Policy Analysis and Development
Public Regulatory Systems
Public Affairs and Community Relations
Program Analysis

Administration of Local Government Track
Designed for each student

Environmental Administration Track
Environmental Planning
Environmental Policy Analysis
Environmental Quality Management
Recreational Resource Management

Health and Human Services Administration Track
Health Systems Planning and Management
Human Services Management
Social Services Administration

MINOR IN PUBLIC AND ENVIRONMENTAL ADMINISTRATION

Students may develop professional minors in Public and Environmental Administration by completing an appropriate six course (18 credit) sequence. Fifteen of these credits must be junior or senior level courses. Course work must be approved by the Public and Environmental Administration program adviser or chairperson, but all of the credits need not be selected from courses offered in that program.

In this way, students can develop specializations appropriate for their career goals or major fields of study. For example, a major in Regional Analysis or Urban Studies combined with this professional minor would be good preparation for a variety of careers in planning, management and administration of natural, human, or other resources. Public and Environmental Administration combined with Human Biology would provide a strong background for administrative positions in the health sciences and social services. Many other applications are possible.

Recommended freshman and sophomore courses for students taking the minor are:

350-102 Public Policy and Administration
350-201 Problem Analysis and Decision Making

600-260 Introductory Statistics
OR
255-205 Social Science Statistics

778-101 American Government and Politics

Students plan other courses to complete the minor with the help of an adviser.

Social Services

Associate Professors: Robert Mendelsohn (chairperson), social and community psychology, planning, social and organizational psychology of human service delivery; **David Galaty,** social service theories and applications, history and philosophy of scientific ideas, epistemology, environmental problems, counseling and psychotherapy, organizational and social change; **Rolfe White,** social work, education, group work, organizational change, evaluation of services, counseling and psychotherapy.

Lecturer: Richard Jansen, casework, human relations training, communication skills, behavioral dynamics of human systems, humanistic psychology, human resource development.

The University of Wisconsin-Green Bay offers two alternatives which prepare students for the human service professions: one is a professional minor in Social Services, the other is the Bachelor of Social Work Degree. Students who are majoring in a concentration (such as Human Development, Managerial Systems and others) who want to explore an application of their major before graduation can take the Social Services professional minor. The minor is particularly applicable for human service professional applications such as counseling, clinical psychology, and consulting. The Bachelor of Social Work is a separate degree for students who want to major in social work.

Both the major and minor offer training applicable to a wide range of careers in the human services. Graduates are employed in positions such as social worker, crisis counselor, group home treatment coordinator, welfare worker, employment counselor, child care worker, street worker, equal opportunity counselor, personnel specialist, social advocate, administrator and consultant. There are, of course, other possibilities. The social work major places additional and specific emphasis on preparing graduates for careers which require the Bachelor of Social Work degree.

Core courses for both the major and the minor offer a field experience in a social service agency, with theory and methods courses supporting the field training. Both alternatives are concerned with how individuals, groups, and organizations can be assisted toward more effective, satisfying, and productive behavior. A basic belief is that behavior is functional or disfunctional as it interacts with particular social settings. A major emphasis therefore is on creating social and institutional settings which foster individual growth. Many of the theories and skills learned focus on methods of changing organizations. Students can also expect increased self-understanding and communication skills regardless of their specific vocational applications or choice of options.

Programs of Study

SOCIAL SERVICES PROFESSIONAL MINOR

The Social Services minor must be combined with any one of the concentrations. In practice, however, most social services students have majored in Human Development, Humanistic Studies, Social Change and Development, Urban Studies, or Managerial Systems, or in a combination of one of these concentrations with disciplinary programs in psychology or sociology. Some social services students might also choose a second professional program in Public and Environmental Administration or Education. Each of these majors has particular strengths, depending upon the student's projected emphasis within the social services field. Social Services advisers help students with all aspects of the program, particularly coordinating social services courses with a concentration.

The professional minor is organized as a two-semester "core" of six courses. These courses are taught concurrently to permit integration of theory with experience. Social Service core courses are recommended for students in their junior and senior years who have most of their concentration credits completed.

Prerequisites to the core program are: 892-202, Introduction to the Social Services and 892-250, Concepts of Counseling and Psychotherapy. These can be waived under special circumstances.

Core courses for the Social Services professional program are:

Senior Year, Semester I
892-330 Basic Concepts of the Social Services I
892-402 Field Experience in a Social Service Agency I
892-410 Principles of Social Services Methods I

Senior Year, Semester II
892-331 Basic Concepts of the Social Services II
892-403 Field Experience in a Social Service Agency II
892-411 Principles of Social Service Methods II

BACHELOR OF SOCIAL WORK DEGREE (B.S.W.)

The Bachelor of Social Work is a separate degree for students who major in social work. Its primary purpose is to promote and encourage the development of competent social workers for a wide variety of careers for which the Bachelor of Social Work is an initial requirement.

The social work degree is being developed in accordance with guidelines established by The Council on Social Work Education. UWGB is seeking accreditation from this organization.

A decision to formally enter the social work major should be based on experience in the introductory and prerequisite courses in Social Services and field experience. These courses are designed to help acquaint students with social work as a career, and to determine the potential the student has for developing necessary levels of social work competencies by graduation. Successful levels of competency are determined in the last semester of undergraduate work.

The following program is a guide for planning; substitution of some courses can be made after consultation with the social work adviser.

The B.S.W. degree requires a total of 124 credits.

All-University Requirements (30 credits):
Humanities, 9 cr.
Social Sciences, 9 cr.
Natural Sciences, 9 cr.
Senior Seminar, 3 cr.

Prerequisite Background Requirements (21 credits):
481-210 Introduction to Human Development
493-205 Personal Values and Social Reform
875-203 Prejudice and the Human Condition (or equivalent)
875-241 Women and Changing Values (or equivalent)
892-202 Introduction to Social Services
900-202 Introduction to Sociology (or equivalent)
900-208 Marriage and Family in American Society

Tool Subject Requirements (12 credits):
255-205 Social Science Statistics
552-105 Introduction to Expository Writing
892-250 Concepts of Counseling and Psychotherapy

One course from one of the following areas:
255-305 Foundations for Social Research

892-460 The Evaluation of Practice
OR
One course in a modern foreign language at a conversational level which is spoken by an intended client group.

Social Work Core Courses (28 credits):
892-300 Introduction to Field Experience in a Social Service Agency
892-302 Social Service Issues
892-305 The Social Work Profession
892-330, 331 Basic Concepts of the Social Services I and II
892-402, 403 Field Experience in a Social Service Agency I and II
892-410, 411 Principles of Social Service Methods I and II
892-360 Social Service Delivery Systems and Cultural Differences
892-498 Independent Study on Social Work Competencies

Concentration Emphasis (9 credits):
A minimum of 9 upper-level credits must be selected from a concentration relevant to social work. Typical concentration emphasis courses might be in Human Development, Social Change and Development, Urban Studies, Humanistic Studies, and Managerial Systems.

Elective Courses (24 credits):
Additional elective courses in the Social Services Program are:
892-255 Interviewing Skills: The Art and Practice of Social Communication
892-257 Training in Social Service Skills and Techniques
892-350 Concepts of Group Therapy and Group Counseling
892-355 Theory and Practice of Human Relations Skills

Interdepartmental Programs

Environmental Planning

Professor: Michael E. Kraft, Public and Environmental Administration.

Associate Professors: Daniel J. Alesch (chairperson), Public and Environmental Administration; **Bruce Clary,** Public and Environmental Administration; **Ronald Baba,** Urban Studies; **Harvey Kaye,** Social Change and Development; **David Littig,** Urban Studies; **William Laatsch,** Regional Analysis; **Hallett Harris,** Science and Environmental Change; **Robert Wenger,** Science and Environmental Change.

Assistant Professor: William Niedzwiedz, Regional Analysis.

Environmental Planning is a major for students who want to develop professional knowledge and skills in planning, typically in preparation for employment in public and private organizations concerned with improved planning, design, protection, and management of the human environment. It prepares students to deal with complex problems involving interrelationships among natural, social, economic, and political environments.

Environmental Planning is a cooperative program offered through the Regional Analysis, Urban Studies, and Science and Environmental Change concentrations and the Public and Environmental Administration professional program.

Program of Study

In addition to the regular requirements of the University, students majoring in Environmental Planning must complete 30 credits of core studies and an 18 credit field specialization. The Environmental Planning core consists of studies in planning theory and methods, political and economic systems, and the natural environment.

The field specialization provides the opportunity to develop in-depth knowledge and skills in a specific facet of environmental planning. The field specialization requirement may be met by fulfilling the requirements for a second major or a minor approved by the Environmental Planning chairperson. These are typically in Urban Studies, Regional Analysis, Science and Environmental Change, and Social Change and Development. Students majoring in Environmental Planning are encouraged to pursue a double major in connection with their individual field specializations.

Environmental Planning Major

Background courses:
778-100 Introduction to Political Science
OR
778-101 American Government

862-102 Introduction to Environmental Sciences

Tool courses:
255-205 Social Science Statistics
OR
600-260 Introductory Statistics

600-101 Intermediate Algebra (or Equivalent)
255-305 Foundations for Social Research
350-201 Problem Analysis and Decision Making

600-152 An Overview of Computing (and one computer language)
OR
600-251 Introduction to Computer Science

Core courses:
350-420 Decision Theory and Methods
350-421 Planning Theory and Methods

Two of the following four courses:
350-315 Planning and Management of Public Systems
834-420 Regional Planning
875-483X Planning for Social Change and Development
944-421 Urban Planning

298-302 Intermediate Macro Economic Theory
OR
298-303 Intermediate Micro Economic Theory

298-306 Public Finance and Fiscal Policy

350-415 Administrative Planning, Programming and Budgeting Systems
OR
350-470 Capital Projects Planning and Management

944-483X Patterns of Conflict and Cooperation in Urban Systems
OR
875-366 Continuity and Change in Agrarian Societies
OR
834-321 Land Use Controls: Zoning and Subdivision Regulations

862-302 Principles of Ecology
OR
296-460 Soil Classification and Geography

350-460 Public Policy Analysis

Field Specialization

The 18 credit field specialization is intended to provide students with additional substantive or methodological knowledge and skills in an area of particular interest to them. Requirements for the field specialization may be fulfilled by meeting the requirements of a second major or a minor (approved by the chairperson of Environmental Planning) or by completing an individually designed course of study approved by the Environmental Planning adviser. The individual course of study will consist of an appropriate mix of upper and lower division courses, with no fewer than 12 upper division credits.

Environmental Planning Minor

A student may obtain a minor in Environmental Planning by completing a prescribed 18 credit course of study.
350-420 Decision Theory and Methods
350-421 Planning Theory and Methods

862-302 Principles of Ecology
OR
296-202 Earth's Physical Environment (with laboratory)

One of the following three courses:
298-302 Intermediate Macro Economic Theory
298-303 Intermediate Micro Economic Theory
875-365 Human Resources and Economic Growth

Two of the following four courses:
350-315 Planning and Management of Public Systems
834-420 Regional Planning
875-483X Planning for Social Change and Development
944-421 Urban Planning

Information and Computing Science

***Professors:* Timothy Meyer,** *electronic media, telecommunications;* **Thomas McIntosh,** remote sensing techniques.

Associate Professors: Clifford Abbott, linguistics, semantics; **Dennis Girard,** discrete mathematics, statistics; **John Harris,** *management, organizational behavior;* **Donald Larmouth,** linguistics, scientific and technical communication; **Charles Matter,** cognitive psychology, visual perception; **Bruce Mielke,** computer science, programming languages, data structures; **Gilbert Null,** philosophy, logic; **Charles Rhyner,** *microprocessor systems.*

Assistant Professors: Phillip Clampitt, human communication theory, organizational communication; **William Shay,** computer science, database management systems, systems programming, data structures.

Information and Computing Science is a new interdepartmental major. The central organizing concept of this new program is information—its structure, storage, retrieval, and communication. The curriculum ranges widely across several disciplines, all of which are represented in the core requirements: computing, linguistics, cognitive psychology, communication theory, mathematics, electronic media and telecommunications, organizational communication and management, logic, and language.

Computing is a significant dimension of this major, but human information processing is equally important, because a background in computing alone is not enough to assure the most effective use of machine processing in solving human problems. Students are expected to be thoroughly grounded in human language, cognition, and communication, not merely to avoid narrow technical preparation (and rapid obsolescence), but to make the best, most creative, most accessible and useful applications of machine processing.

The management of information is an area of central concern for practically all aspects of society. There is, accordingly, a need for individuals who are not only technically competent but who also can relate to human needs when they are involved in designing, implementing and evaluating information systems. Hence, in addition to a core curriculum which includes both machine processing and human communication, students are required to identify an area of application, which may take several different shapes, depending upon the student's academic and professional interests.

The major in Information and Computing Science is thoroughly within the liberal arts tradition, ensuring through its core requirements that students receive a *comprehensive, wide ranging* educational experience. Such a program is more practical than a narrow, technical specialization, because it is more adaptable to a variety of opportunities and rapidly changing needs and is less likely to become quickly obsolete.

UWGB is in a strong position to provide facilities and equipment necessary to support the major. Most of the computing power is supplied by two Telefile T-85 central processor units connected in an anonymous multiprocessing mode. *This system is capable of supporting* 80 on-line terminals and has access to four million bytes of MOS memory. Other hardware features include a disk storage capacity of 1.5 billion bytes, two tridensity tape drives, two line printers, graphics terminals, and a Telebeam projector *available as an instructional tool.*

In addition, the computer center has a microcomputer laboratory consisting of two dozen Franklin ACE 1000 microcomputers. These microcomputers support Apple software. There is also a DEC *PDP 11/03 MINC laboratory computer* used in the science laboratories and in processing data from the campus weather station. Software capabilities include the following languages: PASCAL, FORTRAN, COBOL, LISP, SNOBOL, APL, assembly language, C, ADA, LOGO, and BASIC. Statistical packages for the social and mathematical sciences include SPSS, BMDP, and MINITAB.

The University has also made a major commitment to computer graphics by establishing a computer cartography laboratory, which is equipped with a Magnavox ORION plasma terminal, TALOS digitizer, CALCOMP incremental plotter, two Tektronix graphic terminals, and a Printonix electrostatic printer.

Much of this development was supported by a National Science Foundation CAUSE grant (Comprehensive Assistance to Undergraduate Science Education).

As another special resource, the Library provides on-line bibliographic searches for 130 data bases through Lockheed Information Systems. The Library also supports up-to-date technical processing systems for conventional bibliographic resources.

Program of Study

The major in Information and Computing Science consists of 71 credits, which are divided into four areas: general requirements (11 credits); foundation courses (24 credits); upper-level core courses *(27 credits); and area of application* (9 credits).

General Requirements

The general requirements listed below are part of the student's liberal education background. *Foreign language experience* is included because of the unique design of the program and its emphasis upon human information processing as well as computing.

One year foreign language (French/German/Spanish) or advanced placement equivalent, 8 cr.
736-111 Elementary Logic, 3 cr.

Foundation Courses

The following courses are required as background for more advanced study.
246-200 Communication Processes: An Introduction, 3 cr.
246-201 Human Information Processing, 3 cr.
242-160 Introduction to Language, 3 cr.
246-283X Principles of Bibliographic Organization and Control of Information, 3 cr.
416-250 Displays of Geographic Information, 3 cr.
600-241 Discrete Mathematics, 3 cr.
600-256 Introduction to Computer Science I, 3 cr.
600-257 Introduction to Computer Science II, 3 cr.

Upper-Level Core Courses

The following courses are required for students at the junior and senior level, with some options as noted.

246-322 Modern Linguistics, 3 cr.
246-326 Modern Semantics, 3 cr.
246-335 Organizational Communication, 3 cr.
246-445 Human Communication Theory, 3 cr.
600-351 Data Structures, Storage and Retrieval, 3 cr.
600-352 Computer Graphics, 3 cr.
600-353 Computer Organization and Programming, 3 cr.

One of the following courses:

246-305 Elements of Electronic Media, 3 cr.
246-308 Telecommunications Delivery Systems: Cable and Satellite, 3 cr.

And either the remaining course above or one of the following courses:

600-455 Microprocessors and Microcomputer Systems, 3 cr.
862-454 Remote Sensing of the Environment, 3 cr.

Area of Application

The area of application (required) must be a cohesive set of courses (minimum 9 credits) which affords an opportunity for the student to develop some expertise in a particular dimension of information science. Some typical possibilities are:

Management of Information Resources

246-483X Information Search Strategies
600-451 Data Base Management Systems
600-452 Operating Systems

Structure and Design of Computer-Based Information Systems

600-454 Artificial Intelligence
600-451 Data Base Management Systems
600-457 Compiler Theory

Computer Cartography and Land-Use Planning

416-451 Computer Cartography
416-483X Computer Generated Land Use Maps
834-421 Techniques and Methods in Regional Planning

Communications Media

246-308 Telecommunications Delivery Systems: Cable and Satellite
246-444 Time Duration Visual Media

246-390 Scientific and Technical Communication

OR

246-483X Publications Management

Students must complete all-University requirements in addition to their requirements in Information and Computing Science. However, this would still permit at least 23 credits of elective course work, which would be used to develop a minor (such as Business Administration, one of the natural sciences, mathematics, or one of the social sciences, or a broad-field communication program in Communication and the Arts). These elective credits could also be used to develop considerable depth in computing, languages or communication, beyond the minimum requirements for Information and Computing Science.

STUDY PLAN

Because of the extensive range of course work involved in the major in Information and Computing Science, students will need to plan their studies carefully in consultation with a faculty adviser. A typical four-year plan for students majoring in Information and Computing Science might be as follows:

Freshman Year

736-111 Elementary Logic, 3 cr.
600-256 Introduction to Computer Science I, 3 cr.
600-257 Introduction to Computer Science II, 3 cr.
Foreign Language (two semesters), 8 cr.
242-160 Introduction to Language, 3 cr.
All-University requirements courses, 15 cr.
TOTAL, 35 cr.

Sophomore Year

600-241 Discrete Mathematics, 3 cr.
246-200 Communication Processes: An Introduction, 3 cr.
246-201 Human Information Processing, 3 cr.
246-283X Bibliographic Organization and Control of Information, 3 cr.
600-353 Computer Organization and Programming, 3 cr.
600-351 Data Structures, Storage and Retrieval, 3 cr.
416-250 Displays of Geographic Information, 3 cr.
All University requirements courses, 6 cr.
Electives, 6 cr.
TOTAL, 33 cr.

Junior Year

246-322 Modern Linguistics, 3 cr.
246-326 Modern Semantics, 3 cr.
246-335 Organizational Communication, 3 cr.
246-305 Elements of Electronic Media, 3 cr.
600-352 Computer Graphics, 3 cr.
All-University requirements courses, 6 cr.
Electives, 9 cr.
TOTAL, 30 cr.

Senior Year

246-445 Human Communication Theory, 3 cr.
600-455 Microprocessors and Microcomputer Systems, 3 cr.
*600-457 Compiler Theory, 3 cr.
*600-454 Artificial Intelligence, 3 cr.
*600-451 Data Base Management Systems, 3 cr.
Senior Seminar, 3 cr.
Electives, 9 cr.
TOTAL, 27 cr.
TOTAL CREDITS, 125 cr.

*Courses for required Area of Application (examples total 9 credits)

Opportunities for Employment

Over the past several years, information processing has become the dominant national economic activity. It has been estimated that information-related activities now account for over 46 percent of the gross national product and over 50 percent of all labor income. There are both continuing and long-range demands for graduates of programs in information and computing science. The American Society for Information Sciences lists employment opportunities in four categories. These areas, along with typical position titles, include:

Design of Information Systems

Applications or Systems Programmer
Information Consultant
Information Systems Engineer
Intelligent/Expert Systems Designer
Library Systems Analyst
Management Information Systems Specialist
Thesaurus Designer

Management of Information Systems

Database Administrator
Information/Computing Center Manager
Information Manager
Systems Analyst

Research and Teaching

Computational Linguist
Cryptographer
Information Scientist
Education and Training Specialist
Programming Language Designer
Teacher of Information and/or Computing

Operation of Information Systems

Abstractor-Indexer
Bibliographic Searcher
Computer-Aided Design/Manufacture

Specialist
Database Specialist
Information Broker
Information Marketing Specialist
Librarian
Media Specialist
Microform Technologist
Satellite Communication Specialist
Technical Information Specialist

Opportunities for Graduate Study

While an undergraduate degree in Information and Computing Science opens the way to a number of career opportunities, it is also true that advanced study at the graduate level is important for many professional areas. Several major universities now offer M.A. and Ph.D. programs in Information Sciences, and related graduate-level studies in linguistics, organizational communication, electronic media, computer science, library science, and others are available at many universities. In planning for graduate studies, students should actively consult a faculty adviser in order to select appropriate undergraduate courses necessary for admission to graduate education.

The Arts in Society

Three concentrations cooperate to provide the interconcentration program, The Arts in Society, which involves resources from the arts, humanities, and social sciences. Cooperating concentrations are Communication and the Arts, Humanistic Studies, and Social Change and Development.

The program takes for its focus the fact that artists—painters, writers, film makers, composers, musicians, actors, poets—affect and are affected by the society in which they live. For the past two centuries, the world has been turbulent with rapid social change and competing political systems. All of these changes and systems explicitly or implicitly define a place and function for the arts in society.

The developing program studies the relationships between artists and society and addresses these questions:

—How do economic and political systems of production affect content and style of the arts?

—Are the various arts prophecies of social changes or do they reflect changes in a society?

—What is the social role of the artist in society?

—What are the functions of the arts and artists in different societies in different historical eras?

—Do artists shape and control our social vision or do they reflect it?

—How do different social and political theories and ideologies define, evaluate, and use the arts?

One of the program's underlying premises is that artists, the work they produce, the art audience, and the nature of the social order itself interact and must be seen as related elements rather than separate and autonomous parts.

Students interested in The Arts in Society should contact a faculty adviser from one of the concentrations: Terence O'Grady in Communication and the Arts, Jerrold Rodesch in Humanistic Studies, and Harvey Kaye in Social Change and Development.

Environmental Design

Environmental design deals with the shaping of settings for human behavior and the relationships between those settings and human functions. The design of the built environment and the interaction between humans and the vast variety of behavior settings found in this environment are the foci of the program in environmental design. Environmental design is available as a program of study in either the Communication and the Arts or Urban Studies concentrations.

The basic concept of the program is that of the interdisciplinary design team. Students participating in the program are challenged by a series of complex problems ranging in scale from the wheelchair to design projects in urban central business districts. All design projects occur in the community which surrounds the University. Environmental design program students have produced designs which include: a master development plan for a YMCA facility; an open space and park plan for an older Green Bay neighborhood; a proposal for a developmental preschool; and two full scale studies of the rehabilitation of Green Bay's central business district.

Because of a basic commitment to creative problem-solving methodologies, the environmental design program provides a valuable dimension to a contemporary liberal education. Students receive intensive training in the processes of environmental design by combining core courses specific to this program and selected other concentration courses.

Courses include subjects such as urban planning, urban technological design, three dimensional design methods, properties of building materials, environmental psychology, and design theory and history. The workshops, offered at four levels of analysis, investigate the design of spaces for the individual, small groups, and communities, and culminate in an elective project. The student interested in environmental design should consult with the adviser.

The program prepares students for the emerging fields that relate the built environment to human behavior. Potential employment would be in design, architecture, and urban or regional planning. The training also prepares students for graduate work in these areas.

Program of Study

There are a number of ways for a student to formulate a program in environmental design. Each student plans a program to meet his or her needs with the help of concentration and environmental design program advisers. A student whose major interests are in the concentration in Communication and the Arts might take a program something like the following:

Foundation Courses

862-102 Elements of Descriptive Geometry
944-210 Drawing Systems for the Designer
957-105 Drawing

Upper-Level Courses

944-401 Environmental Design Workshop I
242-471 Environmental Design Workshop II
944-402 Environmental Design Workshop III
242-472 Environmental Design Workshop IV
242-401 Designing the Environment I
242-402 Designing the Environment II
862-327 Urban Technological Design
944-325 Behavior in Designed Environments I
944-325 Behavior in Designed Environments II
944-421 Urban Planning I
944-422 Urban Planning II
944-430 Urban Aesthetics

Students interested in the program should contact Prof. Ronald Baba (Urban Studies, social ecology, environmental design) or Prof. David Damkoehler

(Communication and the Arts, environmental design, drawing, sculpture, graphics).

Environmental Health Sciences

Coordinators: Associate Professors: **Alice Goldsby,** biology, environmental microbiology, **Elaine N. McIntosh,** community nutrition, dietetics, nutrition education.

Environmental Health Sciences offers students an opportunity to study one or more of the basic sciences while preparing for careers which deal with relationships between environmental factors and human health.

Students acquire a science background equivalent to a major in chemistry, physics, biology, or sociology and integrate this science knowledge directly with one or more health-related fields, depending on their interests. These could include air or water quality, noise, population studies, biophysics, radiation, sanitation, or solid waste management.

Students who complete the program develop experience in both analytical skills and managment techniques and are prepared for analyzing health-related problems and for effecting community solutions. The program of study is available in either the Science and Environmental Change or the Human Biology concentrations. Each provides a somewhat different emphasis, as described below.

Through Science and Environmental Change, students can study fundamental factors affecting pollutants in the air, water, and on land and their relationships to ecological processes. They can also learn responsible decision making in natural resources management and waste disposal and environmental pollution control. Problem areas include studies on distribution of chemical and physical health factors, engineering-oriented analysis of production and control of biophysical environmental factors, and system analysis of resource allocation in rural and urban areas.

The Human Adaptability major in Human Biology is concerned with human response to an environmental stress or pressure. Knowledge of individual and group capabilities to adapt to a variety of health factors related to the environment are studied and systematized. Students may emphasize either the physiological or socio-physiological aspects of human adaptability.

In the Nutritional Sciences major in Human Biology, students emphasize the relationship of food and sanitation, especially from the chemical and microbial point of view. Problems both on the industrial and community level are studied.

No matter which concentration or health-related interest the student chooses, all programs have some features in common. The first year or two involve orientation in the basic sciences and social sciences. These are prerequisite to intermediate year science courses which include analytical chemistry, microbiology, and others. Social science courses facilitate a better understanding of ecological crises facing humans and the society or world in which science must function to meet these crises.

Career opportunities for graduates in environmental health include environmental monitoring and control, toxicology, solid waste management, radiation physics and chemistry, sanitation, and many others. It also provides a solid basis for graduate and professional studies in several areas, particularly medicine.

Students interested in pursuing the environmental health area should seek advice from the program coordinators in planning their individual academic programs.

International Studies

Coordinator: Associate Professor **Craig Lockard,** history, third world societies, Asian and African studies.

Americans live in an increasingly interdependent, complex, and rapidly changing world in which developments in various societies affect the lives of people in other societies. It is important for students to gain some familiarity with international developments and with other cultures so as to better comprehend the nature of global change, the aspirations of societies different from our own, the American role in the world, and the strengths and weaknesses of American society.

To meet this need, several concentrations have cooperated to develop an undergraduate program in International Studies, *through* which students can elect a minor field in conjunction with a major in one of the participating departments. The program in International Studies draws upon courses and faculty from a variety of fields, particularly from the social sciences and humanities. Students in the program are expected to gain an understanding of at least one area of the world outside of the United States, develop a familiarity with several disciplinary approaches, exhibit competency in at least one foreign language, and, if possible, take advantage of one of the available study-abroad opportunities. Students working in a variety of fields should find the International Studies program relevant to their needs; some of these fields include education, business, public service, comparative cultural studies, foreign languages, area studies, political science, history, anthropology, sociology, development economics, comparative environmental studies, international relations and diplomacy.

Program of Study

At present students majoring in any of three concentrations—Social Change and Development, Regional Analysis, and Humanistic Studies—can develop a minor in International Studies while fulfilling the normal requirements of their concentration program. In addition, an interconcentration submajor in international business is being developed for students in Managerial Systems. Students from other concentrations in the social sciences, humanities, and natural sciences may also be able to develop an emphasis in international or comparative studies.

Requirements for the minor include the following: 9 credits of lower division prerequisite courses, normally including 448-100, History of the Modern World; 156-100, Varieties of World Culture; 416-102, An Introduction to Geography; competency in one foreign language, generally defined as the equivalent of 14 credits; and 18 credits of upper division courses recognized for credit by the International Studies program. At least six of these must be defined as area studies and focus on a particular region or country of the world, such as China, Africa, the Soviet Union, Latin America, Vietnam, or Western Europe. There is one required upper division course: 448-375, Great Decisions: Issues and Options in International Affairs. More than 50 courses with an international, comparative or cross-cultural focus are recognized for International Studies credit.

Several possible emphases within the program are available, such as international relations, world history, international business, and comparative cultural studies. Interested students should contact the coordinator for information on the program and for reference to a faculty adviser for their particular area of emphasis.

Women's Studies

Women's Studies are studies about women—for women and men. The Women's Studies program offers a variety of courses and a minor. It examines the common denominators affecting women's lives. It focuses on the cultural, racial and economic diversity of their experiences. And it explores their past and present contributions to societies as persons, creators and thinkers.

The program draws upon methods and content from a wide range of disciplines, including anthropology, literature and the arts, biology, economics, history, political science, psychology, religion and sociology. It seeks to improve the quality of human life by expanding women's and men's appreciation of women's accomplishments and capabilities, and by enabling students to widen their sphere of development beyond the limits of traditional sex-differentiated roles.

Women's Studies courses are particularly effective for individuals pursuing careers in teaching, community service, social action, or affirmative action. Indeed they provide preparation for any job in which the people served or the coworkers include women. They also open up new ways of thinking about and designing careers. Women seeking leadership roles or professions in fields not traditionally open to women may especially gain much from the study of women's lives and contributions.

Women's studies courses are emphatically interdisciplinary. The introductory course addresses current issues relating to social and personal values. Upper division core courses establish other cultural and historical contexts for studying women, and introduce creative models and skills for meeting human needs.

All students are welcome in Women's Studies courses, and any student can pursue a program of Women's Studies courses leading to a minor. Students majoring in Communication and the Arts, Humanistic Studies, Social Change and Development, or Urban Studies can combine their major requirements with those for a Women's Studies minor, too. Students should develop an academic plan in consultation with a Women's Studies adviser. The Office for Women's Educational Programs can consult with interested students and locate faculty advisers to approve minors and describe specific courses.

Program of Study

Women's studies requirements include the introductory course, 875-241, Women and Changing Values, and two of the three core courses: 875-345, Women in Cross-Cultural Perspectives; 944-345, Women in American Perspective; or 242-477, Women as Creative Agents. In addition, students take four upper level women's studies courses, including three credits of advanced research or theoretic studies for a 21 credit minor to be listed on the academic transcript.

For example, a minor in Women's Studies for a student who is majoring in Communication and the Arts might look like this:

Lower Division Courses

875-241 Women and Changing Values (core)

6 credits concentration tool subjects

Upper Division Courses

242-395 Images of Women in Contemporary Arts (elective)

242-477 Women as Creative Agents (core)

242-498 Directed Study (for example, an internship with a women artists' cooperative)

875-342 Women, Myth and Identity (elective)

875-345 Women in Cross-Cultural Perspective (core)

944-345 Women in American Perspective (elective)

The following permanent upper level courses have been approved by the Women's Studies committee as electives:

242-395 Images of Woman in Comtemporary Arts

554-333 Women in 19th and 20th Century French Literature

875-340 Woman as Worker

875-342 Women, Myth and Identity

875-348 Women and the Law

875-440 Women in Religion

944-375 Women: Strategies for Change

Other experimental courses may be substituted for one of the above at the discretion of the Women's Studies advisers.

Lower division courses (other than 875-241) do not count toward the 21 credit minor, but 493-206, Women in Literature, and 242-272, Women in Visual and Performing Arts, fulfill the all-University requirement. Students are encouraged to take other appropriate lower level courses, such as 481-336, Sex Role Development in Contemporary Society, for enrichment.

The following faculty regularly teach introductory and upper level core courses in Women's Studies: Sidney Bremer, Urban Studies; Julie Brickley, Social Change and Development; Estella Lauter, Communication and the Arts; Lynn Walter, Social Change and Development. Other faculty members occasionally teach women's studies courses.

More information on Women's Studies is available from the faculty or the Office for Women's Educational Programs.

Preprofessional Programs

There are three ways to approach preparation for professional studies at UWGB:

1. Many professional schools exist on the graduate level and require a bachelor's degree from an accredited school for entrance. This is true of such fields as law, medicine, dentistry, library science, social work, some journalism and business administration programs, and others. Students can receive excellent preparation for these professional programs through the bachelor's degree programs at UWGB.

2. Another plan provides two years of basic, foundation studies at UWGB in preparation for an undergraduate degree in a professional program not offered at UWGB such as engineering. After two years at UWGB, the student transfers to the school offering that.

3. The last possibility is similar, except that it provides two degrees—one from UWGB and one from a university offering the particular professional program desired by the student—and usually takes about five years to complete. Under this plan, students most often spend *three years at* UWGB and two at the other institution.

Students planning to enter a professional program should get all the information possible about the professional school or schools they are interested in early in their college careers and they should locate the appropriate adviser at UWGB for the professional area they want to pursue.

Here are some of the preprofessional programs available. This list by no means represents all of the professional programs which may be prepared for at UWGB. Students may be able to develop programs in many other areas to meet their own preprofessional program needs.

Students seeking *preprofessional* studies should contact the Office of Academic Advising for information and referral to appropriate faculty advisers.

Health Professions

Medicine: Almost all medical schools require a bachelor's degree for entrance and specify certain subjects that a candidate must have taken. These requirements may be met at UWGB. Exceptional ability, high aptitude in science, and outstanding achievement in premedical college education are all important for admission to medical school. The premedical student should learn requirements for the medical school of his or her choice early on, as well as take advantage of advising to plan a premedical program at UWGB to meet these requirements.

The most logical major at UWGB for students interested in premedicine and human life science is the Human Adaptability major in Human Biology. Other majors for students with interests in nutrition, field biology, chemistry or physics would be the Nutritional Sciences major in Human Biology, or the Science and Environmental Change concentration.

The premedical program at UWGB is successful from several perspectives. One is that graduates who achieve a high enough grade point average (3.5 or better) and who also have good medical entrance exam scores have virtually all been accepted into medical schools. Another reason is that UWGB's emphasis on a multidisciplinary program, in addition to being excellent preparation for medicine, also prepares students for other professional activities besides medicine or allows them more than one choice of graduate education opportunities after their bachelor's degrees.

An interesting aspect of UWGB is the opportunity for qualified undergraduates to participate in professional research—a privilege usually reserved for graduate students. Research experience improves the graduate's chances of entrance into medical and graduate schools and of obtaining job situations.

Dentistry: All dental colleges also specify certain subjects and most of them require completion of at least 90 credits of college work and good scores in the Dental Admissions Test before admission to the dental school. Entrance into these programs, too, requires early planning.

As for medicine, the most logical major for the predental student is Human Adaptability. The benefits of UWGB's program for predental students are similar to those for medical students, including the multidisciplinarity and opportunities for actual research experience.

Also, those students whose grade point averages are about 3.0 or better and who achieve good dental entrance exam scores have all been accepted into dental schools.

Information on courses necessary for premedical and predental programs may be obtained from the UWGB premedical adviser.

Nursing: Beginning nursing students who wish to attend UWGB have two options available to them. One is to enter the nursing program offered in cooperation with UWGB by the Bellin School of Nursing in Green Bay. Starting with the fall of 1984, pending approval by the State Board of Nursing, this program will lead to the Bachelor of Science in Nursing awarded by Bellin. The other option available to UWGB students is conducted in cooperation with the schools of nursing at the Madison, Milwaukee, Eau Claire, and Oshkosh campuses of the University of Wisconsin and leads to the B.S. degree in nursing at those universities.

In the first option, the student must be admitted both to the Bellin School of Nursing and to UWGB and take courses at both places. The second option normally permits students to take one year of courses at UWGB and the remainder of their studies at schools of nursing on the Madison, Milwaukee, Eau Claire, or Oshkosh campuses.

Registered nurses who have either a diploma or an ADN and who want to complete the BSN degree should inquire about UWGB's degree completion program for nurses. (See the description of this program in the Professional Studies section of this catalog).

Pharmacy: The University of Wisconsin-Madison pharmacy program offers the bachelor's degree after completion of five years work. Two years of pre-pharmacy may be undertaken at UWGB, with the remaining three years in the School of Pharmacy on the Madison campus.

Veterinary Medicine: While admission requirements for veterinary schools vary, typically a minimum of two years of preprofessional college work is required, including specific courses. Since entrance is highly competitive, high grade point averages are essential. Students desiring entrance to schools of veterinary medicine should learn the requirements early and plan their programs with the help of an adviser.

Law

Law schools, unlike some other professional schools, do not require a uniform program of study or a specific undergraduate major. Law schools do recommend that a prelaw student attempt to reach several goals during the undergraduate years: an understanding of the development of social, political and economic institutions; an ability to communicate well, both orally and in writing; the capacity to think clearly and analytically; and a habit of disciplined study.

Preparation for law school can be carried out through concentrations, *disciplines, and professional programs* at UWGB. Among the most common areas of study for prelaw students are political science, Public and Environmental Administration, Managerial Systems, Social Change and Development, Urban Studies, and Humanistic Studies. Students considering any of these programs should discuss their interests and academic needs with the chairpersons or designated prelaw faculty advisers in those areas.

In addition to an undergraduate major in an appropriate field, prelaw students should consider courses in a wide range of liberal arts and sciences. Courses in political science, economics, sociology, history, philosophy, literature, account-

ing, computer science, and the natural sciences are recommended. Faculty advisers can suggest particular courses in those fields. Students should also consult the prelaw student advisory guide for recommended courses.

Admission to law school is highly competitive, so prelaw students must maintain good grade point averages in their college work. Students must also take the Law School Admissions Test (LSAT) in the junior year or early in the senior year for law school application.

UWGB can provide a strong undergraduate preparation for the legal profession. To select a suitable course of study, students should discuss their plans with faculty advisers in the several areas noted. The Academic Advising Office can indicate which faculty advisers in each concentration, discipline, and professional program can help them decide about law school and a course of study at the University.

Engineering

UWGB offers two alternatives for students interested in engineering.

First, for students interested in attending UWGB for two years and then transferring to an engineering program at another university, UWGB offers courses in mathematics, physics, chemistry, engineering drawing, engineering mechanics, and other related courses which provide adequate preparation for the first two years of study.

UWGB also has sample programs of study which integrate its courses with all the engineering fields offered at UW-Madison and UW-Milwaukee. All of the courses listed in the sample programs taken at UWGB are transferable to any engineering school in Wisconsin. After two or three years of study at the engineering college, students may receive an engineering degree from that school.

Second, UWGB has a dual degree program in engineering under which students may attend the University for three years, earning the necessary credits to transfer to the engineering school. After they have completed two years at the engineering school, students will receive a bachelor's degree from UWGB as well as an engineering degree from the professional school, providing all requirements have been met.

Agriculture

Good basic preparation for the prospective student in agricultural science is available through UWGB's courses in the physical and life sciences, the social sciences and humanities. Faculty advisers for agricultural studies will assist students in contacting one of the three UW System agricultural colleges and in developing an appropriate program of study. Sample programs of study with UWGB course equivalents to courses at the three UW System agricultural colleges are available.

Pre-agriculture students ordinarily would take two years at UWGB, transferring to a school or college of agriculture at the beginning of the junior year. Students desiring a degree in the field of agriculture should see the adviser early in order to arrange the completion of sequence course requirements prior to transfer.

Architecture

Architecture curricula have become more and more flexible in the last decade. It is now possible for students who wish to enter this field to transfer into professional programs of study in architecture in their upper-division years. This flexibility makes it possible for the pre-architectural student to gain a broad-based interdisciplinary education prior to entry into an architectural curriculum. Preparation should be guided by the requirements and recommendations set forth in the catalog of the architectural school of the student's choice.

Architecture combines the study of science, engineering, mathematics, and art. Thus, a strong pre-architectural program can be designed from the offerings of the several concentrations, professional programs, and disciplines at UWGB. Much of this integration has been accomplished in the interconcentration program in environmental design. The pre-architectural student is strongly advised to consult with the faculty in this special program of study.

City Planning and Community Development

Professional instruction in city planning and community development is available at the graduate level at many universities. UWGB offers undergraduate programs through Urban Studies, Regional Analysis, environmental design, and other programs that are particularly appropriate for entry into such programs. Students who are interested should learn about entry requirements for the professional schools early in their undergraduate years.

College and University Teaching

Teaching at the college and university level is pursued through a program of graduate study at the master's and doctor's degree levels. A student who wants to enter graduate school after graduation from UWGB should select a disciplinary or professional program at UWGB in the area he or she wants to pursue after graduation. Excellent grades are especially important.

The student who wants to pursue an academic career should write to the Educational Testing Service, Princeton, N.J. 08540, to obtain a copy of the handbook describing the nature and components of the Graduate Record Examination. Nearly all graduate schools in the United States require applicants to take this examination. The tests are given throughout the country; UWGB's Placement Office announces dates and times in the region. Students who wish to teach at the college level should seek advice from faculty members in the field they wish to pursue.

Social Work

Accredited schools of social work offer a one or two year program of graduate study leading to the degree of master of social work. Admission to such programs is based upon scholarship and personal qualifications for the profession. Preference for admission is given to students who have a Bachelor of Social Work Degree and experience in a social service agency. A student at UWGB can prepare for this graduate course of study through the Bachelor of Social Work Degree or the professional program in social services with one of the following concentrations: Human Development, Urban Studies, or Social Change and Development.

Water Resources and Hydrology

The basic background for entry into graduate programs in water resources and hydrology is available through the Science and Environmental Change concentration at UWGB. Courses in geology, engineering, soils, meteorology, economics, or administration at the undergraduate level can provide preparation.

The Personal Major

A personal concentration is a self-designed program for students who find that their educational objectives and interests do not fit into any one of the existing concentrations. It is an alternative which may be planned around any theme consistent with the University's commitment to an education based upon the interrelatedness of knowledge and which focuses on human beings and their various environments.

Students have carried out personal concentrations with titles such as Social Environmentalism, Humanistic Outdoor Education, Cross Cultural Studies in Folk Traditions, Paleoecology, Creative Interpretation of the Environment, Creativity Development and Human Potential, The Ecology and Economics of Food Production, Social Aspects of Health Care, and many others.

In planning a personal concentration, the student determines what it is he or she wants to do *and how* the educational opportunities at UWGB can help attain this; designs a personal program which can best enhance these objectives; and then formulates a proposal stating those objectives. This plan may consist of any combination of regular courses, experimental courses, independent study, internships, off-campus projects, credit for verified off-campus learning, and special programs, as long as the combination is a coherent program centered around an individual theme and contains a minimum of 30 credits at the junior-senior level. Essentially, the personal concentration can be organized in any way that makes sense and meets graduation requirements, as long as it clearly shows the interrelatedness of the student's proposal.

In writing their concentrations, students must define the problem area, point out *related problems*, show how their personal concentration might effect solutions, and state the particular areas in which they see *opportunities* to integrate their abilities and needs with social or organizational goals.

An adviser in the Individualized Learning Program Office helps students organize details of their programs and can suggest faculty members to be consulted for their expertise in the students' interest areas.

Students' final proposals must be approved by a personal concentration committee. The personal concentration process generally begins during the end of the sophomore year or at the beginning of the junior year.

Information about the Personal Major is available from the Individualized Learning Programs Office.

External Degree Programs

Extended Degree in General Studies

The Extended Degree in General Studies at UWGB is for Wisconsin adults who want to complete a bachelor's degree, but have been hampered because of job schedules, family responsibilities, or distance from a four-year campus. It is an excellent opportunity for adults who wish to continue their *education* without being limited to on-campus courses. The Bachelor of Arts: General Studies degree enhances the ability to communicate effectively, to make more thoughtful decisions, and to cope with our changing society.

In this program, classroom learning is replaced with independent learning contracts. Courses offered through the Extended Degree are self-paced. Professor and student meet to work out details of a study plan, and then maintain contact through appointments, phone calls, and other agreed-upon means. Contracts cover a 12-month period rather than the traditional semester schedule.

Extended Degree students use study guides specifically designed for program requirements, and may take advantage of periodic weekend seminars. Students work directly with the same UWGB professors who teach the on-campus courses. When students enter the program, their learning activities are structured; however, as they progress, they are encouraged to develop *unique* and highly individualized learning activities.

Because of the unique nature of the Extended Degree, a two-credit entrance seminar helps students understand competency education, contract learning, adult development, and the Extended Degree program. Students who have successfully completed the seminar find it "a rich learning experience," "a good way to get started back to school," and a "a good investment of time."

Students complete general requirements and competencies in each of six areas of the liberal arts: business and economics, communications, humanities and fine arts, natural sciences, problem solving, and social sciences. In addition, each student designs an area of emphasis, with faculty approval, of 15 credits which enables the student to focus on a problem or theme related to personal or professional interests.

To succeed in a program of this nature, students are expected to be highly motivated, and willing to work independently on assignments. Students who need an extended degree can contact an Extended Degree adviser to discuss alternative ways to earn credits. Current options available include credit for prior learning (CPL), College Level Examination Program exams (CLEP), correspondence courses, media courses and evening courses at UWGB or a campus near the student. Extended Degree advisers are familiar with these alternative methods of earning credits, and assist students in selecting appropriate learning activities.

Persons who want more information should contact an Extended Degree adviser in the Individualized Learning Programs Office. A catalog listing available courses for the freshman through the senior year is available.

University Without Walls

University Without Walls (UWW) is an external degree program which offers Wisconsin residents the opportunity to earn a UWGB undergraduate degree through an off-campus format. The program is designed for persons who are unable to attend on-campus courses as well as for those want to participate in an alternative educational process. Upon acceptance to the program, UWW students do the majority of their study through individualized learning contracts. A learning contract is designed by the student in collaboration with a UWGB professor with expertise in the area of interest. It outlines what will be learned, the method of study, resources used, the number of credits received, and means of evaluating the work students will complete on their own. This is an exciting and demanding process which requires dedication from the students involved because they take considerable responsibility for developing and initiating their own contracts.

Persons who are attending on-campus courses but find the UWW format exciting should inquire into independent study courses. Independent study enables on-campus students to expand their curriculum beyond the classroom.

Though the method of study is different, UWW students may earn a degree, with approval of the instructional unit chairperson, in any of the majors offered to on-campus students. Graduation requirements are the same as for on-campus students.

Due to the individualized nature of University Without Walls, the admission process is selective. Over the years of the program's existence, it has been found that graduates usually possess high levels of independent learning skills. Therefore, rigorous application procedures have been developed to ascertain beforehand an applicant's ability to attain a degree through UWW. Eligibility for acceptance into the program is based on:

—inability to attend on-campus courses or expressed preference for an alternative learning process,

—approximately two years of college credits,

—excellent writing skills (which will be assessed during the application process),

—evidence of ability to set objectives and follow through to completion as demonstrated by previous experiences,

—evidence of self-direction and motivation as indicated in the design of an initial learning contract.

Students who are interested in UWW but have fewer than 62 credits can contact the UWW adviser to discuss eligibility. Candidates may earn credits in a number of alternative ways. Available options include credit for prior learning (CPL), the College Level Examination Program (CLEP), correspondence courses, media courses, and evening courses at UWGB or a campus near students' residences. The UWW adviser is knowledgeable in these alternative methods of earning credits, and will assist students in selecting appropriate learning activities. For more information, students may contact the Individualized Learning Programs Office.

Academic Support Program

Staff: Joan E. Thron, director; **Stan Rickert,** assistant to director and Special Services Project supervisor; **Evalyn Rozek,** lab supervisor; Mathematics: **Robert Davies;** Reading: **Ann Deprey;** Writing: **Monroe Lerner, Michael Marinetti, Mary Quinn;** Applied Study Skills: **Juliet Cole, Marjorie Herrscher, Maryanne Marinetti, Jim Meeker, Robyn Rickert;** Handicap Resource Center: **Jim Meeker.**

Successful college work depends in large measure on a student's ability to think critically. Indeed, the complex processes of critical thinking underlie effective writing, efficient reading, the understanding of basic mathematics and all essential study techniques. The Academic Support Program can assist students to develop these skills in a variety of ways.

The Academic Support Program offers nondegree credit courses in reading, writing, mathematics, and applied study skills. In addition, one-credit workshops are available during the January interim that focus on special areas of concern: the research paper, journal writing, grammar, sentence structure, rapid reading, the language of science, and understanding poetry.

In addition to course work and specialized workshops, the Academic Support Lab offers individualized tutoring to students who need short-term assistance with a course they are taking or a project they are completing. Appointments may be scheduled at the lab (SS 1926). Finally a variety of handouts and resource materials are also available at the lab. Questions about any of these services will be answered at the Academic Support Program Office.

These courses are offered through the Academic Support Program: Rapid Reading Workshop, Rewriting Workshop, Dealing with the College Experience, Spelling Workshop, Sentence Structure Workshop, College Reading Skills, Fundamentals of Writing, The Paragraph, Journal Writing Workshop, College Study Skills, Efficient Reading, Fundamentals of Grammar, The Research Paper, Arithmetic Review, and Elementary Algebra. Descriptions of the courses can be found in the Course Descriptions section of this catalog.

Associate of Arts Degree

The Associate of Arts Degree at the University of Wisconsin-Green Bay offers a flexible program with areas of emphasis in a broad range of subjects and represents a degree earned through a fully accredited university level educational program.

The A.A. degree certifies completion of a focused, structured program of study. This accomplishment represents essentially half of a bachelor's degree and a minimum of 62 degree credits.

There are several reasons why a person might find an A.A. degree beneficial:

—to add breadth and depth to the vocational training they have or plan to receive;

—to strengthen opportunities for advancement by gaining additional education and certification;

—to serve as a stepping stone toward a bachelor's degree;

—to provide an opportunity to pursue a special academic interest in a focused, systematic way;

—for personal enrichment and pleasure.

The University began granting the A.A. degree with the December 1977 graduation. *Students* and former students who may already have fulfilled A.A. degree requirements may file an academic plan and a request to graduate with the A.A. degree even though they are not enrolled for the semester in which they would graduate.

Requirements for the Associate of Arts degree at UWGB include:

—a total of 62 degree credits;

—a minimum of 15 credits of UWGB course work (meaning that only 47 transfer credits from another accredited college or university can be counted toward the A.A. degree);

—a grade point average of 2.0 or better;

—completion of the all-University general education requirements except for the senior seminar requirement described elsewhere in this book;

—a minimum of 12 additional credits in one area of emphasis developed by the student and a faculty adviser;

—acceptable score on an English proficiency test or 3 credit hours of college level writing;

—tool subjects as may be required by the individual area of emphasis;

—additional elective credits to total 62 or more *earned* degree credits;

A summary shows these requirements:

27	credits of liberal education and distribution
12	credits emphasis
3	credits writing (if required)
20-23	credits electives and/or tool subjects
62-65	total

Associate of Arts degree students must fulfill the same admission requirements as students in the bachelor's degree program. All of the services available to regular degree students apply to A.A. candidates and they can participate as fully in the life of the campus as they wish.

Tuition and fee charges for A.A. degree students are the same as for bachelor's degree students.

Persons interested in the Associate of Arts degree program should read especially the sections in this catalog on admissions and costs, all-University requirements, and descriptions of the academic programs which they may wish to emphasize. More information is available from the Office of Admissions and Orientation.

Graduate Programs

The University of Wisconsin-Green Bay offers graduate programs leading to the Master of Science or Master of Arts in Environmental Studies in specific areas listed below. In addition, in cooperation with other campuses in the UW System, four master's degrees in education are offered at UWGB.

Master of Science/Master of Arts in Environmental Studies

The UWGB master's degree program offers areas of emphasis (tracks) in Community Human Services, Environmental Science, and Environmental Administration. Each area is described briefly below. All of the areas emphasize a problem-solving approach to practical issues in their respective fields. An interdisciplinary approach to problems is encouraged. And students have considerable flexibility in designing a program of studies relevant to their interests. The students' program of study consists of a minimum of 30 credits of graduate work. Some areas of emphasis may require more than 30 credits.

Community Human Services

Community Human Services focuses on the dynamics, structure, management and improvement of such organizations as:
—mental health clinics,
—social and welfare agencies,
—community organizations,
—rehabilitation agencies,
—hospitals,
and certain aspects of police departments, schools, and industrial organizations. The program seeks to provide sufficient knowledge to permit graduates to understand, modify, create and use these organizations to assist others.

Environmental Administration

This track develops knowledge and skills necessary for effective planning, management, and evaluation of policies, organizations and delivery systems. The track offers three specializations:

—Administrative Sciences: for students who wish to pursue careers in public or private organizations with special emphasis on management techniques and decision making.

—Policy Studies: focuses on policy issues related to contemporary public problem solving activities, on the public policy system, and on methods of policy analysis.

—Systems Planning and Analysis: for quantitatively oriented students who wish to engage in sophisticated professional-level systems planning and analysis operations.

Environmental Science

Focuses on scientific analysis of and solutions to contemporary environmental problems, such as:
—Waste management and resource recovery
—Resource planning and management
—Ecosystems studies
—Water quality
—Community health
—Quantitative methodologies

Also, a cooperative program between the University of Wisconsin-Green Bay and The Institute of Paper Chemistry in Appleton is available.

In addition to the three tracks described above, students may participate in a personally designed emphasis. This allows for a unique combination of elements from the various tracks to meet unusual goals for a student.

Cooperative Programs in Education

UWGB, in cooperation with the University of Wisconsin at Milwaukee (UWM) and Oshkosh (UWO), offers four master's degrees in the field of education. These programs and the UW institutions holding entitlement to the degrees are listed below. All of the course work for these programs is normally completed on the UWGB campus.
—Educational Psychology: Counseling (UWM)
—Administrative Leadership and Supervision (UWM)
—Curriculum and Instruction (UWM)
—Reading (UWO).

For More Information

For further information about the Master of Science or Master of Arts in Environmental Studies, with tracks in Community Human Services, Environmental Science, and Environmental Administration, contact the Office of Graduate Studies, CC 335, (414) 465-2484. For further information about the cooperative programs in Education, contact the Education Office, SE 424, (414) 465-2137; or the Graduate Studies Office.

Course Descriptions

This section of the catalog contains course descriptions listed in alphabetical-numerical order. Students should not conclude that courses listed under one academic program may be taken for credit only in that academic unit. Many academic units accept for major credit courses listed under another academic area. This is one of the many reasons students should seek advising in designing their programs of study.

Every course described in this catalog is not offered every semester, though nearly all of them are offered on a regular basis, such as every spring, or every fall, or in odd-numbered or even-numbered years. Some courses may be offered only during the January interims. Up-to-date course offering periodicity information is published in each *Timetable*.

That is why students should consult the *Timetable* for each session when planning their programs. *Timetables* also publish new courses and special offerings, such as experimental courses or seminars, which do not appear in this catalog.

Prerequisites

Prerequisites are generally advisory, but in some courses may be mandatory, such as sequential courses in mathematics. Prerequisites indicate the level of proficiency required in order to carry on a course. The student who feels he or she has the level of proficiency necessary without taking the suggested prerequisites should consult the instructor before enrolling. While the instructor's opinion is advisory, it should be useful in assisting the student to make a decision.

Abbreviations

Abbreviations commonly used in course descriptions are:

cr	credits
P	prerequisite(s)
fr	freshman
soph	sophomore
jr	junior
sr	senior
cons inst	consent of instructor

Instructional Unit Numbers

The instructional unit number listed with each group of course descriptions is used for identification and record keeping. The student will need to combine the instructional unit number with the course number to complete registration forms, for example. For record keeping, Biology 303, Genetics, would be listed 204-303. The first three digits refer to the instructional unit; the last three to the course number. The six-digit number also is used to refer to course prerequisites.

Courses are listed numerically by instructional units in the *Timetables*, which publish what courses are being offered each semester, January, and summer session. The *Timetable* also tells when the course is scheduled and, in most cases, who will be teaching it.

Instructional unit numbers are:

156 Anthropology
204 Biology
225 Chemistry
226 Chemistry-Physics
242 Communication and the Arts
246 Communication Processes
255 Community Sciences
296 Earth Science
298 Economics
302 Education
350 Public and Environmental Administration
416 Geography
448 History
478 Human Adaptability major of Human Biology
479 Nutritional Sciences major of Human Biology
481 Human Development
493 Humanistic Studies
552 Literature and Language: English-American
553 Academic Support Program—English
554 Literature and Language: French
556 Literature and Language: German
558 Literature and Language: Spanish
575 Managerial Systems
600 Mathematics
601 Academic Support Program—Mathematics
644 Military Science
689 Nursing
705 Music
707 Music-Applied
709 Theater
736 Philosophy
742 Physical Education
754 Physics
778 Political Science
820 Psychology
834 Regional Analysis
862 Science and Environmental Change
867 Senior Seminars
875 Social Change and Development
892 Social Services
900 Sociology
930 University Without Walls
944 Urban Studies
957 Art

Courses with Variable Content

Many academic programs of the University offer courses with variable content to provide students with opportunities for individual work and exploration of unusual, specialized, or topical subjects not ordinarily included in the curriculum. They fall into four categories: selected topics, student-led courses, independent study and senior honors projects. General descriptions of the nature and philosophy of courses in each category are provided below. They are cited only briefly by number and title in the course lists of units offering them. Information on how to develop or take such courses can be found in the *Timetable* or the Academic Advising office.

281, 481 Student-Led Courses 1-4 cr.
Well prepared, highly motivated students are offered the chance to develop and lead courses on their own. Topics derive directly from student interest and initiative and are chosen from subjects of contemporary concern not covered in regularly scheduled or catalogued courses. One to three qualified students may work with a faculty adviser to propose a course they feel competent to design and lead. Proposals are routed through an appropriate concentration or professional program for approval based both on merit and potential demand.

Upon approval, courses are listed in the *Timetable* with the instructional unit student-led course number. The listed title will appear on student transcripts. Students may enroll for a maximum of six credits of student-led courses in any one semester. A maximum of 18 credits can be accumulated in 281 and 481 courses except by special permission. A complete set of guidelines for student-led courses is available for consultation in concentration and professional program offices.

283X, 483X Selected Topics 1-4 cr.
Courses and seminars presented on an experimental basis or in response to special demand. Topics may be chosen to represent current issues of general concern, special interests of student groups or faculty members, special resources or visiting faculty, or other areas of interest not represented in existing programs. A particular topic is offered only once under the selected topics course number.

When offered, the title and number of credits is announced in the *Timetable* under the heading of the unit which is

sponsoring it. Further information can be obtained from the sponsoring unit or the instructor. Courses of an introductory nature are presented under the 283X number. Those calling for more advanced preparation carry the 483X number and normally require the consent of the instructor for enrollment. The title of the course as announced in the *Timetable* appears on the transcripts of students who enroll.

298, 498 Independent Study 1-4 cr.
Offered on a tutorial basis at the student's request and consisting of a program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's choice. A student wishing to study or conduct research in an area not represented in available scheduled courses should develop a preliminary proposal and seek the sponsorship of a faculty member. The student's adviser can direct him or her to instructors with appropriate interests. A written report or equivalent is required for evaluation, and a short title describing the program must be sent early in the semester to the Registrar for entry on the student's transcript. *Timetables* can provide up-to-date information on independent study.

484 Senior Honors Project 3 cr.
Each concentration or professional major offers the qualified student the opportunity to undertake a project to qualify for graduation with honors. Such a project—normally a thesis, research, or other creative activity—is carried out in the latter part of the junior or the senior year with the consent of an adviser. Specific details are available from advisers and chairpersons. The student is encouraged to register for an honors project not later than the first semester of the senior year.

156 ANTHROPOLOGY

156-100 Varieties of World Culture † 3 cr.
A survey of the variety of ways of life that exist in the world. Stress is given to the concepts of culture, cultural relativity, and ethnocentrism. Representative case studies of tribal and peasant societies are considered.

156-110 Introduction to Physical Anthropology † 3 cr.
A study of populations from a biological evolutionary perspective. The evolutionary history, diversity, and adaptation of human beings is explored. Also included is discussion of the mutual interaction and influence of human culture and biology within an evolutionary framework. See 478-110. Credit is not granted for both 156-110 and 478-102.

156-210 Introduction to Cultural Anthropology † 3 cr.
A review of major concepts, methods, and approaches of cultural and social anthropology as applicable to comparative evaluation of contemporary problems of culture and communities. P: 156-100 or 255-102 recommended.

156-215 Introduction to Prehistoric Archaeology † 3 cr.
Human biological and cultural evolution, with special emphasis on prehistoric archaeology and prehistoric ecology. Offered in two versions: classroom and field. Both versions may be taken for credit. See *Timetable*. P: soph st.

156-220 Myth, Ritual and Religion † 3 cr.
Critical survey and analysis of mythologies, rituals, and religion and magic among divergent cultures of the world. Emphasis is placed on how religious and magical systems interrelate with family, political and economic institutions. P: soph st or 255-102.

156-250 The Anthropology of Contemporary U.S. Culture 3 cr.
Anthropological perspectives and methods are applied to the study of contemporary American culture, focusing on values and symbols, enculturation, proxemics, language, work and leisure, domestic life, and political behavior. The lecture/discussion format is supplemented by collective study of specific ethnographic problems in the cultural setting of northeast Wisconsin. P: 156-100 or 210 or 900-202.

156-283X Selected Topics 1-4 cr.
See page 76.

156-298 Independent Study 1-4 cr.
See page 77.

156-301 Peoples and Cultures of a Selected Region 3 cr.
Description and analysis of a selected area with emphasis on cultures of that area, their development, contemporary variation, and relationship to significant social issues. Areas may include Africa, South Asia, Southeast Asia, Oceania, Northeast Great Lakes Region, and the cultures of American Indians, Afro-Americans, and European peasantries. Courses may be taken for credit each time a different region is presented. See *Timetable* for specific offerings. P: jr st.

156-303 Cultural Ecology 3 cr.
How people, nature, and culture interrelate. The approaches hunting, agricultural, and industrial societies use in adapting to the physical environment are studied. P: jr st.

156-304 Family, Kin, and Community 3 cr.
A cross-cultural comparison of the form and function of such social institutions as marriage and the family; age, sex and kin groups; task groups; caste and class. P: jr st.

156-310 Culture and Personality 3 cr.
A critical survey of the field of culture and personality of the principal concepts and methods used in studying the relationship of the individual to his/her culture. P: jr st, or cons inst.

156-315 Prehistory of the New World 3 cr.
Survey of major events and cultural trends in the prehistory of the New World. Includes topics such as the peopling of the New World, the development of agriculture, the rise of civilization in Mesoamerica and South America, and the archaeological record of the Midwest with emphasis on the Great Lakes. P: 156-100, 210 or 215, or cons inst.

156-330 Aesthetic Anthropology 3 cr.
A critical analysis of the meanings and functions of such aesthetic systems as primitive and folk art, oral literature, and primitive and folk music. Special emphasis is placed on why, what, and how these systems communicate within the context of human culture in general and in particular cultures. The generalizations derived from such analyses are applied to contemporary themes such as the problems of minority cultures within the United States and elsewhere. P: jr st.

156-340 Sickness and Health: The Perspectives of Medical Anthropology 3 cr.
The relationships between cultural patterns, human history, and disease and health care throughout the world. The course focuses upon an enigma—the existence, persistence, and prevalence of many diseases in spite of existing technological means for their eradication or alleviation. Special attention to interactions between variable cultural patterns and biological jeopardies. Examination of processes by which disease influences human adaptations and molds basic features of societies, and how cultural features predetermine susceptibility to disease factors. P: jr st or cons inst.

342 Human Evolution 3 cr.
See 478-342.

364 Human Variability 3 cr.
See 478-364.

156-402 Comparative Social Structures 3 cr.
Research procedures and theories in the cross-cultural examination of social categories, groups, and classes; their interrelationships with cultural and ecological factors. P: jr st and one course in anthropology or cons inst.

156-405 Anthropology of a Selected Institution 3 cr.
In-depth analysis of an institution in human society. Institutions may include political systems, economic systems, law and warfare, religion and kinship. Course may be taken for credit each time a different institution is studied. See *Timetable* for offerings. P: jr st and one course in anthropology or cons inst.

156-483X Selected Topics 1-4 cr.
See page 76.

156-497 Internship in Museum Anthropology 1-4 cr.
Cooperative venture with the Neville Public Museum. Students will negotiate a specific anthropologically related task to be carried out at the museum under museum staff supervision and seek approval of a UWGB anthropology faculty sponsor. Tasks might include research on, or cataloging of artifacts and/or their display or presentation in special programs. An opportunity to experience behind-the-scenes aspects of professional museum work. Not a general museum course. P: 156-100, 110, 210 or 215 and soph st.

156-498 Independent Study 1-4 cr.
See page 77.

204 BIOLOGY

204-202 Principles of Biology I † 4 cr.
An introduction to biological principles, structure and function of organisms, with consideration of interactions at cellular level, and examination of the relationships of organisms to the environment. Includes laboratories.

204-203 Principles of Biology II † 4 cr.
An introduction to biological principles; structure and function of organisms and examination of relationships of organisms to the environment. Includes laboratories.

204-205 Organism Diversity 2 cr.
Classroom and laboratory instruction in the diversity of plants and animals, their taxonomy, phylogeny and structural adaptations. Each major group of multicellular organisms will be considered. P: 204-202.

204-240 Plants and Civilization 2 cr.
The economic importance of plants in the development of civilization and in modern agriculture and industry. Emphasis is on historical and modern cultural aspects.

204-283X Selected Topics 1-4 cr.
See page 76.

204-298 Independent Study 1-4 cr.
See page 77.

204-302 Principles of Microbiology 4 cr.
A study of microorganisms and their activities. Included is their form, structure, reproductive physiology, metabolism, and identification; their distribution in nature and relationship to each other and to other living things. P: 204-202 and 225-108 or 112.

204-303 Genetics 3 cr.
Mechanisms of heredity and variation, their cytological basis and their implications in biology. P: 204-202.

204-304 Genetics Laboratory 1 cr.
Optional laboratory course to accompany 204-303, basic techniques of genetics. Investigation, analysis of animal, plant and human patterns of inheritance. P: 204-303 or concurrent registration.

204-305 Biological Microtechnique 3 cr.
Laboratory theory and practice in cytological and histological techniques including preparation of permanent microscope slides of plant and animal tissues with emphasis on fixation, staining, and sectioning of materials. Preparation of semipermanent mounts of cells for the study of cell division, gamete formation and chromosome behavior. P: 204-203.

204-310 Plant Taxonomy 3 cr.
A laboratory, field and discussion course in identification and classification of plants of North America including flora of Wisconsin. P: 204-203.

204-311 Plant Physiology 4 cr.
General physiology of vascular plants within the context of a plant life cycle. Seed dormancy and germination, metabolism, transport systems, mineral nutrition, patterns of plant growth and development, growth regulators, reproduction, and senescence. P: 204-203, 225-112.

204-312 Mycology 3 cr.
Morphology and taxonomy of lower and higher fungi; fungi in medicine and industry; laboratory techniques involved in collection, isolation, culture, and identification; field trips; mycological literature. P: 204-202.

204-315 Biology of Lower Green Plants 3 cr.
A survey of the photosynthetic non-vascular plants including the algae, lichens and bryophytes. Emphasis will be placed on morphological study of these groups, and will also include field collections and laboratory identification. P: 204-203, jr st or cons inst.

204-317 Structure of Seed Plants 3 cr.
The anatomy of seed plants with special emphasis upon tissue differentiation and structure. P: 204-203.

204-320 Field Botany 3 cr.
Identification and natural history of plants indigenous to northeastern Wisconsin. P: 204-203.

204-340 Comparative Anatomy of Vertebrates 4 cr.
Lectures compare organ systems of vertebrates and emphasize anatomy leading to human adaptations. Laboratory dissection of shark, mud-puppy, and cat. P: 204-203.

204-341 Ichthyology 3 cr.
An examination of the biology of fishes including classification, phylogeny, functional morphology and population characteristics. Aspects of the ecology of fishes will be studied in relation to behavior, distribution, diversity and production in fresh water environments. P: 204-203 or equivalent.

204-342 Ornithology 3 cr.
An overview of avian biology, including systematics, behavior, ecology, anatomy, and adaptations of birds. Laboratory work includes examination of prepared specimens and field study of local avifauna. P: 204-203.

204-343 Mammalogy 3 cr.
A comprehensive study of mammals including systematics, behavior and ecological relationships. Laboratory includes identification and preparation of skin and skulls and field techniques. P: 204-203.

204-345 Animal Behavior 3 cr.
The biology of animal behavior patterns; the behavioral interactions of animals with their environment. P: 204-203.

204-346 Comparative Physiology 3 cr.
The ways in which dissimilar organisms perform similar functions. Behavioral, physiological, and biochemical solutions to problems imposed on invertebrate and vertebrate animals by their environment. Lectures and discussions. Offered in alternate years. P: 204-203, 225-112, or equivalent, or cons inst.

204-347 Developmental Biology 4 cr.
Principles of development including gametogenesis, fertilization, gastrulation, organogenesis, and the effects of internal and external environmental factors on development. Laboratory work includes morphogenesis of amphibians, chicks and pigs, and work with living embryos. P: 204-203.

204-350 Field Zoology 3 cr.
Field collection and laboratory identification of aquatic and terrestrial invertebrates and vertebrates of the region with analysis of their structure, behavior and habitats. A collection is required. P: 204-203.

204-355 Principles of Entomology 3 cr.
The biology and habits of insects and their interrelationships with humans. Includes general anatomy, physiology, embryology, and classification of insects. Field collection is required. P: 204-203.

204-402 Advanced Microbiology 3 cr.
Detailed study of microorganisms from virus to fungi in their environment. A study of both free-living and pathogenic organisms and their degrading abilities. P: 204-302.

204-405 Microbial Physiology 3 cr.
A study of microbial physiological and biochemical adaptations to temperature, oxygen, light, nutrients and other environmental factors. Primary emphasis is on the bacteria. P: 204-302, 225-300 or 225-303.

204-483X Selected Topics 1-4 cr.
See page 76.

204-498 Independent Study 1-4 cr.
See page 77.

Other courses that count toward a major or co-major in biology are:
478-310 Human Genetics 3 cr.
478-312 Evolutionary Processes 3 cr.
478-313 Brain Functions and Human Behavior 3 cr.
478-318 Mammalian Reproduction 3 cr.
478-342 Human Evolution 3 cr.
478-402 Human Physiology 3 cr.
478-404 Animal Physiology Lab 1 cr.
478-413 Neurophysiology 3 cr.
479-401 Agricultural Genetics and World Food Production 3 cr.
862-302 Principles of Ecology 3 cr.
862-307 Ecology of Fire 2 cr.
862-308 Ecology of Invasions 2 cr.
862-322,323 Ecosystems Analysis I,II 4,4 cr.
862-363 Plants and Forest Pathology 3 cr.
862-403 Limnology 3 cr.

225 CHEMISTRY

225-108 General Chemistry † 5 cr.
Designed for students who will take only one semester of general chemistry. A survey course covering basic concepts of matter—its measurement, properties and states; atomic structure and chemical bonding; solutions; acid-base theories. An introduction to organic chemistry and biochemistry is also included. Laboratory work is selected to reinforce lecture topics. Full graduation credit will not be awarded for 225-108 and the courses in the following sequence: 225-111, 112 and 113. P: 601-094 or equivalent.

225-111 Principles of Chemistry I † 4 cr.
The first course in the Principles of Chemistry sequence. Atomic structure, chemical bonding, periodic table, thermochemistry, properties of gases, molecular structure and properties, solutions, chemical equations. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-111 and 225-108 will not be awarded. P: 600-101 or equivalent.

225-112 Principles of Chemistry II † 4 cr.
A continuation of the Principles of Chemistry sequence. Thermodynamics, kinetics, chemical equilibrium, solubility, acid-base reactions, oxidation-reduction, nuclear reactions. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-112 and 225-108 will not be awarded. P: 225-111.

225-113 Principles of Chemistry III 2 cr.
The descriptive material in the Principles of Chemistry sequence; structure and reactions of inorganic and organic compounds, methods of separation, metallurgy. Production and structure of polymers, industrial chemicals and consumer materials. Three lectures per week. Full graduation credit for both 225-113 and 225-108 will not be awarded. P: 225-111.

225-283X Selected Topics 1-4 cr.
See page 76.

225-298 Independent Study 1-4 cr.
See page 77.

225-300 Bio-Organic Chemistry 3 cr.
Emphasis on those aspects of the field pertinent to students planning to enter the biologically related disciplines. Includes basic organic chemistry, natural products, and molecules important to biological systems. (Credit will not be given for both 225-300 and 225-302 or 225-303.) P: 225-112 or 106.

225-301 Bio-Organic Chemistry Laboratory 1 cr.
Optional laboratory course to accompany 225-300. P: credit or concurrent registration in 225-300.

225-302 Organic Chemistry I 3 cr.
A study of the chemistry of carbon compounds. Structure, reactions, synthesis, stereochemistry, reaction mechanisms, spectroscopy, nomenclature and physical properties of both aliphatic and aromatic compounds. All common functional groups and natural products are covered. P: 225-112.

225-303 Organic Chemistry II 3 cr.
A continuation of 225-302. P: 225-302.

225-304 Organic Chemistry Laboratory I 1 cr.
One three-hour laboratory per week. Basic techniques and synthesis in organic chemistry. P: credit or concurrent registration in 225-302.

225-305 Organic Chemistry Laboratory II 1 cr.
One three-hour laboratory period per week. Intermediate level instrumental techniques and syntheses in organic chemistry. P: credit or concurrent registration in 225-303.

225-311 Analytical Chemistry 4 cr.
Introduction to the theory and practice of chemical analysis. Gravimetric analysis techniques, computations, solubility products, and applications. Volumetric analysis techniques, computations, acid-base titration, oxidation-reduction titrations, precipitation titrations, and complexometric titrations. Introduction to instrumental analysis, spectrophotometric and electroanalytical methods. P: 225-112.

225-410 Inorganic Chemistry 3 cr.
A survey of the elements including coordination and organometallic compounds. Modern bonding theories, group theory, and periodic properties are extended and applied to actual chemical systems and reactions. General acid-base theory and nonaqueous solvent systems are discussed. Special topics of current interest are included. P: 226-321.

225-413 Instrumental Analysis 4 cr.
A survey of the theory and practice of analysis by instrumental methods including those based on absorption and emission of radiation, electroanalytic methods, chromatographic methods, and radiochemical methods. P: 226-311 and credit or concurrent registration in 226-321.

225-483X Selected Topics 1-4 cr.
See page 76.

225-498 Independent Study 1-4 cr.
See page 77.

226 CHEMISTRY-PHYSICS

226-283X Selected Topics 1-4 cr.
See page 76.

226-298 Independent Study 1-4 cr.
See page 77.

226-320 Thermodynamics and Kinetics 3 cr.
Temperature, heat and work, thermodynamic properties of gases, solids, and solutions; homogeneous and heterogeneous equilibria; thermodynamics of electrochemical cells; statistical thermodynamics; the calculation of thermodynamic properties of substances; chemical kinetics. P: 225-112 and either 754-202 or 104 and 600-203.

226-321 Structure of Matter 3 cr.
The concepts of physical chemistry and modern physics are presented in an integrated fashion. Topics covered are: introduction to quantum theory, symmetry, atomic and molecular structure, crystal structure, spectroscopy, X-rays, properties of gases, liquids, and solids. P: 225-112 and either 754-202 or 104 and 600-203.

226-322 Thermodynamics and Kinetics Laboratory 1 cr.
One three-hour laboratory per week. P: credit or concurrent registration in 226-320.

226-323 Structure of Matter Laboratory 1 cr.
One three-hour laboratory per week. P: credit or concurrent registration in 226-321.

226-324 Advanced Physical Laboratory 1 or 2 cr.
Experience with important research techniques and apparatus with emphasis on independent work; X-ray diffraction, nuclear magnetic resonance, multichannel analyzers, luminescence, noise and vibration measurements, atomic absorption, microwaves, and classical experiments for determining physical constants. P; cons inst.

226-330 Biochemistry 3 cr.
Nature and function of the important constituents of living matter, their biosynthesis and degradation. Energy transformation, protein synthesis, and metabolic control. P: 225-303 or 225-300, 301 and 204-202.

226-331 Biochemistry Laborstory 1 cr.
One three-hour laboratory per week. P: credit or concurrent registration in 225-330.

226-417 Nuclear Physics and Radiochemistry 3 cr.
Introduction to the properties and reactions of atomic nuclei; the application of the properties of radioactive nuclei to the solution of chemical, physical, biological and environmental problems. P: 225-112 and either 754-202 or 104 and 600-203.

226-418 Nuclear Physics and Radiochemistry Laboratory 1 cr.
One three-hour laboratory per week. P: credit or concurrent registration in 226-417.

226-483X Selected Topics 1-4 cr.
See page 76.

226-498 Independent Study 1-4 cr.
See page 77.

Other courses for chemistry-physics credit include:
479-405 Food Science Laboratory
479-485 Advanced Human Nutrition
862-141 Elementary Astronomy
862-306 Biophysics
862-313 Mechanics I
862-314 Mechanics II
862-350 Meteorology
862-412 Bio-Energetics
862-422 Environmental Biogeochemistry
862-434 Water Chemistry
862-450 Air Pollution Chemistry and Meteorology

242 COMMUNICATION AND THE ARTS

242-102 History of the Visual Arts: Ancient to Medieval † 3 cr.
A broad survey of the visual arts in the Western world beginning in prehistoric times and ending in the late Gothic period.

242-103 History of the Visual Arts: Renaissance to Contemporary † 3 cr.
A broad survey of the visual arts in the Western world beginning in the early Renaissance and ending in the contemporary period.

242-120 Understanding Music † 3 cr.
Techniques for intelligent listening to any music, but especially serious or "classical" music. From a solid background in such elements as melody, harmony, rhythm, and texture, the student is led into such topics as style, taste, and form in order to learn how to understand the language of music.

242-121 Masters and Masterpieces of Music † 3 cr.
The musical style of several well-known composers as evident in selected compositions of each. Class lectures are combined with outside listening to give the student a basic repertoire of musical compositions of various forms and styles.

242-141 Introduction to the Performing Arts: Theater and Music 3 cr.
Centers on the literature and the artists in theater and music from a historical perspective. Entails research prior to performances, attendance at performances, interviews with artists, and the writing of critiques.

242-142 Performing Arts Perspectives: Experience and Evaluation 3 cr.
Presupposes the historical background of 242-141. The emphasis is on understanding the elements of performance from the perspective of the audience and critic. Entails research prior to performances, attendance at performances, interviews with artists, and the writing of critiques.

242-160 Introduction to Language † 3 cr.
Introductory study of language and linguistics, including basic principles and methods in structural linguistics, social and regional variation in language, historical change, and introductory study of meaning.

242-202 Concepts and Issues of Modern Art 3 cr.
Modern art began its break from traditional art (art regarded as a recorder of visual fact) in the late 19th century. A series of radical concepts have emerged, each raising questions about the function of art in modern society, challenging preconceptions and ultimately enlarging our ideas of what art is or can be. This course examines key concepts, the visual art which evolved, and the corresponding issues they raise. It also deals with the wider cultural matrix in which modern artistic ideas germinate. Designed to prepare both the art student and non-art student with an informed attitude and framework with which to approach the variety of visual arts produced today.

242-210 Film and Society 3 cr.
Deals with film primarily in its social context, i.e., the ways in which film reflects and influences society. Films such as Griffith's *Birth of a Nation*, Lang's *Metropolis*, Eisenstein's *October*, Vertov's *Man With a Camera*, Renoir's *Rules of the Game*, and films chosen from the student film series are examined for their social content, both explicit and implicit, and the social milieu of their creation. Emphasis is also placed on the ways in which different cultures use films and on the cross-cultural influences which occur. See 493-210.

242-221 Popular Music Since 1955 3 cr.
Provides an introduction to the essence and evolution of popular music since 1955 and its relationship to society. Emphasis is placed on rock music in the 1960's and early 1970's, the period of greatest stylistic expansion and also the period in which the music was most intimately intertwined with its social milieu.

242-222 The Arts in the U.S. 3 cr.
Explores the art, culture, and history of a particular U.S. city. The course includes an extended field trip to the city so students are able to experience museums, theater, and music there. In the past the city of emphasis has been Chicago, but other cities may be the focus in the future.

242-231 Introduction to Graphic Communication 3 cr.
Introductory program for students with vocational objectives or with interests in graphic communication. Provides a basic background required for entry into advanced courses. Emphasis on basic principles and potentials of visual communication, application of design concepts, exploring aspects of printing, preparation of mechanicals, type units of measurement, letterspacing, and type styles as communicative devices. P: prior course in photography or design.

242-243 Native American Cultures: Film and Performance I 3 cr.
A study of images of the American "Indian" in selected films and literature. Focus is on the "popular" and stereotypical images of Native People and will be counterpointed with documentaries and writings which attempt to present with more authenticity some of the cultural world views. Some introduction to creative group performance principles of the subsequent course for all-University requirements.

242-244 Native American Cultures: Film and Performance II 3 cr.
A continuation of the all-University requirements Communication and the Arts package beginning with 242-243. In this portion, emphasis is on the process of group work toward creating/developing a performance piece from Native American materials. It is primarily an experiential "studio" course based upon materials from the first semester. If and when feasible, the work will be publicly performed. Previous "theater" experience or particular interest in theater is not necessary. P: 242-243.

242-251 Foundations of Aesthetic Experience † 3 cr.
Students are encouraged to break out of habitual ways of perceiving and into the subjective world of feeling, from which aesthetic responses come. Starting with analysis of color, line, point, shape, form, texture, space, value and tone, instructors go on to show how these basic elements of the visual arts appear in other arts and other environments.

242-272 Women in the Visual and Performing Arts 3 cr.
Surveys images of women in the visual and performing arts and compares them with information drawn from non-artistic sources in order to clarify the kinds of knowledge we can gain from the study of the arts. Emphasizes works by women in order to revalue their place in our history. Emphasizes different cultures, periods and forms of art depending on the background of the instructor. P: 493-206.

242-281 Student-Led Courses 1-4 cr.
See page 76.

242-283X Selected Topics in Communication and the Arts 1-4 cr.
See page 76.

242-295 Sensing and Communication 1 cr.
Practice and philosophical background in a series of exercises and activities designed to heighten sensory awareness for the teacher/performer, drawing both from ancient exercise techniques of Aen and Hatha Yoga and from modern Sensory Awareness as taught by Charlotte Selver and Charles Brooks. Exercises include practice in breathing, sounding, silence, and movements for students in the performing arts and related areas. P: soph st or cons inst.

242-296 Independent Study 1-4 cr.
See page 77.

242-301 Communication and the Arts Projects in the Community 1-5 cr.
Projects vary, but emphasize service, creative, developmental, and communications activities in the community. May be repeated for credit. P: cons inst.

242-307 Film and the Novel 3 cr.
The Film and the Novel explores the differences between the two mediums by comparing film to the novels on which they are based. The craft of translating a novel into film will be analyzed. Filmmaking experiences will be gained through production of an original script based upon a well-known short story. Screen writing, production, directing, camera work, editing, set design, and other crafts will be explored. P: 242-210.

242-309 Criticism of the Visual Arts 3 cr.
See 493-309.

242-310 Criticism of the Performing Arts 3 cr.
An approach to the principles and techniques of criticism of various performing arts, such as music, theater, and movies. Includes study of the aesthetic bases of criticism, analysis of the work of critics, the relationship of the critic to the community, and practice in writing critical reviews. Some degree of sophistication in at least one of the performing arts is desired. P: jr st or cons inst. See 493-310.

242-320 Communications: Extensions of Consciousness 3 cr.
Communicative systems as extensions of human consciousness; particular focus on people's images of themselves, others, and the world, as those images affect their communicative attitudes, behaviors, and uses of language.

242-323 Language and Human Conflict 3 cr.
Language as cause and consequence of racial, social, ethnic and national conflict; problems in dialect differences, language and nationalism, linguistic and cultural minorities, nonverbal communication, language and world view.

242-328 Cultural Cross-Communication I: Ideology and Values 3 cr.
Cultural conflict and cultural influence and enrichment that arise when differing ideologies and value systems come into contact. Course topics vary, and students should consult the Timetable for specific listings of topics each semester. Course may be repeated once with a different topic.

242-329 Cultural Cross-Communication II: Expressive Traditions 3 cr.
Cultural conflict and influence and enrichment that arise when differing traditions of the arts come into contact. Course topics vary and have included such areas as ethnomusicology, jazz history, American show music, and West African art. Students should consult the *Timetable* for specific listings of topics each semester. Course may be repeated once with a different topic.

242-331 Graphic Communication Studio I 3 cr.
Introduces students in a studio setting to problem solving techniques in graphic communication. Students will have an opportunity through a series of projects, including mock interviews with clients and contact with a printer, to expand visual, verbal, technical and management skills, to integrate them by completing projects and to critically evaluate the final product. Evaluation includes methods of investigating the problem, evidence of considering alternate solutions, creative approach to solutions, and the finished product. Some research into traditional and contemporary solutions to similar problems is required.

242-332 Graphic Communication Studio II 3 cr.
Continues work begun in 242-331 in problem solving techniques. Studio projects are used for the same objectives as in 242-331 but there is more emphasis on working in groups and carrying a single project through all phases from the concept to final productions. Students investigate a product and design packaging and promotional campaigns, using management, publications, photography, design, printing, and copywriting skills. Results are critically evaluated at each stage. P: 242-331 (246-343 strongly recommended).

242-361 Increasing Aesthetic Awareness 3 cr.
One of a sequence of courses examining the process of aesthetic experience, this course concentrates on the experience of the perceiver rather than that of the creator. It posits that awareness can be increased in several ways: by developing the senses, by altering the habits of the perceiver, by changing the pattern of interaction between the perceiver and the environment, and by changing the condition of the environment. The course seeks to heighten and refine awareness in two ways: through exploration of selected aesthetic objects, and through laboratory experimentation. Each student sets up a contract with the instructor establishing appropriate goals and measurements.

242-362 Psychology of Aesthetic Perceptinn 3 cr.
Explores what is known of the psychological and physiological processes that give rise to aesthetic perception and arousal. Special emphasis is given to current work on cognition and perception, and the relationships between these processes and art and other sources of the aesthetic experience. Students are asked to do a paper or a creative project demonstrating their understanding of the central themes of the course.

242-364 Aesthetic Awareness Through Artistic Creation 3 cr.
The artist's aesthetic experience is explored through readings, discussion, and exercises. Attention is given to how and why the artist works, the artist's relationships to society and audience, and the artist's concerns with creative process and end products. Work culminates in student presentations of creative works in their chosen art forms. P: 242-261.

242-370 Modern American Culture 3 cr.
A survey of fad, fashion, and popular art: the media, music, advertising, and entertainment. Although they exist in the shadow of the fine arts and are usually ephemeral, popular art, fad, and fashion express the intimate unguarded concerns of modern America.

242-372 The Phenomenon of Style: Traditional Styles 3 cr.
Interpretation of the arts based upon stylistic analogy and the assumption that a change in cultural style signals a change in the style of human consciousness itself. Emphasis placed on comparative study of artists, writers, architects, and thinkers from the Renaissance to the modern periods.

242-373 The Phenomenon of Style: Avant-garde Styles 3 cr.
Comparative study of common stylistic elements operating in different forms in the work of avant-garde artists, composers, playwrights, and novelists. Emphasis on the nature of innovative consciousness.

242-375 Communication Skills: Language of Metaphor 3 cr.
Metaphor is a verbal process of pretending one thing is another. It is a powerful part of how we imagine our worlds and how others try to structure our worlds. The course examines the metaphoric process itself and, through exercises and analyses of examples, seeks to develop skills in creating metaphors and understanding those created by others, especially those that have become an unconscious part of our language and culture.

242-380 The Arts: London 3 cr.
The arts in and about London are always in a lively state of action. This program attempts to taste and analyze as many forms of the arts as time, energy, and funds allow. The group tries to become involved in several performing arts events as well as investigate museum collections, neighborhood art groups, and, if possible, spends time with artists working in various art forms. Students note the ways in which the British solve their needs for the arts in society. Students keep a journal during their London stay recording especially critical responses to events, persons, places, etc. Each student negotiates in advance an individual project to be carried out in some area of the arts as they are experienced in London and Britain. P: cons inst.

395 The Individual and His Culture: The Filmmaker's View 3 cr.
See 493-395.

242-395 The Biological Aspects of Language 3 cr.
Studies of language as a biological system, including language development in children, the integration of the speech organs and the nervous system, and connections between human speech and animal communication. Offered in January.

242-395 Photographic Design for Print Media 3 cr.
An investigation of photographic design and craft for print media ranging from the commercial printing press to non-silver exhibition prints. Projects will emphasize photographic illustration from concept through assignment, editing, scaling, and placement of images in a print design. Offered in January. P: 246-343.

242-401 Designing the Environment I 3 cr.
Faculty and students from Urban Studies, Regional Analysis, Science and Environmental Change, and Communication and the Arts investigate the environment as a prime relationship between the human organism and physical and mental context that surround it, as well as principles of design and the design process as it relates to planning human environments. Major topics include philosophy and poetry of space; perception of space; physical and psychological human health and effects of space on the physical well-being of the organism; design and construction of space.

242-402 Designing the Environment II 3 cr.
A detailed introduction to the study and practice of environmental design process, the seminar focuses on the environment as a prime relationship between the human organism and physical, social, and psychological contexts surrounding it. Students design and propose independent research projects. Students also enrolled in Environmental Design Workshop II may integrate requirements of the courses. 242-401 or cons inst.

405 Urban Technological Design 3 cr.
See 862-327.

242-430 Mass Media and Society 3 cr.
Analysis of the media as persuader, informers, entertainers; public opinion, readership, and audience studies; communication theory; legal aspects; critical examination of mass communication in the changing social environment.

242-432 Graphic Communication Workshop 3 cr.
A problem solving workshop, applying concepts in graphic design, technology and management. Advanced students work on projects for university or non-profit groups from concept to finished product, including involvement with design, writing copy, contacting printers, clients, etc. Groups may also become involved in consulting to solve graphics problems for nonprofit groups. Course content emphasizes the roles of graphic communication in society at large. Emphasis is on group problem solving within the context of real life situations. P: prior course work in photography and 242-332.

242-462 Senior Seminar in Aesthetic Awareness 3 cr.
A summative/integrative learning experience for students in the Aesthetic Awareness program and for those in Communication and the Arts who have put major emphasis there. A special theme each time the course is offered is a center around which student research projects are negotiated with the instructor. Students participate in selecting the theme. Possible themes are: The Place of Aesthetics in American Society; Environmental Aesthetics and Public Policy; Teaching Aesthetic Awareness in the Schools; Aesthetic Awareness and Community Organizations, and others.

242-463 Processes and Systems of Aesthetic Evaluation 3 cr.
Seeks to clarify the process we use in making aesthetic judgments, to examine the various systems of evaluation that are current, and to prepare each student to take hold of the process of evaluation so that he or she can locate, express, and insist on the validity of his or her aesthetic values. P: 242-261 or equivalent; first or course in criticism.

242-471 Environmental Design Workshop II 3 cr.
Analysis and design of group spaces, such as houses, classrooms, waiting rooms, and other spaces intended for occupancy by groups of people. Past design projects have taken the form of designing and producing a book focusing on environmental design of group spaces including sections on case studies conducted by student design teams. Students can expect some major project of this sort in addition to readings, research, and design analyses. Draws support from 834/944-326, Human Living Space II, and 242-402, Designing the Environment II. Students are strongly advised to enroll in at least one of these parallel offerings. P: 944-401 and cons inst.

242-472 Environmental Design Workshop IV 3 cr.
A culminating experience for students who have participated in the workshop sequence. Each student proposes, designs, and executes a design/research project on an elected topic. Individual projects are acceptable in some instances; projects by design teams are encouraged. This "thesis" project is overseen and evaluated by the teaching staff and a faculty committee representing appropriate areas of study. The project must include at least: 1. A written document covering area of focus, research methods, and conclusions, design methods, and development of design alternatives. 2. Descriptive graphic presentations with emphasis on design alternatives developed. 3. Formal, public jury presentations during the project and at its conclusion. P: nine workshop credits and cons inst.

242-477 Women as Creative Agents 3 cr.
Seeks to clarify the multiple ways women have exercised their creative capacities and to describe the external and internal factors that support creative work. Examines some of the cultural assumptions about creativity in women by comparing them with the evidence of at least six biographies of women in several fields who have been recognized for their creative achievement. Explores the ways that great women and relatively unknown women artists may serve as role models for others. P: 875-241 or 242-364.

242-481 Student-Led Courses 1-4 cr.
See page 76.

242-483X Selected Topics in Communication and the Arts 1-4 cr.
See page 76.

242-484 Senior Honors Project 3 cr.
See page 77.

242-497 Internship in Graphic Communication 3-9 cr.
A field course offering instruction and experience in a professional, graphic communications related environment. The internship for qualified students, when available, may be in any area of the field (management, design work, technical processes) as long as it involves work among professionals. Credit is variable depending on the work involved but no more than three credits may be used to meet requirements for a major. P: 242-432 and prior written cons inst.

242-498 Independent Study 1-4 cr.
See page 77.

246 COMMUNICATION PROCESSES

246-100 Writing Skills Laboratory 3 cr.
A basic course in college-level expository writing, including conventional forms of argumentation, comparison/contrast, and research reports. A laboratory program for small-group and individualized instruction complements general class meetings. The course is competency-based, such that students may complete requirements by examination at designated times during the semester, and is designed to meet University requirements for competence in writing. P: passage of freshman entrance exam.

246-102 Introduction to Mass Communications † 3 cr.
Survey of the interplay between American society and mass media, both print and broadcast; commercial, cultural, and political functions of the media; popular taste; the pseudo-environment of symbols; the concept of a free and responsible press.

246-133 Fundamentals of Public Address 3 cr.
An examination of the principles of oral message preparation and presentation. Students will engage in preparing and presentation actual public communications.

246-161 English as a Second Language: Reading and Lecture Comprehension 3 cr.
Work toward acquisition of the basic listening and recording skills a student must have in order to be able to follow lectures and focus on the main points in notetaking; learning the fundamentals of preparing and giving an oral presentation regarding a scientific, scholarly, or technical topic; development of technical vocabulary. P: ESL proficiency test.

246-163 English as a Second Language: Expository Writing I 3 cr.
Acquisition of basic principles of nonfiction writing in English, including work toward eliminating grammatical problems; a review of the fundamental rules of rhetoric; study of the patterns of organization most frequently used by American technical writers. This course should be helpful to students whose native linguistic background may be other than English and who want to learn how to approach writing a research paper. P: ESL proficiency test.

246-164 English as a Second Language: Expository Writing II 3 cr.
Refinement and extension of competence in technical writing with particular emphasis on the psycholinguistic characteristics of technical written expression in American English. This course is intended for the student of a non-English native linguistic background who has already mastered the basic rules of writing nonfiction, but who wants to gain a deeper understanding of the logical and organizational principles followed by American scientists and professionals in written accounts of their work. P: ESL proficiency test.

246-166 Fundamentals of Interpersonal Communications 3 cr.
Basic principles of personal interaction as a basis of the communication process. Investigation through study, practice, and discussion includes the role of communication in interpersonal relationships, the role of identity and self-concept in communication behavior, and the roles which information reception and evaluation play in determining effectiveness of communication.

246-200 Communication Processes: An Introduction 3 cr.
An overview of a variety of communication processes, what they share, how they differ, their uses for communication, for art, and for individual growth and their effect on the social fabric. The course includes practical experience with these processes as well as a theoretical framework for continuing study. P: one course in communications suggested.

246-203 Newswriting Laboratory 3 cr.
Assignments in gathering and writing news; copy editing; emphasis on developing an objective, clear, accurate, and forceful style.

246-243 Introduction to Photography † 3 cr.
The creative process in photography is studied to develop visual perception through active participation in discussions and photographic exercises. See 957-243.

246-253 Practicum in Print Journalism I 1-3 cr.
Supervised experience on the staff of the student newspaper, providing for the development of skills in some facet of newspaper operation: reporting, feature writing, or photojournalism. Repeatable. P: cons inst.

246-264 English as a Second Language: Culture, History, and Institutions of American English 3 cr.
Designed for students whose first language is not English and who wish to familiarize themselves with American English, especially international students. The course provides experience in lecture comprehension and college level reading comprehension, and also emphasizes understanding of American idioms, jargon, and styles within the milieu of American government, business, and the mass media. P: cons of inst. (ESL proficiency test required.)

***246-283X* Selected Topics 1-4 cr.**
See page 76.

246-298 Independent Study 1-4 cr.
See page 77.

246-303 Feature Writing 3 cr.
Writing feature articles for magazines and newspapers. Information gathering, professional standards, and effective style are emphasized. P: writing course or cons inst.

246-305 Elements of Electronic Media 3 cr.
Exploring the potentials of television and radio; analyzing communication strategies employed in these media; examining policy and practice in commercial and educational operations and the forces that control them.

246-306 Radio Broadcast Practicum 3 cr.
An advanced production course emphasizing development of writing, producing, announcing, reporting, and problem solving skills in the broadcast environment of radio station WGBW-FM. Students work on their knowledge of broadcast skills, responsibilities, and systems in a classroom/workshop context, while at the same time gaining experience in similar areas at WGBW-FM. P: 246-305 or cons inst.

246-307 Television Production Techniques 3 cr.
Exploration of various uses of television as an informative, persuasive, and entertainment medium. Combines examination and analysis of current uses of the medium in a professional context with practical experience in planning and producing a finished product for television. P: 246-202 and 246-305.

246-308 Telecommunications Delivery Systems: Cable and Satellite 3 cr.
Focusing on cable and satellite telecommunication systems, this course provides an overview of historical development, economics, and current operations of telecommunications technology and investigates its impact on society. Topics include programming and telecommunications systems; interactive computer uses, changing media formats and delivery systems, and applications of telecommunications systems in the communications environment of the future. P: 246-102, 246-305.

246-320 History of the English Language 3 cr.
The origins, development, and cultural background of the English language (dialects, grammar, pronunciation, spelling, vocabulary, and usage), including contemporary American English.

246-321 Sociolinguistics 3 cr.
Communications in social groups and application of linguistic principles to specific cultural problems, including the study of social and regional dialects, stylistic variations, bilingualism, linguistic interference, paralinguistic behavior, and language acquisition.

246-322 Modern Linguistics 3 cr.
Structure and system in language, with attention to modern English and including principles of structural linguistics (phonology, morphology, and syntax), tagmemic grammar, and generative-transformational grammar.

246-324 Psycholinguistics 3 cr.
A brief survey of language structures and an intensive examination of the psychological processes by which we produce and perceive those structures. Additional topics include: comparisons with animal communication and other communication methods; acquisition of language; origin of language; memory.

246-325 Applied Linguistics 3 cr.
Application of linguistic principles to specific problem areas, including language acquisition, the teaching of reading, the teaching of English as a second language, the teaching of composition (especially remedial composition), and institutional communications; special emphasis upon problems faced by secondary school teachers. P: at least one course in linguistics.

246-326 Modern Semantics 3 cr.
A study of meaning in language. The course covers topics in how meanings of words and phrases change, how meanings may be measured, the relations between logic and meaning, cultural differencies in meaning due to language structure differences, and the effects of situation on meaning. P: 246-200 or one course in linguistics.

246-327 Contrastive Linguistics and Error Analysis 3 cr.
A practical introduction to the techniques of comparing languages for their structural and conceptual similarities and differences, and of analyzing the errors committed by second language learners. The implications of the findings made by using either of the two approaches will be brought out. This course should be useful to anyone interested in the characteristics of the human communicative system, and to future foreign and second language teachers. P: 242-160 or cons inst.

246-333 Persuasion and Argumentation 3 cr.
Designed to foster an awareness, appreciation and understanding of contemporary forms and methods of oral persuasion. The student will be exposed to theory and practice in an attempt to produce both better practitioners and more cautious consumers of persuasion. P: jr st or cons inst.

246-335 Organizational Communication 3 cr.
A study of communication in the modern organization; communication variables in the context of organizational theory; development of a systems perspective regarding functions, structures, and levels of communication in the organization. Examination of common organizational communication evaluation tools and training interventions.

246-336 Theories of the Interview 3 cr.
Examines the basic theory behind conducting effective interviews. Specific types of interviews are discussed, including selection, counseling, exit, discipline, appraisal, mass media, and research interviews. Both the interviewee's and the interviewer's perspectives are examined. P: 246-133 or 246-166 or 246-200.

246-343 Photography II 3 cr.
Emphasis upon black and white photography and darkroom printing techniques. P: 246-243 or equivalent experience. See 957-343.

246-344 Photography III 3 cr.
A continuation of 957/246-343; investigation of black and white photography, allied media, and applications of photography. See 957-344.

246-345 Designing Multiple Media Applications of Photography 3 cr.
Emphasis upon programmed multi-image designs bringing together photography, graphics, and sound. P: 246/957-243.

246-346 Photographic Design for Print Media 3 cr.
An investigation of photographic design and craft for print media ranging from the commercial printing press to non-silver exhibition prints. Projects will emphasize photographic illustration from concept through assignment, editing, scaling and placement of images in a print design. P: 246-343.

246-353 Practicum in Print Journalism II 1-3 cr.
Supervised experience on the staff of the student newspaper, providing for the development of advanced skills in some facet of newspaper operation: reporting, feature writing, photojournalism or editing. May be repeated for credit. P: 246-203, 303 or 343, or successful experience on *The Fourth Estate* staff.

246-380 Communication Law 3 cr.
Freedom of the press and broadcast media, with a focus on the problems of gag orders, contempt, privacy, censorship, libel, and slander. An overview of copyright law, the Federal Communications Act, and other laws affecting communication.

246-390 Scientific and Technical Communication 3 cr.
Scientific and technical writing for professional and lay audiences, including news articles and features, laboratory reports, procedure manuals, grant and contract proposals, and technical reports. Emphasis on skills for professional work in science communication, but open to science students and media students. P: 9 cr. in natural science (or completion of natural science all-University requirements); completion of University writing requirement.

246-403 Advanced Reporting 3 cr.
In-depth, localized reporting of contemporary affairs; emphasis on research skills, writing styles, and the values at stake in the treatment of each story. Student work is designed for either newspaper publication or radio broadcast. P: 246-203.

246-443 Advanced Problems in Photography 3 cr.
Each participant identifies an area of interest and an approach to the problems implied and is directed to resources in that problem area. Each student leads a seminar and prepares a paper on a selected photographer. Students also lead seminars on their work and present the finished work to the class in a final portfolio. P: 246/957-344. May be repeated to a maximum of 9 credits. See 957-443.

246-444 Time Duration Visual Media 3 cr.
An investigation of visual media, especially film, video, and programmed multi-image projection, which require the passage of time to be perceived and which enable the producer direct control over the passage of time. The course includes active participation in discussions, exercises, and productions. P: 246/957-243 and 246/957-343.

246-445 Human Communication Theory 3 cr.
Human communication theory evolves from a number of academic disciplines. This course integrates a variety of theories to promote a sensitivity to and an understanding of the complexity of human communication. It examines the construction of various communication theories, various communication contexts, and specific processes in communication, and leads to the development of communication theories by class members. P: cons inst.

246-483X Selected Topics 1-4 cr.
See page 76.

246-497 Internship 3-9 cr.
A field course offering instruction and experience in a professional environment. The subject area may be any communication process as long as it involves work among professionals. Typical internships are in reporting, television or radio, public information, photography, and similar contexts. The course is repeatable if a different internship is involved, but no more than three credits may be used to fulfill requirements for a co-major (disciplinary program) in Communication Processes. P: prior written cons inst.

246-498 Independent Study 1-4 cr.
See page 77.

255 COMMUNITY SCIENCES

255-102 The Social System † 3 cr.
Introduction to concepts and concerns of the community sciences through an inter-disciplinary focus on problems and opportunities of humans and their social environment.

255-205 Social Science Statistics 3 cr.
Application of statistics to problems of the social sciences, particularly those problems pertaining to Regional Analysis, Urban Studies, Human Development, and Social Change and Development. Application of statistical techniques in problem definition, hypothesis construction, and data collection, processing, and evaluation. P: soph st.

255-301 Foundations for Social Research 3 cr.
An integrated introductory examination of the nature of science, theory, and statistics. The emphasis is on identifying and interpreting relationships between social phenomena. This is assured by applying the conceptual tools provided in the course to specific problems. P: 800-260 or 255-205 and one course in social sciences.

296 EARTH SCIENCE

296-110 Dinosaurs: Rise to Ruin 1 cr.
Over 200 million years ago dinosaurs and other reptiles became the dominant animals on earth. For nearly 150 million years these animals ruled the land, sea, and air. This course explores dinosaurs, their ancestors, rise to preeminence, reasons for success, and possible reasons for their extinction.

296-200 Basic Earth Science † 3 cr.
Introduction to the basic geological processes that modify the earth's landscapes. Includes segments on astronomy, weather and climate, soils, oceanography and the geologic history of Wisconsin. Note that a student does not receive credit for both 296-200 and 296-202. Field trip may be included.

296-202 The Earth's Physical Environment † 4 cr.
The materials and processes that have determined and are now modifying the physical features of the earth's environment are described and analyzed. Credit not granted for both 296-202 and 296-200. Field trips.

296-222 The Ocean of Air: An Introduction to Weather and Climate † 3 cr.
Fundamental processes of the atmosphere, the resulting weather and climate, and the effects of the atmosphere on other aspects of the earth's environment and on humans. Same as 834-222.

296-230 Geology of Wisconsin 3 cr.
The Wisconsin story is one of high mountains now worn away, volcanoes no longer active, and seas long since departed. At different times tropical storm waves battered shore cliffs near Baraboo, coral reefs dotted warm shallow seas, and glaciers buried the state with ice. At other times rich mineral deposits, such as those recently discovered near Crandon, were formed. The geological processes shaping these events constitute the content of this course. An all-day field trip is required.

296-283X Selected Topics 1-4 cr.
See page 76.

296-298 Independent Study 1-4 cr.
See page 77.

296-302 Geologic Evolution of the Earth 3 cr.
The physical history of the earth through geologic time and the attendant evolution of plants and animals. Principles governing interpretation of the rock and fossil record. Unraveling of events culminating in modern landscape and life forms. Field trips. P: 296-202 or cons inst.

296-303 Geologic Evolution of the Earth Laboratory 1 cr.
Practical application of geologic principles and techniques to interpretation of earth history. Field trips. P: credit or concurrent registration in 296-302.

296-306 Drifting Continents 3 cr.
The theory of continental drift has revolutionized many aspects of the earth sciences, and the evolution of this theory provides an opportunity to explain many geologic phenomena, such as earthquakes and volcanoes, as well as to examine a recent example of a scientific revolution. Considers relationship of continental drift and mineral resources, evolution, and mountain building. P: 296-202.

296-310 Paleobiology 4 cr.
Considers the preservation, morphology, evolution, interrelationships and paleoecological significance of fossil plants and animals. Includes field and laboratory study of fossil assemblages and their environments. P: 296-302, 296-303 or 204-203 or cons inst.

296-340 Rock and Mineral Resources 3 cr.
Macroscopic identification of common rocks and minerals, formation and uses of rock and mineral resources, and the environmental impact of resource exploration and extraction. Field trips. P: 296-202.

296-350 Geologic Field Methods 4 cr.
Description and application of standard field techniques employed in assembling geologic data. Includes mapping, measuring sections, collecting rock and fossil specimens, and preparing and presenting a report on a geologic problem. P: 296-202, 296-302.

296-366 Structural Geology 3 cr.
Structures produced by deformation of the earth's crust: faults, folds, foliations. Methods of field study and laboratory analysis. Tectonic significance of structures within the earth's crust. Stress and strain analysis and its application to rock deformation. P: 296-202.

296-380 Geomorphic Processes 3 cr.
Landforms influence many activities including transportation, settlement, and agriculture in addition to constituting a fundamental aspect of scenery. Landforms are in constant flux as dynamic processes on and within the earth shape and reshape materials of the crust. This course describes and evaluates the operations and interrelationships of agents involved in creating and modifying the physical features of the earth's surface. P: 296-202.

296-402 Stratigraphy and Sedimentation 3 cr.
Principles of physical- and bio-stratigraphy, and sedimentation. Discusses concepts of sedimentary processes, sedimentary environments, and stratigraphic relationships of time and physical characteristics. Includes a brief historical development of principles, the methods and techniques used to study sediments and sedimentary rocks, and the application of principles and methods to interpretation of local geology. Field trip. P: 296-202.

296-420 Soil Classification and Geography 3 cr.
Morphological properties of soils, major kinds of soil horizons; principles of soil classification, taxonomic systems; soil-landscape relationships; genesis and global distribution of major kinds of soils; soil surveys and their interpretations for agriculture, engineering, and urban planning. Field trips. P: 296-320 or 202.

296-441 Mineralogy 4 cr.
A survey of important concepts in mineralogy. Crystallography, symmetry, and molecular structure of minerals. Optical properties of minerals and identification of minerals in thin section. Description and recognition of minerals and ores in hand specimen. P: 225-112.

296-442 Petrology 4 cr.
Classification, genesis, and occurrence of sedimentary, igneous, and metamorphic rocks; introduction to optical methods of identification; identification of rocks in hand specimen. P: 296-441.

296-470 The Glacial Environment and Chronology 3 cr.
An interdisciplinary approach to an understanding of the extremes in environmental behavior which characterized Pleistocene time. Surveys the principles of glaciology and describes the impact of glaciation on the landscape. Field trip. P: 296-202.

296-483X Selected Topics 1-4 cr.
See page 76.

296-498 Independent Study 1-4 cr.
See page 77.

Other courses for upper division earth science credit include:

Land and Soil Resources
416-351 Elements of Cartography
416-353 Air Photo Interpretation
416-451 Computer Cartography
416-453 Advanced Air Photo Interpretation
834-356 Environmental Impact Analysis
862-303 Conservation of Natural Resources
862-320 Soil Environment
862-321 Soil Environment Laboratory
862-342 Environmental Geology
862-345 Geology of Energy Resources
862-421 Soils of Wisconsin Field Trip
862-454 Remote Sensing by Satellite
862-460 Resource Management Strategy
862-462 Land Use Tour of Wisconsin
008-761 Global Environmental Monitoring
009-741 Land Use, Institutions and Policy

Water Resources
862-300 Descriptive Hydrology
862-331 Oceanography
862-335 Water and Waste Water Treatment
862-382 River Basins in Transition
862-403 Limnology
862-430 Quantitative Hydrology
862-434 Water Chemistry
008-759 Coastal Zone Management

Meteorology-Climatology
416-325 Regional Climatology
862-350 Meteorology
862-351 Synoptic Meteorology Laboratory
862-450 Air Pollution Chemistry and Meteorology
008-776 Bioclimatology

Geology
862-342 Environmental Geology
862-345 Geology of Energy Resources

298 ECONOMICS

298-102 Economics and the Modern World 3 cr.
Economic problems and issues are basic elements of our everyday lives. The study of economics enables us to better recognize and understand these problems and issues and respond to them rationally. This course explores a variety of contemporary economic problems including the economic systems, economic institutions, economic growth, environmental issues, poverty, recent economic history, and the history of economic thought. Major emphasis is determined by the individual instructor and by student interest.

298-202 Macro Economic Analysis 3 cr.
An introduction to the behavior of our economy in the aggregate, basically focusing upon the process by which the economy achieves a certain level of output and employment.

298-203 Micro Economic Analysis 3 cr.
An introduction to the decision-making process of individuals and business firms associated with the determination of what products will be produced, how they will be produced, and what prices specific goods and services will command. Includes a discussion of the institutional framework within which these decisions are made; for example, proprietorships, partnerships, corporations and cooperatives.

298-283X Selected Topics 1-4 cr.
See page 76.

298-298 Independent Study 1-4 cr.
See page 77.

298-301 Economic and Social Security 3 cr.
A description and critical analysis of the income distribution system in the U.S. economy and the various institutions and programs developed to modify the system to provide an income to all citizens. Includes an analysis of social security programs, workers' compensation, the negative income tax and other income redistribution programs.

298-302 Intermediate Macro Economic Theory 3 cr.
Study of the principles and theories of national income determination; an examination of policy proposals to deal with inflation, unemployment, economic fluctuations and economic growth at national and international levels. P: 298-202 or cons inst.

298-303 Intermediate Micro Economic Theory 3 cr.
Development of the tools used in the consumer's and producer's behavior. Major emphasis on the application of economic theories to problems dealing with the production, exchange, and distribution of output. P: 298-203 or cons inst.

298-304 Contemporary Labor Markets 3 cr.
An explanation of the determination of wages and employment at the level of the firm, the industry, and for the total economy. P: jr st and 298-202 and 203, or cons inst.

298-305 Natural Resources Economic Policy 3 cr.
Acquaints the student with policies leading to arrangements for the development, management, and use of natural resources. Emphasizes the longer time horizon required for the conservation of resources and a general concern for the quality of the ecosystem. P: jr st.

298-306 Public Finance and Fiscal Policy 3 cr.
Effects of government spending and taxation on resource allocation, incomes, prices, and employment. Includes a consideration of the uses and effects of fiscal policy. P: jr st and 298-202 and 203, or cons inst.

298-307 Sources of Contemporary Economics Concepts 3 cr.
The development of contemporary economic thought, drawing upon contributions from the mercantilist period to the present, emphasizing contributions of major schools of thought. P: jr st.

298-308 Business Cycles 3 cr.
Description and recent history of business cycles; leading explanations of levels of employment, output, and prices; savings and investments, forecasting, governmental policy. P: jr st and 298-202.

298-330 Money and Banking 3 cr.
An analysis of money as an economic institution and of the organizational structure of the commercial and central banking system in the U.S.; study of the monetary theory and policy in the national and international setting. P: 298-202.

298-401 Regional Economic Analysis 3 cr.
Basic concepts and problems in the economic study of subregions of an economy, in both an intraregional and interregional context; problems in regional analysis; economic concepts regarding location, spatial organization, and planning for regional development. P: 298-202. Same as 834-401.

298-402 Resource Economics Analysis 3 cr.
Application of tools and concepts in current economic decision making with special emphasis upon common property resources management (i.e. water and air). P: jr st and 298-202 and 203.

298-403 International Trade 3 cr.
Theory and concepts in development of international trade and finance; contemporary conditions and problems in international economic relations. P: jr st and 298-202.

298-404 Economics of Developing Areas 3 cr.
Social and economic factors underlying economic development; leading issues in growth and theory; comparative rates of progress in different countries. P: jr st and 298-202.

298-406 Comparative Economic Systems and Institutions 3 cr.
Analysis of contemporary functioning of different economic systems and institutions. Employs case studies to contrast market directed economies and centrally planned economies.

298-420 Integration of Contemporary Economic Problems in K-12 Curriculum 1-3 cr.
Introduces K-12 educators and other students to major economics concepts and explores materials and methods for effective integration of economics into overall school curriculum. P: completion of at least one education methods course and/or teaching experience. For graduate credit, graduate standing is required. See 302-420.

298-483X Selected Topics 1-4 cr.
See page 76.

298-498 Independent Study 1-4 cr.
See page 77.

302 EDUCATION

302-142 COSMOS, The Societal Implications of the Study of the Universe 3 cr.
See 862-142.

302-201 Analysis of Learning Environments 3 cr.
Provides tools, procedures, and experiences needed to analyze learning environments in the public schools. Helps examine potential and interest in relation to opportunities and demands in the teaching profession and helps determine if the student wishes to become a teacher. Course content focuses on variables affecting teaching and learning as well as forces in society affecting the schools. The teacher and teaching behavior, the school as a social institution, values shaping American education, the student, alternative school organizations, the curriculum, and instructional processes are major variables studied. Students spend approximately 30 hours in the schools.

302-202 Changes in American Education 3 cr.
Explores education as a life-long learning process within cultural contexts, not limited to formal schooling. Includes how medias and environments educate. All decisions within social institutions about goals, methods, financing, time structuring, etc., are value issues to be confronted within a given society. Cross-cultural comparisons foster a clear perspective of American education.

302-203 Introduction to Environmental Education in the Schools 2 cr.
Environmental education: philosophies, curricular materials, and related instructional strategies. Direct involvement in local schools at the grade level and in subject matter appropriate to student's area of anticipated certification. P: soph st.

302-204 Values in Conflict: The School Experience of Minority Background Children 3 cr.
Differing explanations about why minority background children often do poorly in school, and what is being done to improve the situation. Historical and current values and life experiences of several major U.S. minorities (Native Americans, Blacks, and Chicanos) are explored and contrasted with dominant middle class white values. Conflicts are examined. Ethnocentrism and social class bias as reflected in teacher expectations and instructional materials. Students examine assumptions and attitudes about minorities to reduce ethnocentrism and interact in an authentic and genuine manner with people from diverse backgrounds.

302-205 Basic Operations of Audio Visual Equipment 1 cr.
Step-by-step independent instruction on operation of projecting, recording, and duplicating equipment and on basic preparation of instructional materials. P: cons inst.

302-206 Cultural Images in Books and Related Materials for Children and Adolescents 3 cr.
The student becomes aware of the varied images of ethnic and racial groups, and sex roles as developed in tradebooks, textbooks, and other instructional materials for children and adolescents and learns how to effectively use books and other instructional materials to detect negative images and build positive images.

302-281 Student-Led Courses 1-4 cr.
See page 76.

302-283X Selected Topics in Education 1-4 cr.
See page 76.

302-298 Independent Study 1-4 cr.
See page 77.

302-301 Introduction to Education and Teaching 3 cr.
This course is required for teacher certification and should be taken before all other required teaching methods classes. The technical skills of teaching, the application of learning theory, instructional planning, micro teaching, and evaluating teaching effectiveness are studied. Also, students spend 2-1/2 hours a week in a school to observe and participate in various aspects of the instructional program. P: 481-210 or 331 or 820-338.

302-302 Principles and Methods of Teaching Social Studies in Elementary Schools 2 cr.
Designed to acquaint students with concepts, processes, learning skills, teaching methods, and resource materials related to the social sciences. Attention is given to questioning, classroom environment, content and topic selection, scope and sequence, and forces influencing the social studies curriculum. Peer teaching opportunities are included. P: 302-301.

302-303 Principles and Methods of Teaching Art in the Elementary Schools 2 cr.
The purpose is to prepare the student to teach art to children by providing theoretical and practical experiences in art and education. Topics include the philosophy and psychology of art education, characteristics and stages of creative development in children and children's art, principles and procedures for selecting and motivating elementary experiences, developing specific lesson plans and units in elementary art and the organization of a developmental curriculum for art in the elementary school. P: 302-301.

302-304 Principles and Methods of Teaching Music for the Elementary Teacher 2 cr.
Deals with the identification of children's musical needs and methods and materials to assist classroom teachers in meeting these needs. Practical experience with basic elements of music are included to develop the classroom teacher's competency and self confidence. Required for general elementary certification. P: 302-301 and competency in music fundamentals.

302-305 Principles and Methods of Teaching Math and Science in the Elementary School 4 cr.
Acquaints students with foundation principles, methods and materials related to teaching mathematics and science in the elementary school. This class focuses on measurement in the metric system, the development of mathematical concepts and skills, error patterns and remediation, problem solving in mathematics, development of understanding processes and concepts of science, special concerns related to science activities and concerns related to sex and race bias in elementary school mathematics and science. P: 302-301; 600-281 recommended.

302-306 Principles and Methods of Teaching Health and Physical Education in the Elementary School 3 cr.
Acquaints the prospective elementary school classroom teacher with those special knowledges and awarenesses which are deemed necessary for the planning and conduct of health and physical education instruction. P: 302-301.

302-307 Principles and Methods of Teaching Reading in the Elementary School 3 cr.
Acquaint students with teaching methods in developmental reading. Major areas addressed include nature of the reading process, reading readiness, vocabulary, comprehension, and study skills development. Diagnosis and instructional techniques for meeting the needs of diverse learners are discussed. P: 302-301.

302-308 Children's Literature: Contemporary Practices in the Elementary School 3 cr.
Examines practices which produce an effective children's literature program. Analyzing of children's books; developing of instruction units and independent programs to foster positive attitudes toward reading; using books for personal development; using books for developing attitudes about social issues such as ecological concerns and social and minority group relations; and criteria of evaluating content, methods, and effect on students.

302-309 Principles and Methods of Teaching Language Arts in the Elementary School 2 cr.
Contemporary practices for the elementary and middle school classroom are approached through both theory and experiences. Students are expected to develop a language arts model, a rationale, the basic processes and skills as well as assessment procedures for use in the classroom. An emphasis on small group activities, continuing participation and student initiative will be stressed. P: 302-301.

302-310 Principles and Methods of Teaching Communication Arts Courses in Secondary Schools 2 cr.
Contemporary practices for teaching communication arts are approached through both theory and experiences. Students develop a communication arts model, a rationale, basic processes and skills as well as assessment procedures for use in the classroom. Emphasis on small group activities, continuing participation and student initiative is stressed. Required for certification to teach communication arts, drama, English, journalism and/or speech in the secondary school. P: 302-301 and appropriate preparation in Communication Arts.

302-311 Principles and Methods of Teaching Foreign Languages: Secondary and FLES 2 cr.
Principles and methods of teaching foreign languages to students of all ages; texts and other materials are evaluated; planning for one semester's teaching is simulated. Required for certification to teach foreign languages. P: 302-301 and appropriate preparation in a foreign language.

302-312 Principles and Methods of Teaching Social Studies in Secondary Schools 2 cr.
Acquaints students with concepts, processes, learning skills, teaching methods, and resource materials related to the social sciences. Attention is given to questioning, classroom environment, content and topic selection, scope and sequence, and forces influencing the social studies curriculum. Peer teaching opportunities are included. Required for certification to teach social studies in the secondary school. P: 302-301 and appropriate preparation in social studies.

302-313 Principles and Methods of Teaching Mathematics in Secondary Schools 2 cr.
Acquaint students with principles, methods and materials related to teaching mathematics and computer science in the secondary school. Attention is given to development of mathematical concepts and skills, selection and use of materials, motivation, lesson and unit planning and evaluation. Required for certification to teach mathematics and computer science in the secondary schools. P: 302-301 and appropriate preparation in mathematics.

302-314 Principles and Methods of Teaching Science in Secondary Schools 2 cr.
An examination of the nature of high school science curricula, recent innovations in science teaching, evaluation, and classroom teaching techniques. Required for certification to teach science in the secondary schools. P: 302-301 and appropriate preparation in science.

302-315 Principles and Methods of Teaching English as a Second Language 2 cr.
Introduces the basic methods of teaching ESL and the underlying theories from linguistics, psychology, education, and sociolinguistics. Designed to give students opportunity to develop lessons for the ESL class using various methods, discuss and critique these methods, and consider their use in future situations. Required for certification to teach English as a Second Language. P: A minimum of one course in linguistics or another area to develop foundation academic competence to teach ESL plus 302-301.

302-316 Principles and Methods of Teaching Secondary School Art 2 cr.
Includes principles of art teaching methodology, procedures and strategies; classroom motivation techniques; preparation of art lessons; lesson plans; evaluation and grading techniques of art learning experiences; creativity and visual awareness-perceptual techniques; curriculum development in art, and other related material concerning the role of the art teacher in the secondary school. Required for certification to teach art in the secondary school. P: 302-301 and appropriate preparation in art.

302-317 Principles and Methods of Teaching Instrumental or Choral Music 2 cr.
Philosophical and curricular issues involving secondary school music. Materials and methodologies pertinent to a secondary school music curriculum are studied. Special emphasis is placed on developing rehearsal objectives for a performance oriented music curriculum. Required for certification to teach instrumental or choral music. P: 302-301 and appropriate preparation in music.

302-318 Reading and Study Skills in the Secondary School 2 cr.
Developmental reading, comprehension and retention, vocabulary development, motivation, rate, and flexibility. Consideration of diverse reading abilities and interests and development of appropriate study and learning techniques for reading in content areas. P: 302-301.

302-319 Adolescent Literature in Secondary School Reading 3 cr.
Examines practices in high schools, junior high schools, and middle schools which produce effective adolescent literature programs. Includes analysis of literature for the adolescent, current practices in literacy curriculum, personal development and literature for the adolescent, literature and social issues, and criteria for evaluating adolescent literature and literature programs.

302-323 Education in Another Culture: London 3 cr.
Students compare educational problems and practices in a sample of schools in the greater London area and other selected locations in Great Britain with those in the United States. The relationship of school policies, procedures, curriculum and methodology to the culture and values of British society is examined. Included are visits to a formal grammar school in which students are selected on the basis of rigid examinations, and to a comprehensive modern school which more nearly resembles an American high school. Visits also are arranged with the University of London Center for Teaching, several infant schools, and adventure playgrounds. In addition to these visits and meetings with educators, the schedule includes lectures on major current problems and visits to Parliament, museums, and theaters. Students keep a log of their experiences and prepare a report comparing and contrasting their perceptions of aspects of the British system of education with that of the United States.

302-334 Principles and Methods of Teaching General Music in the Elementary School 2 cr.
Focuses on expressing philosophical and theoretical foundations of music education. Curriculum development is approached by identifying children's musical needs in contemporary society. Traditional and contemporary methods and materials are reviewed and evaluated in relation to the development of feasible music curriculum framework. Required for certification in general music grades K-6. P: 302-301 and appropriate preparation in music.

302-335 Principles and Methods of Teaching General Music in the Secondary School 2 cr.
Develops understanding of the musical needs of the adolescent, insight into secondary general music with respect to contemporary education and the economy; and materials appropriate for the entire range of educational needs (e.g. gifted, multicultural, handicapped, average). Major focus is on teaching music literacy with emphasis on functional music reading, a perspective of music throughout history, and a working knowledge of materials currently marketed by the music industry. P: 302-301 and appropriate preparation in music.

302-355 Theory and Practice of Human Relations Skills 3 cr.
See 892-355.

302-402 Student Teaching in the Elementary School 2-12 cr.
Supervised student teaching or internships in the elementary school. Required for a teacher's license. P: sr st, preregistration with faculty in Education, written cons inst, and assignment by the faculty in Education. Offered on a pass-no credit basis only.

302-403 Student Teaching in the Secondary School 2-12 cr.
Supervised student teaching or internships in the secondary school. Required for a teacher's license. P: sr st, preregistration with faculty in Education, written cons inst, and assignment by the faculty in Education. Offered on a pass-no credit basis only.

302-404 Creative Learning 3 cr.
Students define creativity, confront creative experiences in their lives, structure and evaluate creative programs, review research on creativity, and synthesize a creative program in their roles as student, teacher, or parent. P: jr st.

302-405 Individualizing Instruction 2-3 cr.
New and innovative learning programs in grades K-12 designed to individualize instruction. Development of specific performance objectives, diagnostic procedures, staff organizations, student monitoring systems, and choice-elective instructional programs. Students may participate in a task force student-initiated project for the third credit. P: jr st.

302-406 Evaluation and Testing in Education 2-3 cr.
Techniques for constructing tests and measurement systems, statistical procedures applied to classroom data, monitoring and assessing individual and group learning situations, using and interpreting data from standardized tests. Students may participate in a task force student-initiated project for the third credit. P: jr st.

302-407 Developing Environmental Education Materials for the Schools 2-3 cr.
Focuses on developing instructional materials and strategies to integrate environmental concepts, environmental values clarification, problem identification and problem solving techniques into elementary and secondary programs both in and outside of the classroom. Environmental education materials and methods appropriate to a variety of areas of study are considered, including art, music, theater, social studies, mathematics, language arts, and conservation, as well as environmental sciences. Emphasis is on designing, using and evaluating instructional processes and materials. P: jr st.

302-408 Reading Disability: Diagnosis and Remediation of Reading Problems 3 cr.
Important causes of reading disability and appropriate corrective strategies and materials. Psychological, physiological, and sociological considerations affecting disabled readers. The student learns to administer related diagnostic instruments, interpret results, and prescribe instructional procedures. Designed to meet expectations of classroom teachers. Suitable for both elementary and secondary school teachers. P: 302-307 or 318.

302-410 Introduction to the Education of Exceptional Children 3 cr.
A survey of the kinds of exceptionalities found in the school population, the needs of such children, and some methods for meeting them. Information enables the teacher or parent to recognize and understand exceptional children and unique subtleties that deserve specific attention. P: jr st.

302-420 Integration of Contemporary Economic Problems in K-12 Curriculum 1-3 cr.
See 298-420.

302-441 History, Philosophy, and Current Programs in Early Childhood Education 3 cr.
See 481-441.

302-442 Curriculum and Program Development in Early Childhood Education 3 cr.
See 481-442.

302-451 Field Experience in Environmental Education 1-12 cr.
Prestructured or individualized study in environmental education at environmental centers, e.g., Trees for Tomorrow, MacKenzie Environmental Center, etc. Credit determined based on length of assignment and nature of activities. P: jr st and appropriate background for specific program.

302-481 Student-Led Courses 1-4 cr.
See page 76.

302-483X Selected Topics in Education 1-4 cr.
See page 76.

302-498 Independent Study 1-4 cr.
See page 77.

Courses in other areas for which education credit may be received include:
481-210 Introduction to Human Development 3 cr.
481-331 Human Development I: Infancy and Early Childhood 3 cr.
481-332 Human Development II: Middle Childhood and Adolescence 3 cr.
820-338 Psychology of Learning 3 cr.

350 PUBLIC AND ENVIRONMENTAL ADMINISTRATION

350-102 Public Policy and Administration 3 cr.
An examination of major ideas, issues, problems, and value conflicts associated with implementing public policy in governmental institutions. The course covers theories of public administration, formal and informal aspects of public bureaucracies, decision-making processes, management of personnel in public organizations, the power of bureaucracies, bureaucratic responsibility and public control of government, ethics and public service, contemporary trends and alternative futures for public bureaucracies.

350-201 Problem Analysis and Decision Making 3 cr.
Focuses on theories and methods applicable to identifying and analyzing problems and issues and to developing alternative problem-solving strategies. Considers the role of facts and values in problem identification, criteria appropriate for distinguishing between private and public problems, and develops skills in problem analysis and problem solving.

350-281 Student-Led Courses 1-4 cr.
See page 76.

350-283X Selected Topics in Public and Environmental Administration 1-4 cr.
See page 76.

350-298 Independent Study 1-4 cr.
See page 77.

350-301 Environmental Politics and Administration 3 cr.
An introduction to political and administrative aspects of environmental problems, with special emphasis on American politics and public policy. The nature and scope of environmental problems; the environmental movement and processes of agenda setting; the role of public opinion and interest groups; the policy making process; decision making in administrative agencies; policy evaluation; selected problems and issues in environmental policy and administration, and political issues in adaptation to a sustainable society. P: 778-101 or 350-102 or cons inst.

350-305 Regulatory Policy and Administration 3 cr.
An examination of the purposes, structure, legal aspects, and operation of public regulatory agencies and programs in the United States. Topics include theories and controversies underlying regulatory policy, issues in contemporary regulatory policy and administration, and rational models and methods for risk analysis and decision making. Case studies and exercises will cover a variety of regulatory processes, including those associated with public health, consumer protection, product safety, environmental quality, and energy development and use. P: 778-101 or 350-102 or cons inst.

350-310 Administrative Leadership 3 cr.
Covers roles, functions, and environments of organizational supervisors, project leaders, executives, managers, administrators, and other administrative agents, especially in public enterprises; the relationships between the behavior of administrative agents and work group performance in a variety of organizational and program settings. P: jr st or cons inst.

350-315 Planning and Management of Public Systems 3 cr.
Examines principal tools and methods for planning, designing, analyzing, and managing public systems. Provides understanding of the structure of public systems, their environment and restrictions on them, decision-making processes, and possible features of service delivery systems. Develops skill in application of systems design and analysis techniques to problems associated with planning and managing public systems. P: 350-102.

350-320 Local Government Operations I 2 cr.
History, functions, powers, and principal officers of the several types of local governments in the U.S. Introduces participants to major organizational characteristics and administrative operations of such jurisdictions. Emphasizes development of student skills in supervision, public and interpersonal relations, communications, and in elementary methods for budgeting and administrative analysis. P: introductory course in American government, 350-102, and cons inst.

350-321 Local Government Operations II 2 cr.
Major ideas, issues, and policies concerning jurisdiction, formation, and administrative operations of local units of government; introduces selected administrative and service delivery operations of such units, and to the use of computers in local government. Emphasizes development of skills in supervision, public and interpersonal relations, administrative analysis, and in use of productivity improvement and program evaluation methods. P: 350-320.

350-322 Local Government Operations III 2 cr.
Local government applications of productivity improvement techniques and of methods for analyzing policy problems, issues, and alternative problem solutions, including benefit-cost analysis. Also examines the probable future environment of local governments and emphasizes means for improving local government relationships with the public and other jurisdictions of government. P: 350-321.

350-411 Administration of Local Government II 3 cr.
Continuation of 350-410. Focuses on problem solving at the local level and implementing national policies at the local level. Opportunities include small team research in developing model programs and workable alternatives to the critical problems of local government. P: 350-410 or cons inst.

350-415 Public and Nonprofit Budgeting 3 cr.
Covers the history, philosophy, purposes, attributes, types, and operational elements of major public budgetary systems used in the United States, with emphasis on object, performance, program, and PPB systems and their applicability to various programs, organizations, and governmental jurisdictions. Examines principles and methods used in designing and managing public budgeting systems and relationship between program planning, policy planning, and budgetary operations. Develops skill in applying analytic and decision-assisting tools to public budgetary operations. P: 350-102, or another course in American government, or cons inst.

350-420 Decision Theory and Methods 3 cr.
Provides fundamental skills in program planning and evaluation. Theory is introduced to explain practical application. Emphasis is on building skills and understanding: how to plan for effective implementation; how to apply cost-effectiveness analysis; how to do cost estimating; how to schedule priorities; how to design evaluation into programs from the start. For persons interested in government, business, or nonprofit organizations. P: 350-421 or cons inst.

350-421 Planning Theory and Methods 3 cr.
Focuses on planning for complex socio-technical systems in the public sector, including analysis, design, evaluation, and control. Covers the theory of planning, general systems theory, the political and administrative setting of public planning operations, and methods of planning analysis, such as cost-effectiveness analysis and model building. Emphasizes practical application of theory and methods through case studies and projects, and provides both a theoretical and methodologic basis for study of specialized fields of planning, including those concerned with urban, regional, land use, environmental policy, and resource planning. P: one course in statistics or cons inst.

350-433 Public Problems I, II 1-3, 1-3 cr.
A problem-oriented, personal study approach to learning, focusing on problems typical of those faced by mature professionals engaged in organization planning, urban management, environmental administration, environmental planning, and public systems planning and management. Problems are examined through in-class group discussion as well as through directed study and research. Students develop formal problem descriptions and solutions using recommended references and other materials. P: jr/sr st.

350-435 Administrative and Policy Laboratory 1-6 cr.
Multidisciplinary, team investigation of selected problems, policies, operations, programs, program outcomes, organizations, and organizational subsystems in the public sector. Students participate in design and implementation of project plan and function in appropriate project-related roles. P: 3 courses in public administration or equivalent.

350-460 Public Policy Analysis 3 cr.
An introduction to public policy analysis and to the policy-making process in American government. Topics include approaches to the study of public policy, the nature of public problems, the policy agenda, policy formulation, assessment of policy alternatives, policy adoption, policy implementation and evaluation, and the use of policy analysis in decision making. Special attention is given to political aspects of policy analysis, to models and methods for critical analysis and rational design of public policies, and to practical applications of policy studies. Develops skills in legislative research, preparation of position papers and other policy development documents, and methods of policy analysis and evaluation. P: 778-101 or 350-102 or cons inst.

350-470 Capital Projects Planning and Programming 3 cr.
Methods for determining demand for selected kinds of capital projects emphasizing public sector and environmentally related facilities. Preparation of capital projects budgets, pre-architectural plans and specifications, and capital project programs. The logic of capital budgeting decisions, and of project funding alternatives, especially in public sector projects. Role of retirement funds, revenue, and general obligation bonds in public sector capital project programs. P: 350-102 or cons inst.

350-481 Student-Led Courses 1-4 cr.
See page 76.

350-483X Selected Topics in Public and Environmental Administration 1-4 cr.
See page 76.

350-497 Internship in Public Policy and Administration 3-6 cr.
Supervised internship in an organization appropriate to the student's career interests and program of study. Includes supervised reading and periodic seminars relevant to internship. Agencies include local, state and federal governments and such nonprofit institutions as hospitals. P: 3 courses in public administration.

350-498 Independent Study 1-4 cr.
See page 77.

416 GEOGRAPHY

416-102 An Introduction to Geography: The Regions of Earth † 3 cr.
Contemporary geography, its viewpoints and methodology. Geographic reality of the present day world is analyzed in the form of case studies in which both the regional approach and systematic analysis are used.

416-202 Introduction to Cultural Geography † 3 cr.
The impact of culture through time in creating the earth's contrasting landscapes. Emphasis on case studies which often focus on North America.

416-215 Economic Geography † 3 cr.
Patterns of economic activities, including agriculture, extractive industries, manufacturing, transportation and trade. Major theories and concepts essential to understanding the location of economic activities are discussed.

416-235 Wisconsin Landscapes and Regions 3 cr.
Wisconsin's natural and cultural landscapes—specifically the characteristics and origins of land form and earth material regions and their associated cultural features. Field trips included. See 834-235.

416-242 Contemporary Human Settlements 3 cr.
An examination of human settlement forms with an emphasis on geographical patterns. Topics include the evolution of early human settlements and communities, the development of the city, the arrangement of settlements in the landscape, and the relationships between settlement types, physical environment, and culture.

416-243 Field Experience in Contemporary Human Settlements 3 cr.
This course is a logical extension of 416-242. As such, students and faculty members spend time in the field examining human settlements, forms, and patterns. This examination involves applying skills, observation, identification, classification, analysis and synthesis of a variety of landscape components and their relationship to the resident's values, technology, and institutions. This course has been based in London, England, and Green Bay.

416-250 Displays of Geographic Information 3 cr.
The appreciation, use, and evaluation of maps and air photos as informational sources.

416-283X Selected Topics 1-4 cr.
See page 76.

415-298 Independent Study 1-4 cr.
See page 77.

416-320 Landform Geography: Topics and Regions 3 cr.
Geographic methods of landform description and analysis with application to selected regions of the world. P: 296-202.

416-325 Regional Climatology 3 cr.
The elements, controls, and classification of climates; the distribution of climatic types over the earth; world patterns. P: 834-222.

416-341 Urban Geography 3 cr.
The city is viewed in two perspectives: as an entity among other cities and the surrounding region, and as a complex of subsystems, commercial, residential and manufacturing, functioning in space. P: jr st.

416-351 Elements of Cartography 3 cr.
Principles of basic cartography including problem identification and clarification, data collection and analysis compilation, generalization and symbolization. Emphasis on presentation of data on medium and large scale maps. P: jr st.

416-353 Air Photo Interpretation 3 cr.
Techniques for the interpretation of the uses humans make of the earth. Vertical, oblique, and infrared aerial photography are used in analyzing human use of the earth and its resources. P: jr st.

416-355 Introduction to Quantitative Methods of Spatial Analysis 3 cr.
The scientific approach to geographic problems; basic techniques for the analysis of spatial distributions and spatial relationships. P: a course in statistics.

416-361 Geography of Africa 3 cr.
The broad physical and human patterns of Africa; historical aspects of geography including the imposition of colonial organization on resource use and on indigenous cultures. P: soph st.

416-362 Analysis of the Great Lakes Region of Africa 3 cr.
See 834-362.

416-371 Geography of the United States and Canada 3 cr.
The physical features, resources, people, and economic activities of the United States and Canada. The various regions of the two countries are compared and contrasted. P: soph st.

416-372 Analysis of the Great Lakes Region of North America 3 cr.
A systematic analysis of the areas surrounding the Great Lakes of the United States and Canada; internal and external relationships; economic activities; regional change and problems. P: soph st. See 834-372.

416-377 Analysis of Northern Lands 3 cr.
A topical and regional analysis of the subarctic and arctic areas of North America and Eurasia: regional emphasis on Alaska, Northern Canada, and Scandinavia. P: soph st. See 834-377.

416-378 Geography of Conflict Areas 3 cr.
The economic and political geography of areas actually or potentially dangerous to the peace of the world are investigated to analyze underlying causes of existing tensions. P: jr st.

416-451 Computer Cartography 3 cr.
An introduction to the use of the computer in assisting cartographic production, its advantages, disadvantages and limitations; the employment of current cartographic display software systems, and the application of computer assisted mapping to geographic problems. P: 416-250 and 416-351 or cons inst.

416-453 Advanced Air Photo Interpretation 3 cr.
Remote sensing is presented as a source of information, with particular emphasis on the extraction of land-use, landform, wetland, and vegetative information. Aerial photographs are used as a primary information format. Geometry of aerial photographs, photo-interpretative techniques, radial-line triangulation, photogrammetric mapping, and automated classification as applied to information extraction, serve as major components of the course. P: 416-353 and 416-351 or cons inst.

382 Regional Analysis of Northwestern Europe 3 cr.
See 834-382.

416-483X Selected Topics 1-4 cr.
See page 76.

416-498 Independent Study 1-4 cr.
See page 77.

448 HISTORY

448-100 History of the Modern World 3 cr.
An introduction to the history of the world during the past five centuries, and particularly since 1900. Considerable attention is accorded to the period since 1945. The global nature of modern historical change is emphasized, with special stress on the interaction of Europe and North America with the societies of Asia, Africa, and Latin America. Major topics include the rise and impact of capitalism, Western expansion and imperialism, the African slave trade, the creation of new societies in North and South America, the evolution of colonial empires, the impact of colonialism on Asia and Africa, the rise and impact of socialism, the industrial and scientific revolutions, the development of the modern world system, nationalism and revolution in the Third World, the role of the United States in the postwar world, the evolution of the communist societies, contemporary Western Third World relationships, and the state of the world system today.

448-201 Ancient Civilization 3 cr.
Examines the evolution of early civilization from its beginnings in the Near East and eastern Mediterranean to classical Greece and the decline of the Roman Empire. Attention is given to the art, institutions, ideas and values as well as the political, social and economic development of early Mesopotamia, Egypt, Palestine, Greece, and Rome.

448-202 The Middle Ages 3 cr.
Examines Western civilization from the late Roman Empire to the Renaissance and Reformation. Emphasis on the Christian Church; feudalism; the emergence of national states and institutions; urban civilization; agriculture, trade, and technology; and cultural achievements.

448-203 History of Europe from 1300 to 1815 † 3 cr.
Origins and development of Western civilization from the Renaissance and Reformation to the Napoleonic era. Emergence of the nation-state; absolutism and parliamentary government; development of urban centers, the middle class, commerce, capitalism, and early industry; dynamics of Western expansion and its collision with nonEuropean cultures; the scientific revolution; the Enlightenment; the French Revolution; beginnings of the industrial revolution in England; appearance of the secular and rational human.

448-204 History of Europe from 1815 to the Present † 3 cr.
Emergence of modern Europe. Revolutions against the old regimes; industrialization, urbanization, and the origins of modern classes and institutions; the ideologies of conservatism, liberalism, socialism, communism, and fascism; the impact of science on society; imperialist expansion; the making of new nations in Europe and the third world; advent of mass society; world wars and totalitarian politics; reconstruction of Europe; Europe today.

448-205 History of the United States from 1600 to 1865 † 3 cr.
The institutional basis of American government and the impact of changing ideas, social structure, and expectations on American culture. Attention to political, economic, and legal development, factional and sectional disputes; and the fundamentals and important founders of American liberalism and conservatism.

448-206 History of the United States from 1865 to the Present † 3 cr.
Major factors for change, their effects on American values, and the principal examples of intellectual and institutional accommodation. Attention to domestic and international effects of technology, economic development, and economic and ethnic-based social and political movements.

448-207 Roots of Black America † 3 cr.
A survey of Black people's experience in America beginning with African culture and following the development of Afro-American culture and institutions. The course includes political and institutional history and seeks to understand the evolution of a culture and a people.

448-208 The Development of Modern Science in Western Society 3 cr.
The interrelationships between modern science and Western society and the ways in which each has helped shape and form the other. Emphasis on the blossoming of modern science in the 17th century, the influence of the sciences and technology in recent times, and the development of some of the major theoretical structures in science.

448-250 Traditional Asian Civilization † 3 cr.
An introduction to the history and civilization of traditional Asian societies, including China, Japan, India, and the various peoples of Southeast Asia. Primary attention is focused on the evolution and structure of civilization before the increasing Western impact in the 19th century; China and Japan receive the major emphasis. Among topics considered are cultural life, art, music, literature, sociopolitical traditions, economic structure, and the various religious and philosophical systems such as Buddhism, Hinduism, Islam, Confucianism, and Taoism.

448-251 Modern Asian Civilization † 3 cr.
An introduction to the history and civilization of East, Southeast, and South Asia since the end of the 18th century, with particular attention to the period since 1900; China and Japan receive the most attention. Major emphasis is on social, political, economic, and cultural change under the impact of the West. Topics include the breakdown of traditional Chinese civilization, Japanese modernization, Western imperialistic pressures on China, European colonization of South and Southeast Asia, the evolution of anti-Western nationalism and revolutionary movements, the building of modern Japanese technocratic society, the rise and development of Chinese communism, the Korean and Vietnam wars, and the societies of Southern Asia since independence.

448-283X Selected Topics 1-4 cr.
See page 76.

448-298 Independent Study 1-4 cr.
See page 77.

448-302, 303 History of American Thought and Culture 3, 3 cr.
Development of patterns of American thought and culture within the context of the major Western intellectual traditions; emphasis on changing American conceptions of nature, humanity, society, progress, and art and how in the works of key American thinkers and in the formation of characteristic American cultural agencies such conceptions were given coherency and social force. P: jr st or cons inst. Can be taken out of sequence.

448-306, 307 History of European Thought and Culture from the Renaissance to the Present 3,3 cr.
Development, transmission, and impact of European philosophy, religion, science, literature, art, and social thought; significant thinkers and cultural institutions; major currents and trends. 306: Renaissance, Reformation, Scientific Revolution, Age of Reason. 307: romanticism, liberalism, nationalism, positivism, irrationalism, socialism, fascism, existentialism. P: jr st or cons inst. Can be taken out of sequence.

448-309 History of Science in Modern Times 3 cr.
Development of science since the 16th century as part of its cultural matrices; discussion of important scientific concepts of the last four centuries. P: jr st or cons inst.

448-310 American Colonial History 3 cr.
A course dealing with perhaps the best researched and most understood period of American history which can provide an excellent understanding of the foundations of American institutions and attitudes against which subsequent continuity and change may be measured. It offers perspectives on a number of problems, particularly in the area of politics, economics, and social movements, providing meaningful insights into the perennial reconciliation between ideals and necessity. Also makes available an understanding of evolution of values during the transition period between the pre-industrial and industrial society in America. P: an introductory course in history (preferably 448-205 or 206) or cons inst.

448-311 History of Wisconsin 3 cr.
A survey of Wisconsin from European exploration to the present. The development of Wisconsin as part of the international Great Lakes region and as part of the United States. The political, economic and cultural history of the region, territory and state, as exemplification of regional and national history and as the development of a distinctive political community within the American system. P: 448-205 or 206, or cons inst.

448-314 History of the Russian Empire 3 cr.
Survey and analysis of social, intellectual, political, and economic developments and crises from the Crimean War to the Bolshevik Revolution. P: jr st or cons inst.

448-315 The Soviet Union from 1917 to the Present 3 cr.
Survey of the origins and evolution of the main ideological, political, economic, social, diplomatic, and cultural developments of Russia since the Bolshevik Revolution. P: jr st or cons inst.

448-320 U.S. Military History 3 cr.
Reviews important developments in American military strategy and its relationship to national policy. The views of relevant theorists are considered as well as the utility of these views in actual strategic situations. The course ends with a consideration of current military thinking and the balance of forces. P: 3 cr. lower level history or cons inst.

448-322 Economic and Business History of the United States from 1876 to the Present 3 cr.
The development of a corporate economy and the rise of government intervention; industrial, financial, agricultural, and labor reorganization; wage and price policies and their relationship to these general themes; special attention to modernization and urbanization and the developing relationship between the domestic and the world economy. P: jr st or cons inst.

448-324 History of American Foreign Relations, 1865 to the Present 3 cr.
Factors contributing to American foreign policy including changing views of the world, the balance of power, idealism, and self-interest. An effort is made to evaluate foreign policy decisions and to describe the relationship between foreign policy concerns and domestic politics. P: jr st or cons inst.

448-325 History of Modern Germany 3 cr.
Survey of the political, social, economic, and cultural development of modern Germany from the establishment of the Empire in 1871 to the division of Germany after World War II. P: jr st or cons inst.

448-343 America's Urban Past 3 cr.
Investigation of the American urban experience; the economic, political, social, and ideological forces that have shaped urban development; the city as a transforming force in American culture and as product of that culture. P: jr st or cons inst.

448-350 Social History of Europe 3 cr.
Development of social thought, institutions, organizations, and policies from early to modern Europe. Special attention is paid to the impact of economic change on society, the formation of classes, the consequences of the industrialization of Europe and contemporary social issues, crisis, and conflicts.

448-352 History of Modern China 3 cr.
Analysis of selected themes in Chinese history since 1800. Topics that might be discussed include the impact of the West, reform programs in late imperial China, Chinese nationalism, republican China, the rise of Chinese communism, Maoist thought, and the development of Chinese communist society. P: jr st or cons inst.

448-354 History of Modern Southeast Asia 3 cr.
An introduction to modern Southeast Asian history, with particular attention to the period since 1800. Countries discussed include Vietnam, Indonesia, Thailand, Malaysia, Singapore, Cambodia, Laos, and the Philippines. Emphasis is placed on the remaking of Southeast Asia under the stimulus of the West and the Southeast Asian response. Among the major themes are state and nation building, colonialism, economic and social change, nationalism, the impact of communism, U.S. policies in Southeast Asia and the Vietnam War. P: jr st or cons inst.

448-356 History of Africa 3 cr.
The social, political, economic, and cultural development of Sub-Saharan African societies from prehistoric times to the present, with emphasis on the period since 1800. Among main topics are traditional modes of thought and culture, the spread of Islam, the development of kingdoms and "stateless" societies, the slave trade, the African diaspora in the Americas, European colonialism and its heritage, changing musical traditions, the emergence of modern African nation-states, post colonial politics and evolution of white domination in Southern Africa, and the contemporary African struggle against underdevelopment and neo colonialism.

448-358 Aspects of Latin American History 3 cr.
Historians of Latin America have noted several themes which seem to characterize the development of countries of that region. This course examines some of those themes, such as conquest, colonization and neo-colonialism and class and ethnic conflict between landlord and peasant and capitalist and worker to seek understanding of external and internal forces which have contributed to the making of modern Latin America. P: jr st or cons inst.

448-367 World Wars I and II: Age of Global and Total Conflict 3 cr.
Examination of the causes, development, and results of the world wars, survey of the major military operations on land, sea, and in the air, as well as their strategic, political, economic, and social implications; analysis of the war aims of the belligerents; and assessment of the impact of the wars on specific societies and on the development of the modern world. Many documentary films are used. P: jr st or cons inst.

448-375 Great Decisions: Issues and Options in International Affairs 3 cr.
Examination and discussion of major regional and global issues, problems and conflicts, their impacts on the United States and other countries, and analysis of policies and policy alternatives; evaluation of international affairs on the shaping of U.S. foreign and domestic policy. Case studies change every year. Public lecture presentations are an integral part of the course and may be taken for continuing education credit, or may be audited by anyone through the Office of Outreach.

448-403 Political and Social History of Modern America 3 cr.
Political and social change in 20th century America; the evolution of governmental roles in social change; the development of American culture, and the emergence of the United States as an industrial and political power. P: sr st or cons inst.

448-404 Political and Social History of Modern Europe 3 cr.
Political and social change in 20th century Europe; origins and impact of World War I; emergence of communism and fascism; the road to World War II; post-war renaissance of the European community. P: sr st or cons inst.

448-405 History of Technological Change 3 cr.
The impact of major inventions on the patterns of life in modern society; ecological problems resulting from technological changes. P: sr st or cons inst.

448-480 Seminar in History 3 cr.
Focuses on theoretical and practical topics and problems such as research techniques, source materials, comparative studies, analysis and interpretation, and the writing of historical inquiries. Required of all history students, the seminar is valuable to graduate students and seniors majoring in other academic fields. P: sr st or cons inst.

448-483X Selected Topics 1-4 cr.
See page 76.

448-498 Independent Study 1-4 cr.
See page 77.

See also relevant courses in other areas which may be taken for history credit, including:

156-301 Peoples and Cultures in a Selected Region 3 cr.
242-200 History of the Visual Arts: Ancient to Medieval 3 cr.
242-201 History of the Visual Arts: Renaissance to the Present 3 cr.
242-340 Greek and Roman Art 3 cr.
242-342 Italian Renaissance 3 cr.
493-101, 102 Foundations of Western Culture 3,3 cr.
493-250 European Economy and Society 3 cr.
493-251 Business and American Life 3 cr.
493-274 Red Man in White America 3 cr.
493-320 Man, Machines, and the Environment 3 cr.
493-332 Art and Social Thought 3 cr.
493-374 Wisconsin Indians: Historical and Cultural Perspectives 3 cr.
493-390 Violence, War, Revolution and Society 3 cr.
493-474 The Native Americans: Emergence of Pan Indian Cultures 3 cr.
875-333 Social Change in a Selected Area 3 cr.
875-361 Historical Perspectives on Social Change 3 cr.
875-385 Dynamics of Revolutionary Change 3 cr.
944-313 The City Through Time and Space 3 cr.
944-345 Women in American Perspective 3.

478 HUMAN ADAPTABILITY

478-102 Introduction to Human Biology † 3 cr.
Introduction to the basic concepts, principles, and processes in human biology; the origin of life, evolution, cells, population, genetics, reproduction, disease, the anatomy and function of major organ systems in humans, and human adaptability.

478-110 Introduction to Physical Anthropology 3 cr.
An introduction to understanding human populations from a biological, evolutionary perspective. The evolutionary history, diversity, and adaptation of human beings is explored. Also included is discussion of the mutual interaction and influence of human culture and biology within an evolutionary framework. See 156-110.

478-201 Adaptation to the Environment 3 cr.
The morphological and functional adaptations of animals to the aquatic, aerial, and terrestrial environments and a consideration of human adaptability to the stress brought about by technology and crowding. P: soph st.

478-203 Anatomy and Physiology I 2 cr.
The structure and function of the human body, its organs and organ systems; emphasis on cardiovascular system. Primarily for nursing and nutrition students. P: 204-202.

478-204 Anatomy and Physiology II 4 cr.
The structure and function of the human body, its organs and organ systems; emphasis on systems other than cardiovascular systems: respiratory, excretory, digestive, nervous, endocrine, skeleto-muscular systems. Primarily for nursing and nutrition students. P: 478-203.

478-205 Biotechnology and Human Values 3 cr.
Examination of technological developments in biology and medicine, including genetic, behavioral and organism modification, and the moral and ethical concerns raised by such technologies. P: 478-102 or 204-202 or 478-110.

478-206 Fertility, Reproduction and Family Planning 3 cr.
Deals with the many factors that influence reproduction and fertility, i.e., physiological, psychological, social, cultural, and ethical; the methods available for limiting or increasing reproduction; and the nature of family planning programs. P: 478-102 or 478-110 or 204-202.

478-217 Man, Nature and Disease 3 cr.
An overview of the impact of diseases in humans. Emphasis is on the major diseases, their causes, the effect on the individual, the historical significance, and the methods of control. Diseases such as plague, VD, leprosy, cholera, river blindness, hookworm, lice, cardiovascular disease, and cancer are discussed. P: 478-102 or 478-110.

478-260 Human Sexuality: Emphasis Women 2 cr.
An introductory examination of the biological and psychological factors that are important in the development and function of human sexuality, particularly in the human female.

478-281 Student-Led Courses 1-4 cr.
See page 76.

478-283X Selected Topics in Human Adaptability 1-4 cr.
See page 76.

478-298 Independent Study 1-4 cr.
See page 77.

478-310 Human Genetics 3 cr.
Principles of human and population genetics and the genetic implications of technology; human metabolism, birth defects, and genetic diseases; genetic counseling and gene therapy. P: 204-202 or 478-102 or 478-110.

478-311 The Scientific Perspective and Man's Self-Image 3 cr.
Examines the scientific method and its impact on humans' view of themselves and their social institutions. Studies the fundamental assumptions, processes and limitations of science in understanding the complex nature of man. Topics include the impacts of the physical sciences upon the social sciences, social influences on the processes and conclusions of science, the impact of a scientistic social philosophy upon the development of personal identity and the validity of science in exploring such human experiences as love, hope, altruism and free will. P: two courses in science.

478-312 Evolutionary Processes 3 cr.
The cytological, morphological, behavioral, and geographic factors involved in the origin of species and higher taxa. P: 204-203 or 478-110.

478-313 Brain Functions in Human Behavior 3 cr.
Considers the role of the nervous system as the basis of human behavioral adaptation. Specific topics include: evolution of nervous systems and behavior; human nervous system functional anatomy; neural bases for drives, emotions, rage and fear, hand-eye coordination, conditioning and learning; development of the human nervous system and behavior. P: 478-102 or 478-110.

478-318 Mammalian Reproduction 3 cr.
Basic reproductive processes, with emphasis on the factors, both hormonal and environmental, that affect reproductive functions in mammals; how these processes can be modified to control reproduction. P: 204-203 or cons inst.

478-320 Human Growth, Development, and Senescence 3 cr.
The physical and functional events of the stages in the life sequence of the human being. Changes in musculo-skeletal, cardiopulmonary, central nervous, and endocrine systems and how they may relate to sociopsychological concerns. Offered in alternate years. P: 478-102.

478-321 Introduction to Population Dynamics † 3 cr.
The factors that affect size, density, distribution and composition of populations. Examples are drawn from nonhuman and human populations and include elements of demography, socioeconomics and biology.

478-333 Introduction to Sports Physiology † 3 cr.
How the human body meets and resists or adjusts to the stresses of the environments of sport, adventure and exploration. Lecture and laboratory demonstrations. P: jr st., one course in biology or cons inst.

478-342 Human Evolution 3 cr.
Phylogenetic history and affinities of homo sapiens and the evidence on which they are based. Potential effects of technology on future human evolution. P: 478-102 or 478-110.

478-350 Introduction to Exercise Physiology 4 cr.
The study of acute and chronic effects of exercise on major organ systems. Emphasis is on the significance of these effects as they relate to developing and maintaining physical fitness. P: 478-203/204 & 827-201.

478-351 Kinesiology 3 cr.
Basic anatomical and mechanical principles as they relate to human movement. P: 478-203/204.

478-364 Human Variability 3 cr.
The study of living human populations with an emphasis on the variability found from one to another in terms of biological and cultural factors. Stress is placed on biological differences found between subspecific populations, or races, from around the world, such as blood group, skeletal, and other adaptive systems. In addition, populations living in stress environments such as high altitude, arctic, and deserts are examined. P: 478-110 or 478-102.

478-370 Scientific Writing and Discourse 3 cr.
Prepares students to write and to present orally and graphically material, suitable to their training, in a polished and convincing manner. Students will learn general principles of writing, speaking, preparation of graphic materials and copy. Students will make brief oral presentations and write short excerpts. A final paper and presentation is required. P: jr/sr st.

478-402 Human Physiology 3 cr.
The functions of the major organs and organ systems of humans other than the central nervous system and the special senses. P: 204-202, 203 and 226-111, 112 or equivalent.

478-404 Animal Physiology Laboratory 2 cr.
Students perform laboratory research in the study of major animal organ systems and are exposed to techniques of physiological investigation. Topics include consideration of experimental error; cardiovascular/respiratory, enzyme, endocrine, nervous, muscular, renal, and osmoregulatory systems; and whole-body, electrophysiological, surgical, biochemical, histological, and behavioral techniques. P: 478-402, or 204-346, or 478-413, or 478-318 or concurrent registration.

478-412 Principles of Parasitology 3 cr.
Interactions of human populations with parasitic worms, protozoans, and arthropods. Laboratory includes identification and life cycles of parasites. P: 204-203.

478-413 Neurophysiology 3 cr.
The nervous system and its functions in perception, interpretation, and the production of physiological and behavioral response: fundamental concepts, neuronal function, sensory systems, and processing mechanisms. Emphasis on limitations imposed by various environments. P: 204-202, 203 and 225-111, 112 or equivalent or cons inst.

478-425 Physiological Responses to Toxic Chemicals 3 cr.
Examines physiological mechanisms which are affected by toxic chemicals at the biochemical, cell and organ levels. Major toxic processes including mechanisms of intake, dose response, synergisms, detoxification, neurotoxicosis, cancer, metabolic disruption, mutagenesis, teratogenesis and causes of death will be considered in the context of significant organ systems affected such as cardiovascular, respiratory, nervous, and immune systems as well as the placenta and fetus. Representative toxins include nitrates, nitrites, pesticides, tobacco, alcohol, heavy metals, and metabolic poisons. P: 478-402, 204-346, or 225-300, or 225-302, or cons inst.

478-430 Environmental Physiology 2 cr.
The physiological responses to thermal stresses of the environment. Offered in January as a lecture-laboratory course in which students perform both as technicians and subjects. P: 204-202, 203 and 225-111, 112 or equivalent.

478-440 Seminar: Topics in Human Adaptability 2 cr.
Interdisciplinary and collaborative library research with student reports on selected phenomena and problems in human adaptability. Strongly recommended for majors. P: sr st or cons inst.

478-448 Human Histology 3 cr.
A lecture-laboratory course dealing with the microscopic structure and function of cells, tissues, and organs of vertebrates, with emphasis on the human. P: 204-203 or 478-104; and one upper level vertebrate biology course, or cons inst.

478-450 Psychological Factors in Human Adaptability 3 cr.
Fundamental concepts and mechanisms of adaptation of the human being to psychological stress. P: jr st.

478-481 Student-Led Courses 1-4 cr.
See page 76.

478-483X Selected Topics in Human Adaptability 1-4 cr.
See page 76.

478-484 Senior Honors Project 3 cr.
See page 77.

478-498 Independent Study 1-4 cr.
See page 77.

479 NUTRITIONAL SCIENCES

479-142 You and Your Food † 3 cr.
Consumer related coverage of the nutritional requirements of sedentary populations. Purposes, production, processing, packaging, advertising, and distribution of food; changes in foods from farm to market to table in order to meet specific biological needs; deterioration and preservation of foods; uses and abuses of additives; food safety and consumer protection.

479-212 Food Preparation 4 cr.
Principles of food selection and preparation with emphasis on methods which maximize the retention of nutritional value. P: a cons inst.

479-250 World Food and Population Issues 3 cr.
An overview of world hunger and population growth as interrelated problems. Describes the dimensions of the world food situation and its ramifications; what constitutes hunger, its scope, complex causes and effects. Examines general strategies and obstacles to the solution of the world food and population problems from the standpoints of conflicting cultural values, differences in educational and socioeconomic levels, technology and total resources. P: 478-102, 478-110 or 204-202.

479-281 Student-Led Courses 1-4 cr.
See page 76.

479-283X Selected Topics in Nutritional Sciences 1-4 cr.
See page 76.

479-298 Independent Study 1-4 cr.
See page 77.

479-300 Nutritional Significance of Food † 3 cr.
Fundamentals of human nutrition, including functions and requirements of essential nutrients; means of obtaining an adequate diet. Specific attention is given to the needs of infancy, adolescence, adulthood, pregnancy and lactation, and aging. P: one year of high school chemistry or 225-108 or 225-111.

479-301 Crop Science 3 cr.
Principles of plant science involved in the growth, management, and production of field crops. Biological factors, environment, soil, climatic and technological foundations of agronomy and crop distribution. P: 204-202 or a course in botany.

479-302 Nutrition and Culture 3 cr.
Effects of environment and culture on food habits in historical perspective. Role of food in health and disease as related to humans and the biosphere. P: 479-300 or cons inst.

479-312 Quantity Food Production and Service 3 cr.
Principles of quantity food preparation and service. Laboratory affords experience in quantity preparation, service, and costing of food. Field trips. P: 479-212 and/or cons inst.

479-401 Agricultural Genetics and World Food Production 3 cr.
Inheritance as related to livestock and agronomic plants. Goals and techniques of selection, hybridization, and breeding for yield; pest and disease resistance; feed efficiency; and product quality. Emphasis on major food crops exploring the relationship among agricultural technology, population growth, and human nutritional requirements. P: 204-303 or 779-310.

479-404 Food Science 3 cr.
Standards of food quality, food preferences, food assay, food deterioration, adulteration; methods of preservation and distribution. Laboratory includes quantitative analysis of and instrumental procedures for various food components; arranged student visits and/or interaction with specific area food laboratories. P: 225-303 or 226-330.

479-409 Analysis of Food and Food Products 2 cr.
Laboratory and lecture course studying principles, methods, and techniques necessary for analytical chemical analyses of food and food products. Analyses and instrumental methods are related to the standards and regulations for food processing. P: course in organic or analytical chemistry and cons inst.

479-421 Community Nutrition I 3 cr.
Nutritional problems of the individual within the context of the larger community—the world, the nation, the region, and the state. Studies methods of assessing nutritional status, agencies, and programs which focus on alleviating malnutrition. Addresses the role of nutrition education is addressed. P: 479-202.

479-422 Community Nutrition II 3 cr.
Nutrition of the individual within a local ecological setting—the country, city, special population segments, the family. Prevention and control of malnutrition, nutrition education and feeding programs are explored in depth. Field experience in applied nutrition. P: 479-421.

479-481 Student-Led Courses 1-4 cr.
See page 76.

479-483X Selected Topics in Nutritional Sciences 1-4 cr.
See page 76.

479-484 Senior Honors Project 3 cr.
See page 77.

479-485 Advanced Human Nutrition 3 cr.
Physiological and biochemical principles of nutrition; fundamental concepts of human nutrition and nutritional diseases. P: 204-202; 226-330, 331; 479-300 or equivalent.

479-488 Nutrition in Disease 3 cr.
Therapeutic applications of nutrition in treatment of human diseases. Emphasis upon familiarization with the medical terminology, etiology, biochemical and clinical manifestations of disease conditions. Students determine changes in nutrient intake, food and eating patterns necessary for treating disease conditions and construct suitable meal plans. P: 479-485; 226-330 or equivalent.

479-498 Independent Study 1-4 cr.
See page 77.

481 HUMAN DEVELOPMENT

481-202 The Growing Years † 3 cr.
A general introduction to issues, theories and basic knowledge about normal physical, mental, and personality development. The objective is to examine how genetic, biological, environmental and sociocultural forces influence development from the earliest womb environment through early childhood into adolescence. Course presentations include 30 half-hour video tape programs and periodic meetings with class instructor. Designed for non-majors; prospective majors should enroll in 481-210.

481-210 Introduction to Human Development † 3 cr.
An interdisciplinary approach to the study of human development from conception through death. This survey covers topics such as physical development, social and emotional development, personality development, the development of language, intellectual development and creativity, and the process of human learning. Students considering majoring in Human Development should take this course.

481-215 Issues in Human Development 3 cr.
Examines various issues and controversies in human development in order to illustrate how values influence the process of resolving them. Both cultural values (e.g., "individualism") and various theories of development are examined as values systems shaping the process of understanding people, particularly those influencing the process of deciding what is "good" for people and what people "need." Not intended for Human Development majors. P: 481-202 or 210.

481-281 Student Led Courses 1-4 cr.
See page 76.

481-283X Selected Topics in Human Development 1-4 cr.
See page 76.

481-298 Independent Study 1-4 cr.
See page 77.

481-331 Human Development I: Infancy and Early Childhood 3 cr.
Current theories, methods of study, and pertinent research provide the framework for studying human development from conception through the preschool years. Interrelationships between the biological, sociocultural, and psychological aspects of development are emphasized. Required core course. P: 481-210 or equivalent.

481-332 Human Development II: Middle Childhood and Adolescence 3 cr.
Individual development from the beginning of the elementary school years through adolescence in the context of the sociocultural, economic, and physical growth factors influencing the developmental processes that characterize the "typical" older child and adolescent at each level of development. Interpretation of behavior from the perspectives of such theorists as Erikson, Freud, and Piaget is stressed. Required core course. P: 481-331.

481-333 Observation and Interpretation of Child Behavior 3 cr.
The behavior and development of young children is studied in depth through direct observation of children in selected situations and through comparison of the observations with theories and established data regarding child development. P: 481-331

481-334 Play and Creative Activities in Childhood 3 cr.
Concepts of the contributions of play and creative activities to physical, intellectual, emotional, and social aspects of development. Specific contributions of selected creative activities are examined. Audio-visual materials provide opportunities for observation. P: 481-331.

481-335 Introduction to Experience with Young Children 1 cr.**
Supervised work with young children in a group situation. Recommended only for those students earning certification in early childhood education. P: 481-331 and written cons inst.

481-336 Sex Role Development in Contemporary Society 3 cr.
Developmental analysis of the biological, personality, social and cultural factors contributing to sex role identity and behavior in contemporary society. P: 481-210.

481-342 Cultural Impacts on Human Development 3 cr.
Covers cultural differences in perception, cognition, language and thought, child development, child rearing, and personality. Examines relationships between various aspects of culture (value, economy, ecology, political system) and psychological functioning within both non-Western cultures and American ethnic subcultures. P: 481-331, 332.

481-420 Tests and Measurements 3 cr.
Methods and problems of measuring human characteristics, including determination of validity, reliability, and interpretive schemas for such measures. Examination of selected tests in intelligence, achievement, attitudes, interests, and personality. Typical uses of tests and methods for reviewing tests. P: a course in statistics.

481-429 Theories of Personality 3 cr.
Major ideas and systematic statements about the organization, function, change, and development of human personality. Readings acquaint the student with a variety of personality theorists such as Freud, Adler, Jung, Sullivan, Erikson, Dollard and Miller, Skinner, and selected existentialists. P: 481-331 and jr st.

481-431 Cognitive Development 3 cr.
The development of cognitive functioning from infancy to adulthood. The stimulus-response, cognitive, and psychoanalytic approaches to intellectual development are analyzed. Current issues and research are critically examined. P: 481-331, 332.

481-433 Human Development III: Adulthood and Later Maturity 3 cr.
An interdisciplinary approach to theory and empirical research concerning developmental processes across the adult life span. The course deals with psychological, cultural and biological factors which influence development in young adulthood, middle adulthood, and old age. Required core course. P: 481-331, 332.

481-435 Abnormal Behavior 3 cr.
Deviations from normal intellectual, physical, emotional, and social development (e.g., retardation, psychopathology, emotional problems) throughout the life cycle are covered. Includes study of accelerated development, delayed development, and disturbances in development. Biological and environmental origins of deviations are examined. P: 481-331, 332.

481-436 Counseling with Children and Adolescents 3 cr.
Introduction to theories and principles of counseling as applied to children and adolescents. Surveys different theoretical approaches and techniques for helping children and adolescents cope with the developmental deviations introduced in 481-435. P: 481-331, 332, 435.

481-437 Counseling with Adults and the Aged 3 cr.
Introduction to theories and principles of counseling as applied to adults and the aged. Surveys different theoretical approaches and techniques for helping adults and the elderly cope with the developmental problems of the latter half of the life cycle introduced in 481-435. P: 481-331, 332, 433, 435.

481-439 The Social, Behavioral and Biological Implications of Aging 3 cr.
An interdisciplinary overview of older Americans, with emphasis upon creating for them an optimum environment. Physiological change, problems of meeting health care needs, social status, and psychological change, with emphasis upon individual difference. Historical and anticipated future changes in the older population will be discussed.

481-441 History, Philosophy, and Current Programs in Early Childhood Education 3 cr.**
Historical and philosophical bases of early childhood education, with emphasis upon current approaches and programs; guided observations of young children. (Also listed as 302-441.)
P: 481-331, 333, 334 and 431.

481-442 Curriculum and Program Development in Early Childhood Education 3 cr.**
A developmental approach to curriculum and program, including the effective interweaving of various disciplines in a program for young children. Program priorities and planning will be considered within the context of developmental levels and the variety of populations to be served. (Also listed as 302-442.) P: 481-331, 333, 334, 431 and 441.

481-445 Early Childhood Center Administration and Community Resource Management 3 cr.**
A survey course in children's center management dealing with governmental licensing and controlling agencies, various aspects of program organization and administration (e.g., funding, staffing, accounting), and utilizing family and community resources. Includes a study of early childhood programs in the community. P: cons inst.

(See also 302-402, Section 7 [student teaching for Early Childhood Education].)

481-452 Social Interactions and the Elderly 3 cr.
Concerned with an examination of elderly persons as they relate to their children and kin network, network of friends, and environmental setting. The interdependency of these three areas will be discussed as well as their relation to social policy. P: 481-433.

481-481 Student Led Courses 1-4 cr.
See page 76.

481-483X Selected Topics in Human Development 1-4 cr.
See page 76.

481-484 Senior Honors Project 3 cr.
See page 77.

481-495 Language Acquisition in Childhood 3 cr.
An interdisciplinary approach to language acquisition and development, including structural and transformational linguistics, biological and physiological aspects, relationship to psychological development, use as a cognitive tool, communication skills, and the effects of sociocultural factors. Includes student observations and interpretations of child speech behavior. P: 481-331.

481-498 Independent Study 1-4 cr.
See page 77.

**Meets a requirement for certification in early childhood education in Wisconsin.

493 HUMANISTIC STUDIES

493-101, 102 Foundations of Western Culture I, † II † 3, 3 cr.
Western civilization and cultures are approached from broadly historical perspectives, considering not only major events, developments, and personalities, but the ideas, concepts, and values that mold each age and constitute our traditions and sources. The first semester covers the period from ancient civilizations to the Renaissance. The second semester is from the Renaissance to the modern world. This is a basic course for students in the humanities and serves as an important background course for all other students as well.

493-201 Introduction to Humanistic Ideas I: Music and Art in Western Civilization † 3 cr.
Explores the ways in which fine arts, such as visual arts, music, and film, express ideas and values. Several cultural eras in western civilization are considered, relating historical developments and social factors to aesthetic creativity. This is a basic subject for majors or co-majors in Humanistic Studies. It is also an excellent general introduction to humanistic ideas, methods, and values, for all students.

493-202 Introduction to Humanistic Ideas II: Literature, Philosophy and History in Western Civilization † 3 cr.
Studies some of the elementary forms (epic and lyric poetry, drama, historical narrative, philosophical dialogue, novel) and ideas (appearance and reality, destiny, fate, free will, tragedy and comedy, truth, and the good) and methods (criticism, description, textual analysis) which have been predominant at various times in Western thought. Course content may change from time to time. This is a basic subject for majors or co-majors in Humanistic Studies. It is also an excellent general introduction to humanistic ideas, methods, and values, appropriate for all students.

493-204 Humanistic Values Through Literature 3 cr.
Through discussion of essays, stories, poems, plays, and novels, this course examines particular value issues from a humanistic perspective. Among topics which might be studied are "the search for a meaningful life," "human worth," or "conflicts between the individual and society." Readings on the specified topic include both Western and non-Western viewpoints, and range from modern authors like Camus, Hesse, and Vonnegut, to Shakespeare, Sophocles, and Plato.

493-205 Personal Values and Social Reform 3 cr.
Any attempt to reform society involves, at least implicitly, major questions concerning the value of such an attempt. This course examines some of these value questions, such as: Are attempts at social reform generally beneficial or harmful to individuals in the society being reformed? How does one determine whether a society is good or bad, and thus, whether a society should be reformed? Do programs for reform of society necessarily restrict or obstruct the exercise of individual freedom? Why might someone be interested in reforming society? Such issues will be examined through reading, discussion and lectures. See 492-205.

493-209 Folklore and Folkloristics † 3 cr.
Introduction to the forms and methods of studying oral literature, especially folk tales, poetry, myths, legends, epics, jokes, proverbs, riddles, curses, toasts, and blessings. Most attention is given to non-Western forms of oral literature, some to West European forms and styles. Methods of collecting, studying, and analyzing oral folklore are stressed.

493-210 Film and Society 3 cr.
Deals with film primarily in its social context, i.e., the ways in which film reflects and influences society. Films such as Griffith's *Birth of a Nation*, Lang's *Metropolis*, Eisenstein's *October*, Vertov's *Man with a Camera*, Renoir's *Rules of the Game*, and films chosen from the student film series are examined for their social content, both explicit and implicit, and the social milieu of their creation. Emphasis is placed on the ways in which different cultures use films and on the cross-cultural influences which occur. See 242-210.

493-250 European Economy and Society 3 cr.
Introduces major issues, developments, and problems which shaped European societies in the course of the fundamental transformation from rural, agrarian, and largely stable societies, to urban, industrial, and rapidly changing ones. Highlighted are the major developments in agriculture, commerce and industry; the impact of science and technology; the evolution of modern labor and management patterns of prices, wages, economic cycles and consumption; changes in economic principles, practices and institutions; and the corresponding transformation of Europe's social and cultural patterns.

493-251 Business and American Life 3 cr.
Describes the social and individual values which relate human experience to business goals; the influence of business values on the organization of American life, business successes and shortcomings and the ways in which American civilization has adapted to them. Representative personalities, firms, and events are studied to achieve the goals of the course, and to permit a comparison of the development of the American economics tradition with the European tradition discussed in 493-250, European Economy and Society.

493-274 Red Man in White America † 3 cr.
A multi-disciplinary survey of the changing position of Native Americans in American culture and society. Historical relations of Indians and Whites are examined to discover basic processes of socio-cultural change, such as ecological succession, evolution of corporate organizations from tribal beginnings, and growth of Pan-Indian culture patterns. Past and current stereotypes, images, and visions of "the Indian" are examined critically. Attempts are made to answer basic questions such as: What has the Indian meant to Americans? What does it mean to be Indian? Who and what is an Indian?

493-281 Student-Led Courses 1-4 cr.
See page 76.

493-283X Selected Topics in Humanistic Studies 1-4 cr.
See page 76.

493-295 Art and Ideas in Western Culture 3 cr.
Using the celebrated series of television films entitled *Civilization*, narrated and produced by art historian Kenneth Clark, this course surveys the works and ideas of a selection of sculptors, architects, musicians, philosophers, poets, and writers to provide a cultural history of the Western world from the middle ages to the present. Offered in January.

493-298 Independent Study 1-4 cr.
See page 77.

493-301 Humanistic Studies Projects in the Community 1-5 cr.
Projects vary, but emphasize service, creative, developmental, and communications activities in the community. May be repeated for credit. P: cons inst.

493-302 Human Identity 3 cr.
The concept of human identity is presented from the vantage point of many disciplines; the contributions of science and art and their mutual interaction are demonstrated. P: 493-201, jr st or cons inst.

493-305 Value Theory and the Humanities 3 cr.
A systematic and critical survey of ideas and methods of value inquiry with special attention to problems and claims of values of the environment and the humanities. Some of the topics considered are be the origins of traditional problems of value, the methods of value inquiry, and the relation of a general theory of value to other disciplines in the humanities and the sciences. P: 493-201, 202.

493-309 Criticism of the Visual Arts 3 cr.
The history of art criticism is concerned with the ways in which perception influences artistic judgment. In addition to studying this influence, and by using contrasting views of artists, critics and thinkers from the past through the present, the course studies at the same time the influence of perception on styles, forms, techniques and materials of the visual arts. A chief purpose of this course is to develop the ability of students to make intelligent critical evaluation of works of art. See 242-309.

493-310 Criticism of the Performing Arts 3 cr.
An approach to the principles and techniques of criticism of various performing arts, such as music, theater, and movies. Includes study of the aesthetic bases of criticism, analysis of the work of critics, the relationship of the critic to the community, and practice in writing critical reviews. Some degree of sophistication in at least one of the performing arts is desired. P: jr st or cons inst. See 242-310.

493-315 Theories of Creativity 3 cr.
The concept of "creativity" as seen from a variety of perspectives, (artistic, scientific, personal growth, personality development, etc.). The social setting of creativity and cross-cultural variables. "Traits of creativity" (a set of statistical concepts). The relationship between creativity and education.

493-323 The Writings of the Old Testament 3 cr.
The Old Testament as literature and as part of the literary heritage of the Western world. This approach excludes, therefore, any sort of ecclesiastical or doctrinal preconceptions of the Old Testament's value as an exclusively religious work, though attention is necessarily paid to religious convictions, ideas, and views which influenced and helped to develop it. The books of the Old Testament are approached with as much objectivity as possible, and they are examined as literature by genre (narrative, poetry, idyll, drama), with techniques of literary analysis applied to them as appropriate relative to theme, character, plot, symbolic order, and structure. P: jr st or cons inst.

493-324 The Writings of the New Testament 3 cr.
A study of the origins of the Christian tradition as reflected in the primary texts of that tradition contained in the New Testament. It examines the major divisions of the writings of the New Testament, the life of Jesus as recorded in the gospels, the importance of St. Paul and the issues he addressed in the development of early Christianity, and the apocalyptic writings of St. John. P: jr st or cons inst.

493-325 Judiasm, Christianity, and Islam 3 cr.
The world's three great monotheistic religions: their origins, the experience, the ideas, and attitudes which they share, the features which make each a distinct and unique expression and system of belief in the God who is One.

493-326 Non-Western Religions 3 cr.
A study primarily of the two major religions of the East, Hinduism and Buddhism. It attempts to explore the richness, variety, and flexibility of the faith and practice of Hinduism, with its belief in a multiplicity of gods and goddesses, and to examine Buddhism from the standpoints of its various sects and schools—Theravadic (Hinayana), Mayahana, Zen, and Tantric.

493-332 Art and Social Thought 3 cr.
An examination of the role of art and art criticism in various modern theories of social order and social change. The interrelations of social value and the environment of art and ideology. Art as an agent in social change and art as a measure of social well-being. The course emphasizes the place of art within liberal, socialist, communist, and fascist thought and practice. Art, whether seen as personal expression or as the expression of social process, is considered primarily from the perspectives of social criticism and historical analysis. P: 493-201, 202, jr st or cons inst.

493-333 Utopia and Antiutopia 3 cr.
A study of the origins, history, and philosophical and political significance of utopian thought in Western culture. The course covers the development of major utopian ideals from Plato to the present.

493-340 Perspectives of Human Values: The Classical World 3 cr.
Focuses on the world of classical Greece and Rome as reflected in its literature. The course varies in content from semester to semester and employs these approaches: a) an in-depth study of the Greek world-view in the tragedies of Aeschylus, Sophocles, Euripides, and the comedy of Aristophanes; b) a general study of the Greco-Roman world, including the epics of Homer and Virgil, Greek and Roman tragedy, comedy, and satire. P: 493-201, 202, jr st or cons inst.

493-341 Perspectives of Human Values: The Medieval World 3 cr.
Focuses on the medieval world as reflected in its literature. Students explore the history, society, culture and values of the middles ages by beginning with the heroic deeds of Beowulf, Roland and the Vikings, continuing to the chivalric romances of King Arthur and Tristan leading finally to the wonderful tales of Chaucer and Boccaccio that mark the end of this period.

493-342 Perspectives of Human Values: Renaissance to Rationalism 3 cr.
The form of western culture first takes shape in the Italy of the 14th and 15th century Renaissance. The idea of the individual as the measure of value is born in the Renaissance and continues its development throughout the western world through the 18th century, usually termed the age of Rationalism. This course studies the major thinkers and artists of the era beginning with the Italian and ending with the introduction of western ideas onto the American continents. P: 493-201, 202 or cons inst.

493-343 Perspectives of Human Values: Romanticism to Naturalism 3 cr.
Romanticism begins, as a self-conscious notion, in the early 19th century coincidental with the great political, economic and technological changes in western culture. The course studies the nature of these changes and their effects on romantic artists and thinkers beginning with English romanticism and ending with the social, political and literary movement associated and the term "naturalism" in Europe and America. P: 493-201, 202, or cons inst.

493-344 Perspectives of Human Values: The Modern Period 3 cr.
In the modern world, no single set of values seems to have sufficient authority to command belief and provide assurance. In such a skeptical situation, it is increasingly difficult for people to dwell meaningfully with themselves and the things of their world. This course seeks to provide a critical reflection on some of the most significant ways in which writers and artists have sought to understand the value predicaments and dilemmas of the human condition. Confining itself chiefly to the first 50 years of this century, *this course focuses primarily, but not exclusively,* on values associated with either tragic or comic perceptions found in works of literature, philosophy, history and the fine arts. P: 493-201, 202 or cons inst.

493-354 France Today 3 cr.
Beginning with an examination of French history and traditional customs and values, this course studies as many aspects of contemporary French culture as possible, including rural and urban life, industry and commerce, art and music, etc. P: jr st or cons inst.

493-356 Contemporary German Culture 3 cr.
An introduction to the culture of the four German speaking countries (the Federal Republic of Germany, the German Democratic Republic, Austria, and Switzerland) and to German culture in the U.S. Emphasis is on the post-World War II era, with particular focus on West Germany. P: jr st or cons inst.

493-358 Latin America Today 3 cr.
Studies specific humanistic aspects of contemporary Latin American culture, including its history, art, literature, music, and *value systems. The goal is to come to as complete an understanding* as possible of the people of Latin America today. P: jr st or cons inst.

493-359 The Americas Look at Each Other 3 cr.
Through the study of Latin American writers and artists, this course examines the way the Latin American culture perceives our North American culture. The aim is to provide students with a new and increased awareness of their own cultural environment as well as that of Latin America. P: jr st or cons inst.

493-361 January Abroad: German Culture 3 cr.
Travel to one of the German speaking countries. German culture studies through on-site lectures followed by tours of interesting historical and architectural sites, visits to universities and museums, factories and business concerns, and attendance at concerts and operas. Usually based in Berlin and one or two of the large West German cities such as Hamburg and Cologne.

493-363 January Experience Abroad: Mexico 3 cr.
An exposure to the accessible portions of 1) a culture of ancient Mexico, 2) the culture of present day Mexican villages, and 3) the culture of contemporary urban Mexicans. The course typically takes place in the states of Yucatan, Quintana Roo, Campeche, and Chiapas, with emphasis upon the cultures of the ancient and contemporary Maya. Stress on cultural relativity and cultural systems. Students examine their own values in the context of the value systems of these other cultures. Work may be completed in either Spanish or English.

364 Women and Religion 3 cr.
See 875-440.

493-365 January Abroad: England and Its Heritage 3 cr.
Provides a field trip to England for on-site study of English literature, history, and culture. The center of study is the city of London—its museums, galleries, palaces, cathedrals, theaters, and other places of literary and historical interest. The course also includes conducted study tours to other sites which are central to the English heritage, such as Bath, Brighton, Cambridge, Canterbury, Oxford, Stonehenge, and Stratford Upon Avon.

493-371 American Indian Art and Artists 3 cr.
A study of the art and painting of selected North American indian cultures, using comparative analyses of art as expression of differing value systems. The course uses the public television series *American Indian Artists* consisting of six 30 minute videotapes on the arts and crafts of painting, pottery, sculpture, and jewelry making of six contemporary artists. Films, slide presentations, and lectures on the aesthetic ideals and basic symbolism of American Indian art supplement the series.

493-374 Wisconsin's Indians: Historical and Cultural Perspectives 3 cr.
Indian cultures of Wisconsin in the period 1600-1830. Basic cultural patterns and the social life of such tribes as the Winnebago, Menominee, Sauk, Fox, Kickapoo, Huron, and Potawatomi and their historical transformation. Attention to the impact of the fur trade, missionaries, and Euro-Americans in the area.

493-376 Cultural Conflict in French Canada 3 cr.
Cultural nationalism or separatism, grounded in a sense of group identity founded on language, religion, historical traditions, and popular and elite arts and literature, can be the source and dynamic element in political confrontation between different cultural groups. This course analyzes the conflict between the English and the French in Canada, one of many cases of conflicting cultural groups in the world today. Focusing on the cultural dimension of the problem, the course attempts to assess the consequences, both creative and destructive, of the tension and struggle. P: 242-323.

493-474 The Native Americans: Emergence of Pan-Indian Cultures 3 cr.
The consequences of cultural contacts between Native Americans and Euro-Americans. The several kinds of processes which have transformed, eroded, and revitalized Native American cultures, especially the emergence of Pan-Indianism. Key issues *in acculturation and cultural change theory.*

493-480 Humanities Seminar 3 cr.
Advanced study of contemporary problems seen from the perspective of the humanities. Topics vary from term to term. Among principal topics explored are: identity, alienation and cultural conflict; continuity and change in values; language and culture; and the humanities and imagination. Required for Humanistic Studies majors. P: sr st.

493-481 Student-Led Courses 1-4 cr.
See page 76.

493-483X Selected Topics in Humanistic Studies 3 cr.
See page 76.

493-484 Senior Honors Project 3 cr.
See page 77.

493-498 Independent Study 1-4 cr.
See page 77.

552/554/556/558 LITERATURE AND LANGUAGE

Please note that each language has a separate curriculum area number. Many courses are offered separately in several languages. The appropriate curriculum area number must be included when completing registration forms. Courses in which the content is at the discretion of the instructor may be repeated for credit if the content is different each time. Students should check the *Timetable* for specific course offerings in foreign literature and language.

552 ENGLISH-AMERICAN

554 FRENCH

556 GERMAN

558 SPANISH

100 Basic College Writing 3 cr.
Designed for students whose entrance test scores indicate a need to improve basic college-level writing skills. (Other students interested in improving their writing skills should enroll in 552-105.) Topics include sentence structure, paragraph development, grammar, spelling, punctuation, and an introduction to research paper techniques.

101, 102 Introduction to the French, German, Spanish Language, I, II 4, 4 cr.
The first two semesters of language study seek to develop basic ability in understanding, reading, speaking and writing. No prior language study necessary for 101. One year high school or one semester college language study prerequisite for 102. See section on retroactive credit preceding course descriptions.

104 Introduction to Literature † 3 cr.
A study of the distinctive characteristics of poetry, plays, short stories, and the novel, intended to help students understand, appreciate, and enjoy literature. Works studied range from the classic to the contemporary.

105 Introduction to Expository Writing 3 cr.
A course in standard American written English designed to improve college-level writing skills. Provides review of grammmar, punctuation, usage, and other writing fundamentals, but emphasizes effective organization and development of ideas. P: 552-100 or satisfactory entrance test score.

107 The Short Story † 3 cr.
An introduction to the short story as a literary form. The stories selected may be arranged according to period theme, nationality, or author.

201, 202 Intermediate French, German, Spanish Language I, † II † 3, 3 cr.
Intermediate study develops more fully the ability to understand, read and speak the language. Courses are in sequence according to level of achievement. One year of high school foreign language equals one semester of university work. See footnote about retroactive credit. P: 554/556/558-102 or equivalent.

206 Women in Literature 3 cr.
The course surveys both women as writers and women as characters in literature. It emphasizes the wisdom, experiences, and insights of women writers and women in literature, looks at the works from a variety of critical perspectives, and clarifies the values inherent and/or envisioned in those works. The course is concerned with literature from two or more cultures with emphasis on comparing and contrasting the social and human values reflected in the literature of those cultures.

212 Introduction to Creative Writing: Fiction † 3 cr.
A first course in the writing, appreciation, understanding, and technique of fiction.

213 Introduction to Creative Writing: Poetry † 3 cr.
A first course in the writing, appreciation, understanding, and technique of poetry.

214 Introduction to English Literature I † 3 cr.
An introductory, chronological survey of English literature from Anglo-Saxon times to the end of the 18th century. Among writers studied are Chaucer, Shakespeare, Donne, Milton, Pope, Swift, and others whose works comprise the major literary heritage of all English-speaking people.

215 Introduction to English Literature II † 3 cr.
An introductory, chronological survey of English literature from the 19th century to the present, including such writers as Wordsworth, Shelley, Keats, Byron, Tennyson, Browning, Dickens, Shaw, Conrad, Joyce, Lawrence, Eliot, and Thomas.

216 Introduction to American Literature I † 3 cr.
An introductory chronological survey of American literature from Bradford to Melville, including such writers as Mather, Bradstreet, Paine, Irving, Cooper, Poe, Emerson, Hawthorne, Thoreau, and Melville.

217 Introduction to American Literature II † 3 cr.
An introductory chronological survey of American literature from Whitman to the present, including such writers as Longfellow, Dickinson, Twain, James, Crane, Eliot, Pound, Fitzgerald, Hemingway, Faulkner and Cummings.

225 French, German, Spanish Conversation and Composition 3 cr.
Helps develop greater fluency in the language through classroom practice in conversation. Emphasis on developing ease and correctness of oral expression through directed and extemporaneous conversations, dialogues, class presentations and dramatic reading of texts. Also includes practice in expository writing and grammar review. This is an appropriate course for students with four years of high school language study or two years at the University level. See section on retroactive credit. P: 202 or equivalent.

283X Selected Topics 1-4 cr.
See page 76.

289 Intensive German 15 cr.
Intensive course aimed at developing foundational proficiency in one semester. Class meets six hours a day, four days a week. Emphasis is on communication. Represents the equivalent of both introductory and intermediate courses in the language. As a follow-up, students are encouraged to spend January abroad or a subsequent semester at the University of Kassel.

298 Independent Study 1-4 cr.
See page 77.

301 Intermediate Creative Writing 3 cr.
An intermediate course for writers of poetry, fiction, drama and journalistic features. Begins with a comparison of literary texts with their source materials; then students develop writing projects based on research of historical documents or other source material. P: 552-212 or 213 or 246-203 or cons inst.

302 Fiction Writing Workshop 3 cr.
An advanced course in the practice of writing fiction. Group criticism of student work. May be repeated once for credit. P: 212 or cons inst.

303 Poetry Writing Workshop 3 cr.
An advanced course in the practice of writing poetry. Group criticism of student work. May be repeated once for credit. P: 213 or cons inst.

304 Advanced Expository Writing 3 cr.
The study and practice of non-fiction writing of various kinds, including autobiography, argument, the personal essay, and the formal essay. Particular attention is paid to developmental strategies, organization, tone and style. P: 552-104 or equivalent or cons inst.

315 The English Novel: 1700-1860 3 cr.
A study of the development of the English novel from its beginnings to the mid-Victorian period. Typically, eight novels are discussed, chosen from authors such as Daniel Defoe, Lawrence Sterne, Henry Fielding, Tobias Smollett, Jane Austen, Sir Walter Scott, Charlotte Bronte, Emily Bronte, William Thackeray, Charles Dickens, George Eliot.

316 The English Novel: 1850 to the Present 3 cr.
A study of the development of the English novel from the mid-Victorian period to modern times. Typically, eight novels are discussed, chosen from authors such as Charles Dickens, George Eliot, Anthony Trollope, Thomas Hardy, Oscar Wilde, Joseph Conrad, James Joyce, Virginia Woolf, D.H. Lawrence, Elizabeth Bowen, Joyce Cary.

323 Approaches to Literature 3 cr.
Studies various ways of analyzing a literary work, including historical, psychological, and formal approaches. Specific poems, plays, and novels are examined using different critical approaches. Required for English/American literature majors. P: jr st or cons inst.

325 Advanced Written and Oral Expression in French, German, Spanish 3 cr.
Follows 225. Continues development of fluency through intensive practice and study of the spoken and written language. Stresses accurate use of grammatical structures. Interpretation of texts is used to develop sensitivity to differences in style, tone and levels of language from colloquial to formal. Helps develop greater confidence and skill. May be taken concurrently with 329. See section on retroactive credit. P: 225 or cons inst.

329 Representative French, German, Spanish Authors 3 cr.
Reading, discussion and analysis of texts representative of the major eras and movements of French, German or Hispanic society. Study of different styles of writing and differing treatment of recurring themes. For students interested in studying important novels, plays, poems, and essays in order to gain a deeper appreciation for the language as well as an understanding of the literature and culture. Offered in the language. P: 225 or cons inst. May be taken concurrently with 325.

331 Major American Prose Fiction 3 cr.
A study of American prose fiction including examples of novels, short stories and satire. Major prose writers such as Melville, Twain, Fitzgerald, Hemingway, Wright and Bellow are considered.

333 Literary Themes 3 cr.
A single theme (such as fantasy, war, revolution, love, alienation) is explored through the literature of one or many nations. May include novels, short stories, poetry, and plays. Available in American, English, French, German, Spanish, or literature in translation. May be repeated for credit when a different theme is studied.

335 Literary Eras 3 cr.
Studies the works of a number of writers in relation to their time, and includes poetry, prose and drama. Eras offered include the Middle Ages, the Renaissance, the Romantic, the Victorian, the Modern, and the Contemporary, and occasionally others. Available in American, English, French, German, Spanish, or literature in translation. May be repeated for credit when a different era is studied.

350 Major Foreign Drama 3 cr.
A study of French, German, Spanish drama either by period or by theme. Conducted either in the foreign language or in English. Inquire about receiving retroactive credits for prior experience.

351 Major Foreign Prose Fiction 3 cr.
A study of French, German, Spanish short story and/or novel either by period or by theme. Conducted either in the foreign language or in English. Inquire about receiving retroactive credit for prior experience.

352 Major Foreign Poetry 3 cr.
A study of French, German, Spanish poetry either by period or by theme. Conducted in the foreign language or in English. Inquire about the possibility of receiving retroactive credit for prior experience.

354 France Today 3 cr.
Beginning with an examination of French history and traditional customs and value, this course proceeds to study as many aspects of contemporary French culture as possible, including rural and urban life, industry and commerce, art and music, etc. P: jr st or cons inst.

356 Contemporary German Culture 3 cr.
An introduction to the culture of the four German speaking countries (the Federal Republic of Germany, the German Democratic Republic, Austria, and Switzerland) and to German culture in the U.S. Emphasis is on the post-World War II era, with particular focus on West Germany. P: 556-202 or equivalent. See 493-356.

358 Latin America Today 3 cr.
Studies specific humanistic aspects of contemporary Latin American culture, including its history, art, literature, music, and value systems. The goal is to come to as complete an understanding as possible of the people of Latin America today. P: 556-202. See 493-358.

359 The Americas Look at Each Other 3 cr.
Through the study of Latin American writers and artists, this course examines the way the Latin American culture perceives our North American culture. The aim is to provide students with a new and increased awareness of their own cultural environment as well as that of Latin America. P: 556-202. See 493-368.

431 Shakespeare 3 cr.
The study of a representative selection of Shakespeare's plays, including comedies, tragedies, and histories. Required for English/American literature majors.

434 Major British Writer(s) 3 cr.
A study of one or more outstanding figures in British literature, such as Chaucer, Milton, Blake, Wordsworth, Conrad, Joyce, or Virginia Woolf. Important themes, techniques, and influences are emphasized.

435 Major American Writer(s) 3 cr.
A study of one or more outstanding figures in American literature, such as Melville, Twain, Dickinson, Whitman, Frost, Hemingway, Fitzgerald, or Faulkner. Important themes, techniques, and influences are emphasized.

436 Major French Writer 3 cr.
A study of an outstanding figure in French literature. Important themes, techniques, and influences are emphasized. See section on retroactive credit. May be taken in translation.

437 Major German Writer 3 cr.
A study of an outstanding figure in German literature. Important themes, techniques and influences are emphasized. See section on retroactive credit. May be taken in translation.

438 Major Spanish Writer 3 cr.
A study of an outstanding figure in Spanish literature. Important themes, techniques, and influences are emphasized. See section on retroactive credit. May be taken in translation.

483X Selected Topics 1-4 cr.
See page 76.

490 Seminar in Literature 3 cr.
An intensive study of a major writer, literary movement, literary period, or influence. Extensive research in the chosen topic is required. P: jr st.

498 Independent Study 1-4 cr.
See page 77.

553 ACADEMIC SUPPORT PROGRAM

553-087 Rapid Reading Workshop 1 non-degree cr.
Success in college depends in part on a student's ability to read quickly and efficiently. This course is designed to increase each student's reading rate and improve comprehension. Each student is evaluated using a reading test with standardized norms. Reading materials used in the course are geared to the reading level of the individual student. No prerequisites. P-NC basis.

553-088 Rewriting Workshop 1 non-degree cr.
Designed for students who need practice in reworking drafts of compositions, making writing more suitable for presentation. Students work on such techniques as shaping prose for a particular audience, eliminating wordiness and unnecessary jargon, enlivening dull sentence structures, and cultivating a personal style. No prerequisites. P-NC basis.

553-089 Dealing with the College Experience 1 non-degree cr.
Explores issues and methods of money management, efficient time management, study habits, and the formation of study groups. Important elements in interpersonal relationships, such as listening, assertiveness, trust, and male-female relationships, are addressed. Steps in problem solving are identified and applied to career selection. No prerequisites. P-NC basis.

553-090 Spelling Workshop 1 non-degree cr.
An intensive short term workshop designed for students who feel a need for review on strengthening of spelling skills. The workshop functions on an individualized basis to diagnose spelling errors, provide systematic instruction in specific spelling rules, suggest techniques for countering spelling problems, and provide practice in proofreading techniques. No prerequisites. P-NC basis.

553-091 Sentence Structure Workshop 1 non-degree cr.
Intended for students who desire to improve sentence structure patterns, to increase the accuracy of sentence structures in their writing, and to enrich the variety of sentence patterns produced in their writing. No prerequisites. P-NC basis.

553-092 College Reading Skills 3 non-degree cr.
Incorporates college level study skills with general reading improvement techniques. Emphasis on vocabulary building, comprehension improvement, reading rate and flexibility. Course format is a combination of class meetings and some individual laboratory work. No prerequisites. P-NC basis.

553-093 Fundamentals of Writing 3 non-degree cr.
Helps students master skills necessary for writing clear sentences and paragraphs. Students write often and gain the skills to revise what they have written. No prerequisites. P-NC basis.

553-094 The Paragraph 1 non-degree cr.
This workshop is intended for students who need to gain or review skills in paragraph development, unity, and coherence. Practice is provided in creating and developing paragraphs. Students examine various paragraph patterns and practice these patterns. Attention is given to methods of controlling paragraph coherence and unity: transitional devices, repetition, and pronoun substitution. Students are expected to write on a daily basis. No prerequisites. P-NC basis.

553-095 Journal Writing Workshop 1 non-degree cr.
This course prepares students in the art of keeping a journal for personal use, as an aid to invention in the writing process, or as practice for courses which require a journal as part of the class assignment. Students read and discuss samples of professional and student written journals. A substantial portion of the course are guided, daily writing practice in a variety of journal formats and on a variety of topics. No prerequisites. P-NC basis.

553-096 College Study Skills 1 non-degree cr.
A five-week course consisting of instruction in: mastery of textbooks through a system of reading and note taking, an efficient method of taking and studying lecture notes; techniques for studying and taking exams. Also, one-fourth of the time is spent in the UWGB library, learning about and using its facilities. No prerequisites. P-NC basis.

553-097 Efficient Reading 1 non-degree cr.
Stresses both reading rate and attendant comprehension skills for the average reader. Format is a combination of class meetings and some individualized laboratory work. No prerequisites. P-NC basis.

553-098 Fundamentals of Grammar 1 non-degree cr.
Designed to review the basic principles of traditional grammar and to see how the application of these principles can strengthen and clarify written discourse. No prerequisites. P-NC basis.

553-099 The Research Paper 1 non-degree cr.
The ability to use library resources comfortably, to focus research questions effectively, and to write documented papers persuasively is essential to every college student. This course is designed to introduce students to research techniques and to provide them with the opportunity to practice the essential steps behind good research papers. No prerequisites. P-NC basis.

575 MANAGERIAL SYSTEMS

GENERAL COURSES

575-101 Effective Business Communication 3 cr.
Basic concepts and principles for effective business communication; explains relationships between creative and logical thinking, and communicating facts and ideas. Covers letters, reports, memos, summaries, minutes, press releases. Although attention is paid to spelling, punctuation, and grammar, the main focus is on fundamental principles of unity, coherence, and emphasis upon which effective business communication depends. Course assignments are directly related to the particular interests of the students, and class discussions are devoted primarily to analyzing and evaluating each student's work.

575-102 The Consumer Experience 3 cr.
Explores a variety of consumer problems encountered in a modern, complex economy. The central theme of the problem focus revolves about economic problems such as budgeting, financing and investing. Lateral problem themes explore the philosophies and values of consumers, the psychology of consumer behavior and the legal aspects of consumer rights.

575-202 Business and its Environment 3 cr.
The major components of the business enterprise and its environments of resources, competition, and regulation are studied by participation in a simulated world of competitive manufacturers who attempt to accomplish appropriate business goals. Pricing, profit, finance planning, controls, ethics, environmental impact, social responsibility, and other important concepts. Emphasis on issues that tend to enlarge the students' awareness of environmental issues that challenge the business leader.

575-206 Law and the Individual 3 cr.
An introduction to the American legal system, its processes, language, ethics and laws from the viewpoint of the individual. The student is asked to confront and evaluate the principles of our legal system and specific laws which directly relate to the individual—family, personal injury, property, consumer, criminal, privacy, probate and administrative laws.

575-217 Quantitative Methods in Administration 3 cr.
Applications of elementary mathematics including probability, statistics, linear programming, game theory, and associated models to practical business decisions; the use of probability tables. Encourages translating of typical business problems to obtain and examine relevant numerical answers. Techniques are tied to practical business problems. P: credit or concurrent registration in 600-260.

575-281 Student-Led Courses 1-4 cr.
See page 76.

575-283X Selected Topics in Managerial Systems 1-4 cr.
See page 76.

575-298 Independent Study 1-4 cr.
See page 77.

575-300 Introductory Accounting 3 cr.
Basic concepts and terminology of financial accounting; the underlying principles of accounting as well as the processes by which accounting data are recorded, summarized, and reported; accounting problems concerned with sole proprietorships, partnerships, and corporations; principles underlying the accounting for current and fixed assets, current and long-term liabilities, and the owner's equity accounts. P: soph st recommended.

575-305, 306 Business Law I, II 3, 3 cr.
Laws affecting business, conducted on the case method with emphasis on the Uniform Commercial Code. Introduction to law and the legal process, contracts, agency, property including environmental problems, landlord-tenant and real estate laws. Sales, including consumer protection laws, secured transactions, negotiable instruments, corporation and partnership law, estate and bankruptcy law are introduced in the second half of the course. P: jr st. 575-305 must be successfully completed before taking 306.

575-395 Practicum in Financial Statement Analysis 3 cr.
Examines the theory and practice of the analysis of published financial statements. The course will include a review of the balance sheet and income statement as well as an in-depth analysis of such topics as short and long term liquidity, funds flow analysis, ROI analysis, the analysis of operations and the problems related to the project of earnings. P: 575-204 & 575-343 or cons inst.

575-472 Introduction to International Business 3 cr.
A study of factors that combine to affect business on an international level, including law, finance, marketing, management, political, and social elements. Students will gain an awareness of the major concepts and principles underlying international business relationships. P: 575-302, 575-305, 575-322, 575-343, 575-382.

575-481 Student-Led Courses 1-4 cr.
See page 76.

575-483X Selected Topics in Managerial Systems 1-4 cr.
See page 76.

575-484 Senior Honors Project 3 cr.
See page 77.

575-497 Internship in Business Administration 1-4 cr.
Practical experience in individualized assignments with business, government, and social service organizations. Student may work on either a full-time or a part-time basis for compensation and academic credit according to arrangements tailored to the needs of the student and employer. NOTE: Enrollment subject to availability of internships. Students should contact program director. P: jr or sr st, 3.0 grade point average or better except by permission of program coordinator.

575-498 Independent Study 1-4 cr.
See page 77.

ACCOUNTING AND QUANTITATIVE METHODS

575-301 Intermediate Accounting 4 cr.
Theories underlying financial accounting practice; special problems associated with preparation of the income statement and balance sheet; accounting principles underlying the valuation of cash, receivables, inventories, long-term investments, fixed assets, liabilities, and owners' equity accounts; relevant APB opinions and FASB statements. P: 575-300.

575-302 Accounting for Administrators 3 cr.
Accounting concepts and methods; interpretation and use of accounting reports and analyses for the managerial purposes of planning, coordination, and control: cost-profit-volume relations budgeting, effects of taxation and price level changes on decision-making. P: 575-300.

575-312 Managerial Accounting 3 cr.
Principles and procedures utilized in the accumulation of cost data in an organization; the role of cost accounting in management and how cost data are recorded in the accounts; job order and process cost systems; the use of flexible budgeting and standard cost accounting in the overall concept of budgetary control. P: 575-300, 600-260 and 575-217.

575-313 Financial Accounting: Theory and Practice I 3 cr.
Specialized financial accounting topics, pronouncements of the AICPA and FASB, price level accounting, accounting changes, statements of changes in financial position, tax allocation, accounting for leases and pensions, special sales arrangements, and partnerships. P: 575-301.

575-314 Financial Accounting: Theory and Practice II 3 cr.
Business combinations; principles and techniques involved in the preparation of consolidated financial statements; special problems in consolidations pertaining to intercompany inventory profit, preference interests and liquidating dividends; "earnings per share" calculations; accounting for branch operations; and accounting for foreign operations. P: 575-313.

575-316 Governmental and Institutional Accounting 3 cr.
Accounting theory and practice unique to governmental and institutional jurisdictions; control of revenues and expenditures through budgets and allotments; comparison with commercial accounting; including nature and purpose of separate funds. P: 575-300.

575-410 Income Tax Theory and Practice 3 cr.
Federal and state income tax as applied to individuals, partnerships, and corporations; tax and raw source materials, written problems; tax planning and tax determination. P: 575-300.

575-411 Financial Information Systems 3 cr.
Principles of systems design with an emphasis on organizational structure; internal control; flow charts and the impact of people on systems studies; systems requirements regarding the procedural areas of accounting systems such as cash purchasing, inventory management, sales, billing. P: 575-314 or cons inst.

575-412 Auditing Standards and Procedures 4 cr.
Audit standards, professional ethics, legal liability of auditors. Audit procedures as they relate to assets, liabilities, equity as well as revenue and expense accounts. Includes an examination of effect of the computer on auditing, statistical sampling, and internal auditing. P: 575-411 or cons inst.

575-414 Advanced Managerial Accounting 3 cr.
Cost concepts for decision making which include cost-profit analysis, breakeven analysis, differential and comparative cost, capital budgeting and control, profit performance measurements and linear programming for decision making. Use of responsibility accounting concepts and implication of transfer pricing for performance evaluation. Use of selected quantitative techniques in the cost accounting function. P: 575-312, 575-217 and 600-260.

575-415 Advanced Income Tax Theory and Practice 3 cr.
A study of advanced topics in income tax on both the state and federal levels. Primary emphasis is on federal tax as it relates to corporations, estates, trusts and partnerships, including both tax planning and determination. P: 575-300, 575-410.

MARKETING

575-322 Basic Marketing 3 cr.
An overview of the marketing system and the managerial techniques used to market goods, services, and/or organizations. Analyses of the relationships between marketing activities and economic, political, and social institutions; understanding the actions of consumers; and making appropriate product, promotion, price, and distribution decisions. P: jr st.

575-325 Principles of Public Relations 3 cr.
External relations of the business enterprise or governmental unit; attitudes and actions of the public and how they affect internal relations and conduct of the unit.

575-326 Principles of Purchasing 3 cr.
Principles of procurement of materials and goods by business and government. Features purchasing function, organization for purchasing, personnel, E.D.P. in purchasing, standards of quality, inventory management, cost analysis, selection, and evaluation of suppliers, purchasing policies, and ethics of purchasing. P: jr st.

575-327 Selling and Sales Management 3 cr.
Covers principles and techniques of successful selling that lead to a mutually profitable relationship between salesperson and customer. Emphasis is also directed toward the nature and scope of sales management, specifically selecting, training and directing sales personnel; the importance of customer satisfaction; the relationship of company philosophy to the sales force, and fundamentals of communication process. P: 575-322 or cons inst.

575-334 Logistics Systems Management 3 cr.
The management of all activities governing the flow of both raw materials and finished goods through the stages of production to points of final consumption. Key areas considered include transportation, warehousing, packaging, materials handling and the basic design of logistics systems; location theory; inventory control; the use of mathematical techniques involving problems of logistics management; development of integrated material flow systems as they pertain to the implementation of such common environmental projects as recycling, waste disposal, etc. P: jr st.

575-422 Principles of Retailing 3 cr.
Management practices in the operation of retail and wholesale enterprises. Nature of retailing in the U.S.; basic requirements for successful store management; opportunities and careers; store location, building, fixtures, equipment; interior layout; organizational structure; personnel management; merchandise management; sales promotion and customer service; controls: coordination and management. P: 575-322.

575-423 Principles of Advertising 3 cr.
Types of advertising and their characteristics: planning, execution, and evaluation of advertising campaigns. P: 575-322.

575-424 Marketing Research 3 cr.
The techniques of obtaining and analyzing information about marketing problems: obtaining data from primary and secondary sources, and interpreting them for marketing decisions. Development of target market determination plans to test the feasibility and relevance of a proposed new small business or the expansion of an existing enterprise. P: 575-322 or cons inst.

575-425 Promotional Strategy 3 cr.
Analysis of the environment in which persuasive efforts take place. Appropriate concepts from communication theory. The promotional tools which can be used to communicate to various publics about products, services, ideas and institutions are treated from a promotion system perspective. P: 575-322 or cons inst.

575-426 Marketing Management 3 cr.
Contemporary environmental issues and managerial problems faced by marketing management. Develops analytical abilities. P: two marketing courses or cons inst.

575-427 International Distribution and Marketing 3 cr.
The structure of foreign trade; facilities available to exporters and importers; cross-cultural and economic analysis for marketing in foreign environments; contemporary trends in international economics affairs. P: 575-322.

575-428 Consumer Behavior 3 cr.
Includes an in-depth analysis of various theories of buyer behavior including ultimate and industrial consumers. Implications for marketing management are stressed. P: 575-322.

575-429 Marketing Strategies for Non-Business Institutions 3 cr.
The applicability of marketing concepts, strategies and techniques to the problems faced by non-profit institutions in their attempts to relate to various societal needs. Relevant current literature is analyzed and field experience is gained in solving institutions' problems. P: 575-322.

FINANCE

575-343 Corporation Finance 3 cr.
Organization for management of finance of business units; management of fixed and working capital; short- and long-range financial planning; money and capital markets; failure; reorganization. P: 575-300.

575-344 Real Estate Principles and Practices 3 cr.
A survey of the subject of real estate. Examines the importance of land, the nature of real estate ownership, contracts, title transfer, and mortgage instruments. Special attention to the theory of real estate valuation, real estate finance, and real estate investment. The impact of taxation, marketing, and insuring and current legislation affecting real estate are examined. A broad survey course, not intended to prepare students for the real estate licensing examination. P: 575-343.

575-345 Principles of Risk Management 3 cr.
The theory and principles of risk management; techniques and bases for decision making in management of business and personal risks; an introduction to the insurance function. P: jr st, and 575-343.

575-347 Management of Financial Institutions 3 cr.
Explores the role that financial institutions play in our economy in forming and managing capital resources. The course examines the processing of financial intermediation and disintermediation. Various types of financial institutions such as commercial banks, credit unions and insurance companies are studied in terms of their financial organization, structure and their investment management objectives and strategies. P: 575-343.

575-442 Problems of Investment 3 cr.
Principles underlying the construction and management of investment portfolios; meeting investment needs of personal and institutional investors; reducing investment risks inherent in selection; inflation, depression, and money market fluctuations. P: 575-343.

575-443 Financial Planning and Control 3 cr.
The efficient management of working capital; analysis and projection of financial data for planning, control, and for dealing effectively with the financial dimensions of management decisions P: 575-343.

575-444 Financial Decisions and Federal Taxes 3 cr.
Aimed at recognizing federal tax problems to facilitate planning and financial decisions, and to acquaint the student with how substantially different tax liabilities can attach to nearly identical economic events. In addition to teaching tax research, the course examines tax considerations in selecting a business form, solving capital gains and loss problems, buying and selling real estate, acquiring and disposing of fixed assets, reorganizing and dissolving corporations, and choosing accounting methods. Not aimed at preparing tax returns. P: 575-343.

575-445 International Finance 3 cr.
Theory and recent experience in currency standards, international banking, foreign exchange fluctuations and controls, international monetary cooperation and special topics. P: 298-403.

575-448 Financial Management of Nonprofit Organizations 3 cr.
Applies the theory and methodology of finance to a variety of financial problems of the human service/nonprofit organization and seeks to develop skills in and an understanding of decision-making appropriate to securing financial resources for organizing and effectively allocating those resources among its programs. The course examines such topics as grantsmanship, fund raising, pricing of services, methods of reimbursement, managing endowments, financial planning and budgeting (including performance budgeting, zero-base budgeting and programming-planning budgeting), program feasibility analysis, and program performance, measurement. Case studies are used to provide experience in applying theory and concepts. P: 575-343 or cons inst.

MANAGEMENT

575-317 Computer Techniques for Business Decisions 3 cr.
A complete spectrum of quantitative decision-making problems from the business field are discussed. Solutions are provided for all the case problems in the course, including many classical business optimization problems that were heretofore unsolvable. Fortran IV is taught and used extensively. Lecture and computer lab. P: 575-217 or 800-150 or cons inst.

575-362 Principles of Personnel Management 3 cr.
Introduction to personnel management. Manpower planning, selection, recruitment, training, motivation, fringe benefits, salary and wages, and labor relations. P: jr st.

575-366 Collective Bargaining 3 cr.
Cases of techniques and problems in dealings between organized employes and their employers; industry-wide collective bargaining; constraints in the public service; administration of collective bargaining agreements. P: cons inst.

575-382 Principles of Management 3 cr.
Basic ideas and concepts of managing. The realities of management in contemporary situations with emphasis on the behavioral approach, understanding the environment of managing, the knowledge required by managers, functions performed, and adjustment to rapid changes in the future. P: jr st.

575-384 Industrial Management 3 cr.
The management of physical and human resources in the production and operation functions for producing goods or providing services in manufacturing and processing enterprises. P: jr st.

575-385 Management of the Nonprofit Organization 3 cr.
The operation and management of organizations that operate within our society for purposes other than generating profit for owners or shareholders. Models such as the hospital and the university focus on the operational principles, optimizing criteria, and management control techniques characteristic of such institutions. In addition to examining the areas of accounting, finance, marketing, organization, and personnel, the nonprofit organization is discussed in terms of its social responsibility and the political and economic conditions in which it operates. Case studies used in a seminar format. P: 575-382 or equivalent experience or cons inst.

575-386 Small Business Management 3 cr.
Case study analysis of management principles and concepts concerning the development and operation of small businesses. Student evaluation of the application of certain management principles in specific small businesses. Phases of business management at the level of simplification suitable to enterprises of limited size and staff. P: jr st or cons inst.

575-387 Ethics and Social Issues in Business 3 cr.
Through the use of case studies and simulations, the course examines the interplay of ethics in business decision making and explores the appropriate social role of the business firm as it is confronted by a variety of current issues. Students are called upon to evaluate their own ethical position with respect to a broad range of issues and to consider the implications of those positions for the firm and for society. Issues to be discussed include the corporate role in politics and government, the impact of business upon the environment and resource utilization, and business relations with consumers, employes, minority groups, other businesses and investors. P: 575-382 or cons inst.

575-389 Behavioral Science Applications for Managers 3 cr.
Designed for the intended career manager who desires to gain a knowledge of the behavioral sciences as related to the business organization. Direct business applications of motivation theory, learning theory, leadership theory, and small group behavior will be explored. P: 575-382.

575-462 Seminar in Personnel Management 3 cr.
Provides a foundation through discussion of personnel problems and experiences which can be translated into developing corporate personnel policies. Case studies related to urban, cultural, and legal realities along with making decisions which affect the administration and development of personnel policies are included. P: 575-362 or cons inst.

575-463 Labor Legislation and Administration 3 cr.
Federal and state statutory and administrative regulation of social legislation and benefit programs; other regulations, including workmen's compensation, unemployment compensation, social security, and labor laws with respect to women and children. P: jr st or cons inst.

575-467 Fundamentals of Compensation and Benefits Planning 3 cr.
Examines theories of compensation and work motivation, their impact on various reward systems, and the rationale for decisions affecting the selection of benefits. Case studies illustrate the problems in choosing benefits, communications to employee groups, and cost factors in making benefit decisions. P: 575-362.

575-485 Managerial Economics 3 cr.
Application of the basic theoretical tools of economic analysis (micro and macro) to the problems of business management, including topics on demand, production, costs, pricing, forecasting, etc. Current economic issues of interest to the manager, such as environmental policies and regulations are discussed. P: 298-202, 203 and sr st.

575-486 Small Business Feasibility Analysis 3 cr.
Problems in small business development research related to determining the feasibility of proposed businesses regarding the developer's objectives and choosing market targets suitable to the economic, political, physical, ethical, and environmental constraints of the site and the investor. Determination and analysis of student proposed small businesses relative to development costs, operating expenses, financing arrangements, and computerized cash flow projections. P: 575-424 and sr st or cons inst.

575-488 Rational Decision Making in Administration 3 cr.
Through close analysis of actual cases in which business decisions are made, rational process techniques are developed for making administrative decisions in business and government. P: 575-382.

575-489 Problems of Business Management 3 cr.
Contemporary problems in business and public administration. In addition to cases, case exercises, and readings, the student undertakes a major project paper which relates a contemporary administrative problem to an existing or created business or administrative organization. P: 575-382 or cons inst.

NONPROFIT ORGANIZATION MANAGEMENT

575-316 Governmental and Institutional Accounting 3 cr.
Accounting theory and practice unique to governmental and institutional jurisdictions; control of revenues and expenditures through budgets and allotments; comparison with commercial accounting, including nature and purpose of separate funds. P: 575-204.

575-385 Management of the Nonprofit Organization 3 cr.
The operation and management of organizations that operate within our society for purposes other than generating profit for owners or shareholders. Models such as the hospital and the university focus on the operational principles, optimizing criteria, and management control techniques characteristic of such institutions. In addition to examining the areas of accounting, finance, marketing, organization, and personnel, the nonprofit organization is discussed in terms of its social responsibility and the political and economic conditions in which it operates. Case studies used in a seminar format. P: jr st or cons inst.

575-429 Marketing Strategies for Non-Business Institutions 3 cr.
The applicability of marketing concepts, strategies and techniques to the problems faced by non-profit institutions in their attempts to relate to various societal needs. Relevant current literature is analyzed and field experience is gained in solving institutions' problems. P: 575-322.

575-448 Financial Management of Nonprofit Organizations 3 cr.
Applies the theory and methodology of finance to a variety of financial problems of the human service/nonprofit organization and seeks to develop skills in and an understanding of decision making appropriate to securing financial resources for organizing and effectively allocating those resources among its programs. The course examines such topics as grantsmanship, fund raising, pricing of services, methods of reimbursement, managing endowments, financial planning and budgeting (including performance budgeting, zero-base budgeting and programming-planning budgeting), program feasibility analysis, and program performance, measurement. Case studies are used to provide experience in applying theory and concepts.

600 Mathematics**

600-101 Intermediate Algebra 3 cr.
Preparation for 600-104, for students with a high school background of first-year algebra. Properties of the real numbers; solving linear and quadratic equations and inequalities; polynomials; fractional expressions and equations; exponents, powers and roots; systems of linear equations. P: one year of high school algebra and satisfactory placement score.

600-104 Elementary Functions: Algebra and Trigonometry 4 cr.
For the student whose mathematical background is inadequate for 600-202. The real number system; inequalities; functions and their inverses; exponential and logarithmic functions; trigonometric and inverse trigonometric functions; complex numbers; polynomial and rational functions; systems of equations. P: 600-101, or two years of high school algebra and satisfactory placement score.

600-150 BASIC: A Programming Language † 1 cr.
Provides students in various fields with elements of the BASIC language necessary for effective use of computers in solving problems. P: 600-101 or two years of high school algebra and satisfactory placement score.

600-151 Introduction to COBOL: A Business Data Processing Language † 3 cr.
Introduction to COBOL, the predominant computer language for commercial applications. P: 600-101 or two years high school algebra and satisfactory placement score.

600-152 An Overview of Computer Concepts † 2 cr.
Concepts and elementary features of digital computers; hardware, software, and systems. No language is taught. P: 600-101 or two years of high school algebra and satisfactory placement score.

600-201 Calculus for the Management and Social Sciences 3 cr.
The basic concepts and techniques of differential and integral calculus. Applications in the fields of accounting, economics, finance, and management are emphasized. Full credit is not given for both 600-201 and 202. The student who enrolls in 600-202 after receiving credit for 600-201 will receive 1 credit for 600-202. P: 600-101 or 2 yrs high school algebra and satisfactory placement score.

600-202 Calculus and Analytic Geometry I 4 cr.
Differential and integral calculus of the elementary functions with associated analytic geometry; applications. P: 600-104 or satisfactory placement score. (See note on credit in 600-201.)

600-203 Calculus and Analytic Geometry II 4 cr.
Transcendental functions; techniques of integration; applications; sequences and series. P: 600-202.

600-204 Calculator Calculus 1 cr.
Provides students with empirical experiences which illustrate the theory of Calculus I. Students are supplied with programmable calculators, trained to write and execute programs, and directed to conduct mathematical experiments. Laboratory sessions cover material from Calculus I, including limits, derivatives, the mean value theorem, graphing, integrals, etc. P: 600-202 or concurrent registration.

600-209 Multivariate Calculus 3 cr.
Real-valued functions of several variables: tangent and normal lines; chain rule for partial derivatives; extrema; least squares method; higher-ordered derivatives; integration; polar and cylindrical coordinates; spherical coordinates; vector fields; line integrals; physical applications. P: 600-203.

600-242 Discrete Mathematics 4 cr.
A first course on methodology associated with discrete mathematical structures. Fundamentals of enumeration, partitions, algebraic counting techniques, generating functions, recurrence relations, graph theory, and combinatorial designs. Selected special topics. P: 600-104.

600-255 FORTRAN: A Scientific Programming Language 2 cr.
A thorough introduction to FORTRAN programming and the design of elementary algorithms. Includes integer, real number, and alphanumeric processing; one, two, and three dimensional arrays; FORMATS; functions; subprograms. P: 600-202.

600-256 Introduction to Computer Science I 3 cr.
Designed to develop an understanding of basic concepts of computer science. Topics include problem solving, algorithmic processes, characteristics and organization of computers, and programming in a higher level language using techniques of good programming style. Assignments include a number of applications in the physical, social, life, and management sciences. P: 600-101 or 2 yrs of high school algebra and satisfactory placement score.

600-257 Introduction to Computer Science II 3 cr.
Continues the development of discipline in program design, style and expression, as well as debugging and testing begun in 600-256. Students are introduced to larger programming projects covering such topics as aspects of string processing, recursion, internal search/sort methods, simple data structures, machine organization, and assembly language. Algorithm analysis, documentation, use of subroutines and other techniques used in advanced programming projects are also studied. P: 600-256.

600-260 Introductory Statistics † 3 cr.
Descriptive and inferential statistics; frequency distributions; graphical techniques; measure of central tendency and of dispersion; probability distributions; large and small sample estimation and inference; regression, correlation; analysis of count data; analysis of variance. P: 600-101 or two years of high school algebra and satisfactory placement score.

**"A prerequisite implies a satisfactory performance. In most mathematics courses, a grade of "C" is sufficient; in some a grade of "B" is advisable.

600-281 Conceptual Foundations of Elementary Mathematics I 3 cr.
Common threads running through the mathematics content of the elementary school are emphasized in this exploration of the foundations of arithmetic. The processes of abstraction, symbolic representation, notational manipulation and modeling will be explored in all arithmetic contexts. Significant features of the discipline of mathematics will be discussed. May not be taken on a pass/no credit basis. P: 600-101 or high school algebra and satisfactory placement score.

600-282 Conceptual Foundations of Elementary Mathematics II 2 cr.
A continuation of Math 281, this course examines non-arithmetic mathematical topics of elementary school, including geometry, probability, statistics, algebra, and programming concepts. May not be taken on a pass/no credit basis. P: 600-101 or high school algebra and satisfactory placement score; 600-281 recommended.

600-283X Selected Topics 1-4 cr.
See page 78.

600-298 Independent Study 1-4 cr.
See page 77.

600-305 Ordinary Differential Equations 3 cr.
Solutions and applications of first and higher order linear differential equations; the meanings of existence and uniqueness theorems; non-linear differential equations; modeling physical and biological systems. P: 600-203.

600-309 Systems of Ordinary Differential Equations 3 cr.
Systems of linear, first-order differential equations, making use of matrix algebra with eigenvectors and eigenvalues, and numerical methods. Applications. Non-linear differential equations. P: 600-305 and 320.

600-311 Advanced Calculus 3 cr.
Jacobians; transformation of coordinates; functional dependence; constrained extreme and Lagrange multipliers; line, surface and volume integrals; scalar and vector fields; gradient, divergence, and curl; divergence theorem; Stokes' theorem. P: 600-209 and 320.

600-312 Real Analysis 3 cr.
Basic ideas of real analysis; sets and functions; topology of the real numbers; sequences and series of real numbers; limits of functions; the derivative; the Riemann integral; sequences and series of functions. P: 600-209 and 320.

600-320 Linear Algebra I 3 cr.
Matrices and vector space concepts. Systems of linear equations, matrices, determinants, vectors in 2- and 3-space, vector spaces, linear transformations, eigenvalues, and eigenvectors. P: 600-202.

600-321 Linear Algebra II 3 cr.
A continuation of 320. Positive-definite matrices, normal forms, the principal axis theorem, applications. P: 600-203 and 320.

600-328 Introduction to Algebraic Structures 3 cr.
Groups, rings, and fields as organizing ideas. Basic structure theorems. Applications. P: 600-203 and 320.

600-350 Numerical Analysis 3 cr.
Application of computer techniques in solving various mathematical and engineering related problems. Types of problems to be considered are: solutions of equations, factorization of polynomials, solutions of systems of equations, interpolation, curve fitting, differentiation, integration, and solutions of differential equations. In addition to writing computer programs to solve some of these problems, comparisons will be made among various techniques to determine errors involved in approximation schemes, advantages and disadvantages to applying a particular technique to a particular problem, and the unstable nature of some methods. P: 600-203, 600-320 or concurrent registration in 600-320 and FORTRAN ability.

600-351 Data Structures, Storage and Retrieval 3 cr.
An introduction to concepts involved in storage, retrieval, and processing of data for use in computer applications. Included are structures such as arrays, stacks, queues, linked lists, trees, and networks. Particular emphasis is placed on design of efficient algorithms that use these different structures for various processing needs. These include searching, sorting, evaluation of arithmetic expressions, construction of symbol tables, and memory management. P: 600-257.

600-352 Computer Graphics 3 cr.
Basic techniques of computer graphics such as point and line plotting, clipping, and windowing are introduced and the use of graphics hardware is discussed. Students use and build graphics packages. P: 600-257.

600-353 Computer Organization and Programming 3 cr.
An introduction to binary, octal, and hexadecimal number systems, and data representation. A study of assembly language programming, including actual programming exercises. Included is an overview of computer software and hardware components. Topics considered are assemblers, loaders, compilers, memory, microprogramming, monitoring, gates, adders, circuits, and applications of Boolean algebra to circuit analysis. P: 600-257 and a background in algebra.

600-355 Applied Mathematical Optimization 3 cr.
Analytical and numerical optimization techniques; linear, nonlinear, integer, and dynamic programming. Techniques applied to problems of water, forest, air, and solid waste management. P: 600-202 and 320, or concurrent enrollment in 320.

600-357 Theory of Programming Languages 3 cr.
Several commonly used high-level programming languages will be compared and contrasted in this course. The advantages and disadvantages of compiling and interpreting will be discussed. Language design and syntax will be studied. Other topics include data types, variables, constants, binding of a variable, scope of a variable, and procedure data handling. P: 600-257.

600-360 Theory of Probability 3 cr.
Probability as a mathematical system; with applications; basic probability theory; combinational analysis; distribution functions and probability laws; mean and variance of a probability law; expectation of a function with respect to a probability law; normal, Poisson, and related probability laws; random variables. P: 600-209.

600-361 Mathematical Statistics 3 cr.
Sample moments and their distributions; tests of hypotheses; point and interval estimation; regression and linear hypotheses; nonparametric methods; sequential methods. P: 600-320 and 360.

600-364 Biometrics 4 cr.
Emphasis on life science problems. Analysis of variance techniques, linear regression, correlation analysis and nonparametric techniques; introduction to statistical computation. P: 600-260.

600-385 Foundations of Geometry 3 cr.
Intuitive and deductive introductions to Euclidean, affine, hyperbolic, spherical, elliptic and projective geometries. P: 600-202.

600-395 Introduction to Applied Graph Theory and Combinatorics 2 cr.
Combinatorial mathematics and graph theory concepts and their applications. Counting processes; partitions, directed and undirected graphs; distances; planar graphs, matrix representations. Applications to economics, operations research, and the physical and social sciences. P: 600-320.

600-410 Complex Analysis 3 cr.
Algebra and geometry of complex numbers; analytic functions, elementary transformations, integration, Taylor and Laurent series, contour integration, residues, conformal mapping. P: 600-209.

600-416 Orthogonal Functions and Partial Differential Equations 3 cr.
Fourier series, Fourier transform; orthogonal functions; Legendre and other polynomial systems; Bessel functions; characteristic functions and values; Green's function; wave equation in one and more dimensions; D'Alembert's solution; separation of variable in various coordinate systems; Dirichlet problem; strings and membranes; heat flow, electricity flow. P: 600-305 and 320.

600-450 Theory of Algorithms 3 cr.
Introduction to design, analysis, and comparison of algorithms along with average and worst case time complexities. Includes divide and conquer techniques, greedy method, dynamic programming, and graph searching. Applications to profit maximization with constraints (knapsack problem), job sequencing, matrix and bit string multiplications, task assigning, optimal tape storage, graph coloring, processor scheduling, traveling salesman problem, and others. A class of nonpolynomial time complexity problems called NP complete problems is also discussed along with algorithms to approximate solutions to these problems when the search for exact solutions is not feasible. P: 600-203 and 600-351.

600-451 Data Base Management Systems 3 cr.
A project oriented course. Each student is responsible for designing and creating a real data base using the Data Definition Language contained in the computer's Extended Data Management System. The project is to include a program capable of entering information into the data base and extracting information to be output in report form. The project uses the same Data Definition Language and Data Base Manager calls that administrative programs use in the existing student and library data bases. The data base itself is a network type based on the CODASYL data base model. P: 600-351 and COBOL ability.

600-452 Operating Systems 3 cr.
An introduction to operating systems, techniques, and philosophies behind management of computing resources. Topics include memory management (paging, real and virtual storage), processor management (scheduling and multiprocessing), process management (asynchronous processes, concurrent programming, deadlock), auxiliary storage management (scheduling, file structures, recovery, backups), and case studies of some popular current operating systems. P: 600-353.

600-454 Artificial Intelligence 3 cr.
A study of methods used to improve the performance of computers in those skills which measure "intelligence": recognition of analogies, ability to understand language, interpretation of visual images, problem solution, and manipulation of machinery. A list processing language (LISP) is used. P: 600-351, 600-357.

600-455 Microprocessors and Microcomputer Systems 3 cr.
An integrated lecture/laboratory approach to digital electronics, microcomputer interfacing, and microcomputer programming. P: 226-104 and course in computer programming.

600-456 Advanced Topics in Microcomputing 3 cr.
A lecture/laboratory course on the hardware and software techniques for interfacing instruments and peripheral devices to a microcomputer, development and use of system software, and advanced programming of microcomputer systems. P: 600-455 or cons inst.

600-457 Compiler Theory 3 cr.
A project oriented course including software concepts, focused primarily on the theory of compilers. Students apply theory in a team project, either writing or substantially modifying a compiler. Includes formal language definition, dictionaries, symbol tables, text scanning, parsing, arithmetic expressions and Polish strings. P: 600-353.

600-465 Business and Industrial Statistics 4 cr.
Statistical methods commonly applied in business and industry. Topics covered are quality control, control charts and acceptance sampling; multiple regression, time series, smoothing and forecasting; index numbers. P: 600-260.

600-483X Selected Topics 1-4 cr.
See page 76.

600-492 Special Topics in Mathematics 1-3 cr.
This course brings together students and professors who have mutual interest in some topic not otherwise available among the usual mathematics offerings. Examples are: Number Theory, History of Mathematical Thought, Mathematical Logic, Combinatorics, Computer Graphics, Computer Architecture, Computer Software, Operating Systems, Data Management, Simulation and Modelling, Artificial Intelligence, Ecosystems Analysis and Prediction, Mathematical Political Science, Models of Economic Growth, Mathematical Models of Facilities Location, Mathematical Methods for the Life Sciences. P: jr st and cons inst.

600-498 Independent Study 1-4 cr.
See page 77.

Other courses applicable to mathematics:
226-315 Mechanics III 3 cr.
008-704 Discrete Multivariate Statistical Analysis 2 cr.
008-767 Statistical Design and Analysis of Experiments 4 cr.
008-768 Multivariate Statistical Analysis 4 cr.

601 ACADEMIC SUPPORT PROGRAM-MATHEMATICS

601-093 Arithmetic Review 1 non-degree cr.
A review of the arithmetical concepts needed for 601-094. Topics include operations with decimals, percents, fractions, and integers, with special emphasis upon practical applications. It will be taught in a modular form through lectures and tutorial sessions. No prerequisites. P-NC basis.

601-094 Elementary Algebra 3 non-degree cr.
Intended as a preparation for Math 101. Topics include binary operations, variable expressions, factoring, equations of higher degree, fractional equations, absolute value, and operations with rational expressions. Offered on pass/no-credit basis except by petition. No prerequisites.

644 MILITARY SCIENCE

644-211 Introduction to Military Science I (MS 11) 2 cr.
(Pre-Professional Course) Introduces first year students to the ROTC program, an overview of Army life, the Department of Defense and the Army's tasks and roles in national defense and community activities. Provides fundamental knowledge and applicable skills in map reading, radio and telephone procedures and orienteering through practical application in the classroom and field. Includes a summary of Army branches and their responsibilities and roles as part of the Army team.

644-212 Introduction to Military Science II (MS 12) 2 cr.
(Pre-Professional Course) Expands upon experiences in MSH 11. Provides a foundation in exploring and understanding formal leadership and management theory and how it applies in military and civilian environments. A continuation of fundamental knowledge and skill in first aid, basic marksmanship training, and customs and courtesies. Provides a review of the Army's role in national defense and community service and an overview of the specialized organizations, units, skills, and training contributing to those services.

644-221 Introduction to Military Science (MS 21) 2 cr.
(Pre-Professional Course) Studies of U.S. military history, tracing the origin and development of military organization, including theories and practices of war (the evolutionary nature of war), from the American Civil War, World Wars I and II, the Korean Conflict, and the U.S. Army in Vietnam, to the contemporary military realities. Continued practical development of leadership skills through practical exercises.

644-222 Applied Leadership and Management (MS 22) 2 cr.
(Pre-Professional Course) Development of leadership skills through introduction to military techniques of training, training management and instruction on the concept of performance-oriented training, review of fundamentals of leadership, study of styles of leadership, the setting and the problems through the use of case studies and film clips which portray the development of problems in military leadership. Leadership challenges and problem solving techniques in the military are compared to nonmilitary situations.

644-431 Applied Leadership and Management: Decision Making, Briefings, Management Simulation (MS 31) 2 cr.
(Professional Course) Introduction to the professional military science (ROTC) program. Introduces juniors in military science to basic concepts of military management with an emphasis on integrating face-to-face leadership skills with management techniques. Students learn organizational theory and staff procedures and participate in a series of practical exercises designed to provide an opportunity to apply techniques of organizational decision making and communication. P: 644-211, 212, 221, 222 or equivalent military experience or cons inst.

644-432 Squad Tactics and Unit Level Training Management (MS 32) 2 cr.
(Professional Course) Introduction to squad and platoon level command problems and tactics, Army communication and preparation for advanced ROTC camp by review of basic military skills and subjects, advanced land navigation and orienteering, completion of precamp preparation. Continued professional development of leadership skills at the squad and platoon level through the use of unit level training techniques. P: 644-431.

644-441 Company and Battalion Level Field Operations (MS 41) 2 cr.
(Professional Course) Introduces ROTC seniors to concepts of task organization, combined arms teamwork, basic company level tactics, and tactical planning, and combat support and combat service support aspects of military operations. Emphasizes development of a working knowledge of the technical aspects of management in the Army's unit level organization. P: 644-431, 432.

644-442 Practicum in Managerial Activities of the Commissioned Officer (MS 42) 2 cr.
(Professional Course) Focuses on the role of the Second Lieutenant in a military line organization and on the Army's expectations regarding his or her commission, conduct, behavior, duty performance and public image. Introduction to military law and military justice; obligations and responsibilities of an officer in both line and staff environments; active duty considerations affecting an officer and his or her family, including military movements, compensation and financial management, and career progression. P: 644-431, 432, 441.

689 NURSING

689-315 Health Assessment of the Adult 2 cr.
Focuses on the components of the health history; basic skills, including instrumentation, of a physical examination; and communication skills, verbal and written, pertinent to both. The intent is to identify and describe the range of normals from obvious abnormal conditions and make a judgment about health status. This course contributes to students' ability to gather comprehensive assessment data on an adult. A required component is a performance examination in which students demonstrate the ability to complete a health history and a physical examination. P: registered nurse license, anatomy course or cons inst.

689-411 Theoretical Foundations in Nursing 2 cr.
Comparative study of selected conceptual models of nursing to help with understanding current practice and educational trends, curriculum design and accreditation process. Particular emphasis on professional roles, theoretical frames of reference, further development of a personal philosophy of nursing and identification of professional learning needs and plans to meet those needs. P: prerequisites to nursing major and acceptance into the BSN Completion Program for RNs.

689-415 Adaptation in Health and Illness 4 cr.
Focuses on theory and application of the Adaptation Model with well and ill clients, emphasizing care of the elderly. Family and legal aspects are included. The course incorporates the steps of the nursing process. The impact of personal and professional values in decision making regarding nursing care is explored. Clinical learning experiences are provided to help demonstrate use of the Adaptation Model. P: 689-315, 689-411 or concurrent registration.

689-421 Community Health Nursing 6 cr.
Encompasses theory and clinical practice. Focus is on the adaptation model and nursing process applied to individuals, families and communities emphasizing the levels of prevention especially during the very early and young adult years of life. The influence of community values, needs and resources on health is stressed. The role of the community health nurse in environmental health, communicable disease, epidemiology, and research is explored. P: 689-415.

689-425 Adaptation to Acute and Chronic Health Problems 4 cr.
The Adaptation Model and specific nursing competences applied to the care of middle aged clients who are in states of ineffective adaptation due to a variety of pathophysiologic conditions of an acute or chronic nature. Special emphasis on the nature and scope of health education. Direction of study and clinical area individually negotiated with the instructor. P: 689-315, 689-411 and 689-415.

689-431 Nursing Management 3 cr.
Use of management theories, models and processes applied to the care of clients and in supervision of other health care personnel. Examines skills and strategies used in nursing management and administration. Examines some of the major concepts related to management such as organizational structure, health care team, role responsibilities, role conflicts, labor relations, budgeting, decision making, assertiveness, leadership styles, group process and performance appraisal. Apply pertinent concepts to an area of nursing practice. P: 689-415.

689-435 Nursing Research 2 cr.
An introduction to the basic principles of research theory and methodology with the goal of understanding the research process and attaining the ability to critique and apply nursing research to practice. The role of the nurse as a nurse researcher is explored. The course introduces students to the research process through individual selection of a health related problem, initial search of the literature, statement of hypothesis and proposed methodology to be used. P: 689-415.

689-451 Advanced Nursing Concepts II 4 cr.
Synthesis of knowledge, skills and attitudes in the utilization of the adaptation framework are promoted. Students are provided with the unique opportunity to explore interests intellectually and clinically and apply strengths of their choice. Special emphasis is given to the nature of professionalism and the professional role; the autonomous role; the expanding role of the nurse; ethical issues in nursing; economic, legal and political, and social forces on nursing; the purpose and value of professional organizations. P: 689-421, 689-425, 689-431 and 689-435 or concurrent registration.

705 MUSIC

705-101 Basic Musicianship 3 cr.
Musical notation, scale and chord structure with reference to the keyboard; developing skills in sight singing, ear training, and rhythmic and melodic dictation.

705-115 Ear Training and Sight Singing 1 cr.
Concentrated drill in all aspects of musicianship. Emphasis on sight singing and aural perception in intervals, melodies, chords, and rhythms. To be taken concurrently with 705-151.

705-116 Ear Training and Sight Singing 1 cr.
Continued drill in all areas of musicianship. Emphasis on sight singing in more than one part, on aural perception of more complex melodies and rhythms, and on identification of chords in harmonic context. To be taken concurrently with 705-152.

705-151, 112 Materials and Values in Music I, II 3, 3 cr.
The materials of which western music is made are viewed not only in structural terms, but also in psychological, aesthetic, and social perspective. Students planning a music major should enroll concurrently in 705-115 or 116. P: some previous background in music or 705-101. Must be taken in sequence.

705-241 Jazz Improvisation 3 cr.
Lecture and laboratory work in music improvisation skills. Lectures on notation and function of chords, chord symbols, scales and rhythms. Laboratory work in selected record listening and actual playing sessions. P: basic background in music reading and playing.

705-251 Literature and Styles in Music I 4 cr.
Involves a historical and theoretical survey of music literature and musical style from antiquity to 1700. Music and musical attitudes are also viewed in the perspective of other arts as well as in relation to their social and cultural milieu. Related ear training and sight singing skills are developed and students also do some "composing" in period styles. P: 705-152.

705-252 Literature and Styles in Music II 4 cr.
Involves a historical and theoretical examination of music literature and musical style in the 18th century. Music and musical attitudes are also viewed in the perspective of other arts as well as in relation to their social and cultural milieu. Related ear training and sight singing skills are developed and students also do some "composing" in period styles. P: 705-251.

705-253 Advanced Musicianship I 1 cr.
Provides further experience in the historical and theoretical analysis of music from antiquity to 1700 as well as extra drill in ear training and sight-singing. Students will also present class projects in these areas. P: concurrent enrollment in 705-251.

705-254 Advanced Musicianship II 1 cr.
Provides further experience in the historical and theoretical analysis of music in the 18th century well as extra drill in ear training and sight singing. Students will also present class projects in these areas. P: concurrent enrollment in 705-252.

705-283X Selected Topics 1-4 cr.
See page 76.

705-298 Independent Study 1-4 cr.
See page 77.

705-315 Choral Arranging 2 cr.
Arranging, adapting, and creating scores for small and large vocal ensembles. Includes an original composition for soprano-alto-tenor bass (SATB) to be performed by the concert choir. P: 705-252.

705-316 Instrumental Arranging 3 cr.
Arranging, adapting, and creating scores for small wind ensembles, as well as full band. Includes an original composition to be performed by the concert band. P: 705-252.

705-318 Choral Literature 2 cr.
Analysis of large choral masterpieces from Schuetz to the present. A comparative study of musical styles, interpretive practices, and performance problems inherent in extended choral works and the vocal and instrumental resources necessary to their performance. P: jr st.

705-319 Literature and Diction for the Voice, I German, II French, III Italian 2-3 cr.
Course content includes language skills and their unique application to the sustained voice. Pronunciation, vocabulary and performance practices in German, French, and Italian literature for the voice as found in the art song and aria of the 18th, 19th, and 20th centuries. May be repeated with different language. P: jr st or cons inst.

705-331 Choral Conducting 3 cr.
Detailed study of conducting techniques; emphasis on practical application to choral organizations. P: 705-315 or 316.

705-332 Instrumental Conducting 3 cr.
Detailed study of conducting techniques; emphasis on practical application to the full score and instrumental organizations. P: 705-316.

705-341 Woodwind Techniques 2 cr.
Lecture and laboratory experience in the performance of woodwind instruments including flute, oboe, bassoon, clarinet, and saxophone. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.

705-342 Brass Techniques 2 cr.
Lecture and laboratory experience in the performance of brass instruments including trumpet, French horn, trombone, baritone, and tuba. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.

705-343 String Techniques 2 cr.
Lecture and laboratory experience in the performances of string instruments including violin, viola, violoncello and string bass. Requirements are performance proficiencies of all instruments and completion of a reference syllabus. P: jr st.

705-344 Choral Techniques 2 cr.
A course addressed to the problems of conductors of school choirs and choruses, and to students who wish to improve their understanding of the art of choral singing. Its design and content are intended to deal with the principles, techniques and methods of choral conducting. Areas of particular concern are: tone, diction, rehearsal techniques, planning and organization.

705-345 Percussion Techniques 2 cr.
Lecture and laboratory experience in the performance of percussion instruments including snare drum, tympani, and accessories. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.

705-346, 347 Keyboard Accompanying I, II 1, 1 cr.
Techniques of accompanying the vocal soloist and the choral ensemble at the piano, including laboratory experience in various types of accompaniment. P: 705-042.

705-349 Marching Band Techniques 3 cr.
Lecture and laboratory experience in marching band techniques including show design, music selection, marching styles, administration, music arranging, product assessment, and drill pedagogy. P: 707-242/442, jr st or cons inst.

705-351 Literature and Styles in Music III 4 cr.
Involves a historical and theoretical examination of music literature and musical style in the 19th century. Music and musical attitudes are also viewed in the perspective of other arts as well as in relation to their social and cultural milieu. Related ear training and sight singing skills are developed and students also do some "composing" in the Romantic style. P: 705-252.

705-352 Literature and Styles in Music IV 4 cr.
Involves a historical and theoretical examination of music literature and musical style in the 20th century. Music and musical attitudes are also viewed in the perspective of other arts as well as in relation to their social and cultural milieu. Related ear training and sight singing skills are developed and students also do some "composing" in 20th century styles. P: 705-351.

705-353 Advanced Musicianship III 1 cr.
Provides further experience in the historical and theoretical analysis of music in the 19th century as well as extra drill in ear training and sight singing. Students will also present class projects in these areas. P: concurrent enrollment in 705-351.

705-354 Advanced Musicianship IV 1 cr.
Provides further experience in the historical and theoretical analysis of music in the 20th century as well as extra drill in ear training and sight singing. Students will also present class projects in these areas. P: concurrent enrollment in 705-352.

705-411, 412 Composition 3, 3 cr.
Exercises and original compositions in media from solo to quintet, in forms from binary to sonatina, etc., depending on the needs of the individual students. P: 705-352.

705-417 Arranging for Jazz Ensemble 2-3 cr.
Acquaints students with the musical knowledge necessary to write an artistic jazz arrangement. P: four semesters of music theory or equivalent background.

705-423 Seminar in Music Literature 3 cr.
Studies in selected areas of music literature. Emphasis is on music for specific media, such as chamber music, opera, music for keyboard, etc., or on works of a single composer. The course may deal with more than one subject area during the semester.

705-431 Jazz Ensemble Techniques 3 cr.
Seminar lecture and laboratory experiences in procedures for rehearsing and teaching the jazz ensemble. Included will be a daily playing experience in a jazz ensemble, writing an arrangement for the jazz ensemble with clinics and lectures in jazz theory, arranging, improvisation, piano, bass, guitar, drums, trumpet, trombones and saxophone. During the second week, some time will be devoted to watching guest directors for the UWGB summer jazz camp work with their ensembles. P: jr st.

705-483X Selected Topics 1-4 cr.
See page 76.

705-498 Independent Study 1-4 cr.
See page 77.

707 APPLIED MUSIC

707-001-440 Class and Private Instruction in Instruments and Voice 1-2 cr. or 3 cr.
Study of the solo literature of music through class or private instruction. Placement by audition before the applied music committee. Instruction in piano, organ, voice, flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, baritone, tuba, percussion, guitar, violin, viola, cello, double bass, and harp is dependent upon available resident music staff and their teaching loads.

Students not enrolled full time must meet the following prerequisites to study applied music:

1. Concurrent registration in or completion (in residence) of 705-101 or music theory/history sequence, 705-151 through 705-352;

2. Concurrent registration in or completion of piano proficiency, 707-001 through 707-042;

3. Concurrent registration in a major performing ensemble: 707-151, 351, 707-241, 441; 707-242, 442; 707-162, 362; 707-261, 461;

4. Students enrolled in 707-401 through 707-438 must have filed an academic plan which specifies a co-major in music.

Full time students at UWGB will follow the same pattern of concurrent registration, except that those students enrolled full time, who have completed 705-101 and are waiting to take 707-151 may continue their study in applied music at the 100 level.

707-143, 343 Jazz Ensemble 1 cr.
707-144, 344 Woodwind Ensemble 1 cr.
707-145, 345 Brass Ensemble 1 cr.
707-146, 346 Percussion Ensemble 1 cr.
707-148, 348 Collegium Musicum 1 cr.
707-150, 350 New Music Ensemble 1 cr.
707-151, 351 Orchestra 1 cr.
707-153, 353 String Ensemble 1 cr.
707-162, 362 Oratorio Choir 1 cr.
707-163, 363 Vocal Ensemble 1 cr.
707-164, 364 University Singers 1 cr.
707-241, 441 Concert Band 1 cr.
707-242, 442 Marching Band 2 cr.
707-261, 461 Concert Choir 1 cr.
707-283X, 483X Selected Topics 1-4 cr.
707-298, 498 Directed Study 1-4 cr.
707-011, 012, 013 Keyboard Musicianship I 1 cr.
707-021, 022 Keyboard Musicianship II 1 cr.
707-031, 032 Keyboard Musicianship III 1 cr.
707-041, 042 Keyboard Musicianship IV 1

709 THEATER

709-283X Selected Topics 1-4 cr.
See page 76.

709-298 Independent Study 1-4 cr.
See page 77.

709-483X Selected Topics 1-4 cr.
See page 76.

709-498 Independent Study 1-4 cr.
See page 77.

ACTING

709-131 Beginning Acting I 3 cr.
Through theater games, vocal and physical exercises, and improvisation, a basic organic approach to acting technique is developed. Leads to development of skills and vocabulary that provide the basis for the actor's sense of self and ability to adapt to a variety of performance situations.

709-132 Beginning Acting II 3 cr.
Development of warm-up techniques, practice in group and duo improvisation, and beginning scene work and analysis. Analysis of scenes from American dramatic literature develops ability to study scripts from the actor's viewpoint and to embody insights in performance. P: 709-131 or cons inst.

709-141 Movement for Theater 3 cr.
An experiential course in nonverbal communication especially designed for those interested in the performing arts. Course work is based on a number of mind/body techniques, e.g., modern dance, circus, mime, sensory awareness, voice/physical improvisation, bioenergetics, which students can apply to their subsequent work in a number of areas, including dance, theater, music. Learning experiences progress from free form movement expressions, to developing and using a concrete technique, and finally to applying that technique to the communicative experience.

709-231 Intermediate Acting I 3 cr.
Scene work in realistic dramas, with particular emphasis on the plays of Chekhov and Ibsen. Techniques of script analysis and character development are practiced. P: 709-132 or cons inst.

709-232 Intermediate Acting II 3 cr.
Scene work in modern American and British comedies, including plays by Neil Simon and Noel Coward. Techniques of timing, pacing, comic invention and characterization are practiced. P: 709-231 or cons inst.

709-331 Advanced Acting I 3 cr.
Scene work in poetic drama and period plays emphasizes techniques of verse interpretation, research into production history and performance styles, and use of appropriate movement, manners and behavior. P: 709-232 or cons inst.

709-332 Advanced Acting II 3 cr.
The actor's role in contemporary theater experiments is studied and experienced through research into avant-garde theater companies and development of a performance group. P: 709-233 or cons inst.

DEVELOPMENTAL DRAMA

709-375 Principles of Developmental Drama 3 cr.
Developmental drama is the application of dramatic play to the total personal development of the individual. This course offers definitions of developmental drama, examines its evolution, and suggests its relationship to other disciplines and various social institutions. Techniques in improvisation, game playing, and impersonation are acquired, with demonstration of their application. P: 709-131, 709-132 or cons inst.

709-376 Application of Developmental Drama 3 cr.
Developmental drama techniques are practiced, and methods of organization are studied. Through work in the Green Bay community, experiments in applying developmental drama suggest methods of leadership, defining objectives, and using dramatic play as a basis for social interaction, education, and therapy. P: 709-375.

VOICE AND SPEECH

709-233 Voice and Speech I 3 cr.
Introduction to principles of vocal training systems, which are widely used in actor training and provides students with a working knowledge of their vocal and physical capabilities. Work on breathing, posture, and development of warm-up procedures. Detailed work in the systems as appropriate.

709-234 Voice and Speech II 3 cr.
Development of key concepts of vocal and physical exploration. Application of vocal life to problems facing the performer; control of pitch, rate, and volume; verse speaking; textual analysis; rehearsal procedures and audition; preperation. P: 709-233.

DANCE

709-128 Elementary Jazz Dance 1 cr.
Introduction to the style and technique of jazz dance and its relation to the American musical theater. P: concurrent enrollment in 709-137 or 709-145.

709-137 Elementary Ballet 2 cr.
Exercises and stretches for strength, flexibility, coordination and correct body placement as they pertain to the technical and stylistic demands of ballet. Classical ballet technique and terminology to include ballet barre, center, adagio, and allegro.

709-145 Elementary Modern Dance 2 cr.
The use of the medium of modern dance both technically and stylistically to develop strength, flexibility, coordination and rhythm in the human body which leads to physical self expression. Repeatable up to 6 credits.

709-228 Intermediate Jazz Dance 1 cr.
Continued study and execution of the style and techniques of jazz dance. A study of the styles of major choreographers in the American musical theater. P: concurrent enrollment in ballet or modern dance. Repeatable up to 4 credits.

709-237 Intermediate Ballet 2 cr.
A progression from Elementary Ballet with more complex rhythmical, spatial, and technical problems. Introduction of pointe work for women. Importance of body size to technical development with the relationship of weight and diet emphasized. P: cons inst and/or two semesters of Elementary Ballet. Repeatable up to 8 credits.

709-245 Intermediate Modern Dance 2 cr.
Progression from elementary modern dance with increasingly more complex technical problems. Increasing emphasis on understanding and executing major modern dance styles. Importance of body size to technical development with the relationship of weight and diet emphasized. P: cons inst and/or Elementary Modern Dance. Repeatable up to 8 credits.

709-328 Advanced Jazz Dance 1 cr.
Advanced study and execution of the style and technique of jazz dance. A study of the styles of major choreographers in the American musical theater. Competence in performance stressed. P: concurrent enrollment in either ballet or modern dance. Repeatable up to 5 credits.

709-337 Advanced Ballet 2 cr.
A progression from Intermediate Ballet with advanced technical problems, study and analysis of various styles of ballet, emphasis on pointe work for women, partnering, and ballet performance techniques. P: cons inst and/or Intermediate Ballet. Repeatable up to 10 credits.

709-345 Advanced Modern Dance 2 cr.
Progression from Intermediate Modern Dance to a high proficiency of technical ability in modern dance. Emphasis on performance level of ability in modern dance. P: cons inst and/or Intermediate Modern Dance. Repeatable up to 10 credits.

TECHNICAL THEATER

709-221 Theater Production Techniques I: Stagecraft 3 cr.
Lectures and laboratories in the organization and operation of theater productions, with emphasis on beginning stagecraft, lighting, sound, and scene design. Participation in a theater production (minimum of 40 hours). Required of students with an emphasis in theater.

709-222 Theater Production Techniques II: Costume/ Makeup 3 cr.
Lectures and laboratories in the organization and operation of theater production with emphasis on costuming, makeup, and an introduction to costume design. Participation in a theater production (minimum of 40 hours). Required of students with a co-major in theater. P: 709-221 or cons inst.

709-321 Scene Design 3 cr.
Concentration on the practical techniques of scene design. Lectures and laboratories on the skills of mechanical drawing, rendering, and model building for the theater. Develops ability to create the visual and mechanical environment to support the presentation of theater pieces. Plays are studied and designed in class and individual projects are required.

709-322 Costume Design 3 cr.
History of costumes as they relate to the theater. Costume design in relation to the play and the actor. A study of the processes behind costume design with emphasis on fabric, color and line, mass, and light. Participation in a theater production (minimum of 40 hours). P: 709-221, 222 or cons inst.

709-323 Lighting Design 3 cr.
The aesthetic practice of design of lighting in theatrical production. The study of composition and psychological effects of stage lighting. An understanding of contemporary equipment and control systems with supporting laboratory practice. Individual projects and participation in a theater production (minimum of 40 hours). P: 709-221, 222 or cons inst.

709-325 Three Dimensional Stage Makeup 2 cr.
Lectures and laboratories on the principles and application of stage makeup, with emphasis on materials, light and color, and character analysis. Participation in a theater production (minimum 40 hours). P: 709-222 or cons inst.

709-423 Advanced Stage Lighting 3 cr.
The aesthetic practice of lighting in theatrical productions, with emphasis on preparation for the lighting designers union exam. Practical application of the tools used in lighting. Advance work and individual projects required. Continuation of 709-323. P: 709-221, 222, & 323.

709-424 Advanced Technical Practices 3 cr.
Studies in modern theater technology, electronics, optics, and stage mechanics with an emphasis on the artistic potentialities presented by these developments. Individual projects and participation in a theater production is required. P: 709-222, 323 or cons inst.

THEATER HISTORY/LITERATURE/CRITICISM

709-235, 335 Theater Performance in the Community 1-3 cr. ea.
For students who wish the experience of participating in a theater production with the opportunity to become involved in their area of greatest interest. May include performance as well as technical work in plays, dance, or readers theater performance in high schools, for children, or for community groups. May be repeated for up to six credits of 235 and 3 credits of 335 or repeated for 3 credits of 235 and 6 credits of 335.

709-309, 310 Theater History I, II 3, 3 cr.
Theater art and craft, its functions in and significance to the different cultures in which it has thrived.

709-351, 352 Directing I, II 3, 3 cr.
Theories and techniques of theatrical staging. Relationship of the director to the actors. Students direct scenes of varying lengths and complexity from different kinds of drama and types of staging. Study of dramas, dramatists, critics, and directors; staging exercises. Students interested in directing should plan their program in consultation with the theater chairperson.

709-403, 404 Seminar in Theater Arts 3, 3 cr.
Individual or small group study focused on a specific area or areas of theater interest and related to other disciplines whenever possible. Pertinent in the study of theater of various periods and cultures.

709-405 Theater Management 3 cr.
A course in theater management on both the professional and non-professional levels. Will include the organization and classes of professional theaters and types and organization of nonprofessional theaters. Financial or business management, box office procedures, and promotion and publicity units will pertain to both the professional and nonprofessional theaters. P: 6 credits of theater courses or consent for non-theater students.

See also relevant courses in other areas including 242-241, 242, Introduction to Theater History I, II and relevant courses in literature and language.

736 PHILOSOPHY

736-101 Introduction to Philosophy † 3 cr.
A general introduction to the basic ideas and problems of philosophy. The course deals with the various disciplines and schools of philosophy with some emphasis on the important issues and their relevance to the present world.

736-102 Problems in Ethics 3 cr.
Discussion and examination of ethical problems which are significant to an individual in the contemporary world. In addition to traditional issues, this course also examines current ethical issues in such areas as law, medicine, public policy, business, and education.

736-104 Freedom and Individuality 3 cr.
The notions of freedom and individuality and their significance for an individual in a complex and highly structured society. Emphasis on the relation of historical considerations to contemporary issues.

736-106 Pacifism and Violence † 3 cr.
The value and possibility of the pacifist desire to eliminate violence from human affairs will be examined through reflection upon possible sources, types, and functions of human violence. This course involves reading and discussion of books in such fields as literature, psychology, and philosophy.

736-111 Elementary Logic 3 cr.
A course structured to help students recognize and judge the validity of various types of reasoning, especially those which are employed in nontechnical contexts.

736-201 Language and Consciousness 3 cr.
A philosophical and historical inquiry into the nature of language, its relation to consciousness and to the social world.

736-207 Philosophy and Literature † 3 cr.
A study of issues shared between philosophy and literature as reflected in literary works. Emphasis is on the nature and meaning of literature for an understanding of the world.

736-208 Science and Human Values † 3 cr.
An examination of the implications of the social and natural sciences for human values; a study of the history of the distinction between fact and value in segments of human life such as politics, law, and medical technology.

736-209 Reason and Passion: Philosophical Issues in Film 3 cr.
An exploration, through discussion of films, readings, and lectures, of the tension between reason and passion in human life. This general topic is treated under four headings: tolerance, justice, truth, and practicality, each of which represents reason in tension with passion. Required reading of books by authors such as Plato, J.S. Mill, and Freud, and viewing of films by such producers as Bergman and Kubric, serves as a basis for philosophical reflection on the central issue of the course.

736-210 Civilization and Culture 3 cr.
This course investigates the value to humans of being civilized and of belonging to cultures, by raising and pursuing answers to such questions as the following: what is the relation between being civilized and being human? Is it necessary to belong to a culture in order to be human? Do some cultures promote human development while others obstruct it?

736-211 The Arts and Human Existence 3 cr.
A study of the nature and meaning of the various fine arts such as painting, literature, music, and film, with some emphasis on the nature of the work of art and the creative activity of the artist. This course stresses the significance of art for human existence.

736-283X Selected Topics 1-4 cr.
See page 76

736-298 Independent Study 1-4 cr.
See page 77.

736-301 Criticism of Values 3 cr.
An examination of the possibility for rationally adopting any value or set of values. Such issues as the nature of value, the ability to know value, the problem of change and endurance of values are studied through examination and discussion of works by various traditional and contemporary authors. P: jr st and one course in philosophy.

736-302 History of Philosophy I 3 cr.
An examination of the origins and early development of Western philosophy in the context of classical Greek culture. The course provides an introduction to the thoughts of Plato, Aristotle, and selected pre-modern thinkers and movements, with an emphasis on clarifying issues which have endured as abiding concerns of the Western philosophical tradition. P: 736-102.

736-304 American Philosophy 3 cr.
A survey of some of the major thinkers and ideas in the American philosophical tradition, including a discussion of the view of Peirce, James, Royce, Dewey, and Santayana. The course concentrates on those schools and movements that are distinctly American such as Transcendentalism, Naturalism, Pragmatism, and Instrumentalism. P: jr st and a course in philosophy.

736-314 History of Philosophy II 3 cr.
An examination of major thinkers and movements representative of philosophical thought from the 17th century to the present. P: 736-302.

736-315 Philosophy of Work and Leisure 3 cr.
The roles played by work and leisure in human existence from the standpoint of the human process in general. The relative value of each for human existence. P: a course in philosophy or a course in the social sciences.

736-322 Aesthetics 3 cr.
A survey of some of the main philosophical theories of art and beauty in Western culture with an emphasis on developing a critical understanding and appreciation of the nature and purpose of art. P: a course in philosophy.

736-324 Contemporary Philosophical Movements 3 cr.
A study of current philosophical movements in Europe and America. Different movements are studied at different times (e.g. phenomenology, existentialism, analytic philosophy, intuitionism, pragmatism and Marxism). Variable content. P: 736-314.

736-325 Marxist Humanism 3 cr.
A study of Marx's writings, concentrating on his concern for the value of human life and activity. Certain issues are examined in detail, such as alienation, class struggle, historical process, the relation of the individual to society. P: a course in philosophy.

736-326 Philosophy, Politics and Law 3 cr.
A critical and systematic study of the nature of politics and law and their interrelations, of general legal theory, legal rights, judicial reasoning, the problems of justice, property and morality and law. P: a course in philosophy.

736-327 Ethics and the Medical Profession 3 cr.
Develops conceptual skills and tools for recognizing and defining ethical issues having to do the relationship of medical professionals and patients, the rights of patients, public health and medical resources, truth-telling, suffering and death, medical experimentation and technology, law, politics, and medicine. The goal is to provide a general humanistic introduction to problems of ethics in the medical profession.

736-404 Major Philosophical Figures 3 cr.
A study in depth of the thought of a selected figure who has made a significant philosophical contribution. Different thinkers are studied at different times (e.g., Plato, Aristotle, Leibniz, Hume, Kant, etc.). Variable content. P: cons inst.

736-405 Major Philosophical Issues 3 cr.
A study in depth of selected philosophical issues. Different issues are studied at different times (e.g. problems of being; problems of knowledge and reason; problems of value, etc.). Variable content. P: cons inst.

736-406 Philosophical Problems in the Sciences 3 cr.
Philosophical examination of the logic and knowledge claims of the various natural and social sciences, with emphasis on questions of their foundations and assumptions bearing on their interpretations of nature, the social world, the human individual. A study of such problems as freedom and determinism, the nature of human actions, etc., in the light of the methods and results of the various sciences. Different sciences are studied at different times (e.g. physics, mathematics, psychology, sociology, economics, political science). Variable content. P: two courses in philosophy.

736-483X Selected Topics 1-4 cr.
See page 76.

736-498 Independent Study 1-4 cr.
See page 77.

742 PHYSICAL EDUCATION

742-101 Swimming I 1 cr.
Fundamental swimming, basic water survival skills, and safety taught to students with minimum swimming ability. American Red Cross certification available.

742-116 First Aid and Emergency Care Procedures 2 cr.
Provides information and practical training in Red Cross, medical self help, and emergency medical procedures. American Red Cross certification available.

742-117 Cardiopulmonary Resuscitation 1 cr.
Causes and effects of respiratory, cardiac and circulatory insufficiencies and arrests are explored as well as appropriate emergency care responses for such crises. In addition to readings and classroom interaction, students develop resuscitation skills on adult and infant mannequins. Skill and written exams are required for certifications from the American Red Cross and from the American Heart Association.

742-121 Personal Conditioning 1 cr.
The principles of exercise physiology are introduced as they relate to muscular and organic stress from participation in calisthenics and exercise with light apparatus. Conditioning programs such as circuit and interval training, isotonic and isometric exercise, etc., are explained. Students select a specific program and goal, design a personal exercise program within that context and plot progress. Such insights and experiences seek to motivate students toward life-long fitness.

742-122 Training with Weights 1 cr.
The theory of heavy resistance training and its effects upon the musculature is presented along with the basic principles of the several styles of training with weights. Students select a specific training style, design a personal exercise program and plot progress. Safety considerations are stressed.

742-124 Conditioning Through Running 1 cr.
Designed for the individual who prefers a program of vigorous exercise to one of primarily recreational nature. Emphasis is on cardiovascular benefits of running and the practical application of various types of running to improve physical fitness.

742-126 Backpacking 1 cr.
The mechanics of walking with a moderate load are emphasized. Packing, shelter construction, proper equipment and cold weather survival are integral to the course. Snowshoes or cross country skis may be used in season. An overnight field trip is required.

742-145 Golf I 1 cr.
The fundamental skills of grip, stance and stroking with irons and woods are taught with emphasis upon efficient mechanics and control. Information about history, equipment, rules, etiquette, safety, and strategy necessary for responsible play also are included. Students are critiqued on their practice on the range and play upon the campus course.

742-148 Karate I 1 cr.
Instruction in basic techniques of striking and kicking and their defenses as used in karate. The history, philosophy and traditions of karate are stressed. Personal conditioning and self-discipline are inherent to the course.

742-154 Tennis I 1 cr.
Designed to develop basic skills and techniques so students have confidence to pursue tennis as a lifetime activity. It includes the forehand, backhand, flat serve, volley, lob, smash, footwork, singles and doubles positioning and strategy, regular and no-add scoring, U.S.T.A. rules, care and selection of equipment.

742-159 Racquetball I 1 cr.
Instruction in basic skills and understanding necessary to engage in racquetball as a competitive recreational activity. Service, service returns, and rallying skills are taught. Information about history, rules and courtesies, equipment, and common strategies are included.

742-161 Basketball Team Play 1 cr.
Intended for students who wish to improve their knowledge of or insight into the game as players or as spectators. Not geared for the coach or the varsity player. Provides instruction and practice on the offensive and defensive fundamentals of team play and individual basic skills. Offensive and defensive formations are presented along with the strategies commonly employed to exploit or counter them.

742-166 Soccer 1 cr.
Instruction and practice in the basic skills of kicking, heading, dribbling, volleying, shooting, marking and tackling. The history, rules, conditioning and elements of team offense to defense are included. The class helps students become more knowledgeable spectators or more proficient as participants. Designed for both men and women.

742-170 Volleyball Team Play 1 cr.
The proper execution of passing, setting, spiking and saving are emphasized. Information about the development of the game, its rules and etiquette, and equipment used is included.

742-171 to 184 Officiating (sport) 1 cr.
Provides interpretation of the rules and officiating mechanics of a specific sport in preparation for students to become officials. Class members are encouraged to register with the Wisconsin Interscholastic Athletic Association and may become eligible to officiate interscholastic, recreation, or other league contests.

Approved courses are:
171 Officiating Basketball
173 Officiating Football
174 Officiating Women's Gymnastics
176 Officiating Soccer
179 Officating Softball/Baseball
181 Officiating Swimming and Diving
183 Officiating Volleyball

742-196 Downhill Skiing I 1 cr.
Introduction to basic techniques of downhill skiing including safety, waxing, conditioning, clothing and equipment selecting.

742-199 Snowshoeing 1 cr.
Instruction in the basic techniques of snowshoeing, including uphill travel, downhill travel, turning and trail breaking. Procedures for winter camping are presented, with specific emphasis on safety and cold weather survival. One overnight field trip required.

742-201 Swimming II 1 cr.
Emphasizes improvement of basic swimming techniques. Satisfactory completion enables students to enroll in subsequent aquatic courses. American Red Cross certification available. P: 742-101 or equivalent.

742-202 Swimnastics 1 cr.
Swimnastics is the study and use of various conditioning and fitness activities specifically designed for the pool or aquatic medium.

742-203 Springboard-Platform Diving 1 cr.
Introduces basic concepts of approach, hurdle, take-off, flight, entry, degree of difficulty, scoring and judging. Each person proceeds according to ability and this influences the dives learned. P: 742-201 or equivalent.

742-204 Lifesaving 1 cr.
Includes principles and techniques of personal safety, victim rescue, resuscitation, preventive lifeguarding, small craft safety, and first aid. Red Cross Advanced Lifesaving certification available. P: 742-201 or equivalent.

742-205 Water Safety Instruction 2 cr.
Trains instructors to conduct swimming programs sponsored by the American Red Cross. Swimming skills are perfected so instructors can serve as good models and gain the confidence of students. Successful methods of planning lessons, organizing classes, presenting material, and evaluating progress are studied. American Red Cross certification available. P: 742-204 or Advanced Lifesaving Certificate.

742-208 Scuba 2 cr.
The nature and use of equipment peculiar to skin and scuba diving is taught along with basic diving skills and considerations necessary for functional diving. Lectures are on the physiological aspects of respiration, the physics of diving, the physiological and environmental hazards of diving, and proper first aid procedures for emergencies. Certification by PADI may be earned. P: 742-201 or equivalent.

742-212 Sailing I 1 cr.
Introduction to sailing including terminology, kinds of boats, water safety, and practical sailing experience. Individualized instruction is given in boats. Designed for those with little or no previous sailing experience.

742-213 Sailing II 1 cr.
Advanced techniques of sailing including safety, weather, and navigation.

742-214 Seamanship and Navigation for the Recreational Boat Operator 2 cr.
A comprehensive introductory course for recreational boat operation (sail or power) including: terminology, laws and regulations, equipment, rules of the road, aids to navigation, practical navigation, weather, boat handling, Marlin Spike seamanship, electronic equipment, safety, and an optional charter yacht field trip. Successful completion gives students the knowledge required to operate boats in inland and coastal waters including the Great Lakes.

742-215 Applied Celestial Navigation 2 cr.
Instruction in fundamentals of celestial navigation. Emphasis is on practical application for the recreational boat operator rather than on the theory. P: Knowledge of piloting fundamentals, 742-214 or equivalent.

742-221 Slimnastics 1 cr.
Introduces a variety of conditioning programs, including diet and exercise techniques for attaining desired weight and figure goals to improve and maintain a positive body image.

742-226 Orienteering 1 cr.
Designed for persons interested in outdoor recreation and wilderness travel. Orienteering is the ability to navigate across familiar and unfamiliar territory by imaginative and intelligent use of map and compass.

742-248 Karate II 1 cr.
Builds upon basic skills and physical and mental development of beginning karate. The opportunity to improve students' karate rank is provided by continuing instruction in offensive and defensive techniques in conjunction with voluntary competition. P: 742-148 or equivalent.

742-254 Tennis II 1 cr.
Improves basic skills and develops intermediate skills such as the loop swing, tip-spin ground strokes, spin serve, one-half volley, drop volley, drop shot, approach shot, and more advanced strategy for both singles and doubles. P: 742-154 or equivalent.

742-259 Racquetball II 1 cr.
Provides students with comprehensive insight into all aspects of the sport: safety, conditioning, strategy, and skill analysis for singles, doubles, and other play variations.

742-296 Downhill Skiing 1 cr.
Instruction in the finer points of downhill skiing for intermediate and advanced skiers. Techniques include parallel, Wedeln, short radius rebound, free style mogul and slalom. P: 742-196 or equivalent.

742-297 Cross Country Skiing II 1 cr.
Emphasis is on mastery of cross country skiing techniques which enable students to participate in long distance ski touring. P: 742-197 or equivalent.

742-401 Philosophy of Athletics and Coaching 2 cr.
Enables students to develop their philosophies of coaching. A thorough examination of the role of athletics in education and society is integral. An attempt is made to assure that prospective coaches have objectives consistent with our educational systems. P: jr st.

742-402 Psychology and Sociology of Sport 2 cr.
The effects of competition and cooperation, values, spectators, and group interaction on overall performance are examined and compared in relation to social and psychological factors affecting athletes. Individual differences in motivation, personality, and social factors are analyzed to provide a basis of meaningful study for prospective coaches. P: 820-102, 830-202 or 900-202.

742-403 Organization and Administration of Athletics 2 cr.
A functional course in various phases of organizing and administering an interscholastic athletic program with application to athletics in non-academic environments as well (e.g. boys' clubs, tennis clubs). P: jr st and either 742-401 or 742-402.

742-405 Scientific Conditioning of the Athlete 2 cr.
Interrelationships between growth and development and athletic participation by pre-adolescents; principles of physiology of exercise, and general and specific techniques of physical and psychological conditioning are studied. P: 478-102 or equivalent.

742-406 Prevention and Treatment of Athletic Injuries 2 cr.
Provides prospective coaches with basic insight into the nature of common athletic injuries. Emphasis is upon prevention, physical conditioning, strapping, properly fitted and designed equipment, condition of the competition site, conduct of practices, and respect of existing injuries. Treatment considerations include estimating the nature and extent of the injury, feasibility of moving the victim, immediate care at the scene, modes of required transport, sideline care, training room modalities, referral for definitive diagnosis, and treatment of simple follow-up rehabilitation. P: 478-102 or equivalent competency in gross human anatomy and jr st.

742-410-434 Principles of Coaching 2 cr.
Fosters inquiry into the materials, drills, offenses, and defenses of specific sports. The literature of the field, personal interviews and observations, staff lectures and/or conferences are the tools of the course. Students collect materials for selected aspects of chosen sports and organize them appropriately for future use in coaching. P: jr st, permission of instructor/ coaching certification adviser.

742-435 to 459 Field Experiences in Coaching 2 cr.
Culminates study and preparation for a practical coaching experience. Participation in practice, competitive and other coaching experiences under the supervision of an experienced cooperating coach. Student coach maintains daily log and consults with and is observed by CCP adviser. P: jr st, 742-401, 402, 403, 405, 406, 410 to 434 (Principles of Coaching) or equivalents and/or permission of instructor/coaching certification adviser.

754 PHYSICS

754-103 Fundamentals of Physics I † 4 cr.
A non-calculus physics course covering fundamentals of mechanics, energy, power, thermodynamics and sound. Applications to the areas of biology, chemistry, the earth sciences and technology. P: 600-104 or equivalent. Graduation credit will not be awarded for both 754-103 and 754-201.

754-104 Fundamentals of Physics II † 4 cr.
A non-calculus physics course covering fundamentals of electricity and magnetism, electronics, light, atomic and nuclear structure and relativity. Applications to the areas of biology, chemistry, the earth sciences and technology. P: 226-103.

754-201 Principles of Physics I † 5 cr.
A calculus physics course intended for students of science and engineering. Fundamentals of mechanics, Newton's laws, momentum, energy, fluid statics and dynamics; temperature, heat transfer, thermodynamics, vibrations, waves and sound. P: 600-202 or concurrent registration in 600-202 with cons inst. Graduation credit will not be awarded for both 754-201 and 754-103.

754-202 Principles of Physics II † 5 cr.
A calculus physics course intended for students of science and engineering. Electric forces and fields, DC and AC circuits, magnetism; atomic structure, semiconductors; electromagnetic waves, light; relativity, quantum effects, nuclear physics and elementary particles. P: 754-201 and 600-203, or concurrent registration in 600-203 with cons inst. Graduation credit will not be awarded for both 754-202 and 754-104.

754-283X Selected Topics 1-4 cr.
See page 76.

754-298 Independent Study 1-4 cr.
See page 77.

754-315 Mechanics III 3 cr.
Origin and development of mathematical physics; mathematical techniques especially the use of vectors, tensors, Fourier analysis, and generalized coordinates in physical problems; conservation laws and their relationship to mechanical problems; the physical basis of control and feedback; introduction to rigid body dynamics, accelerated coordinate systems, introduction to acoustics. P: 754-202, 600-209 and 305.

754-317 Electromagnetic Radiation 3 cr.
A firm foundation in geometrical optics and the nature of electromagnetic radiation is applied in the discussion of optical instruments and the measurements of electromagnetic radiation. Topics may include solar radiation, atmospheric optics, photochemistry, and plant growth chambers. P: 754-202.

754-404 Electricity and Magnetism 3 cr.
An advanced approach to electrical and magnetic phenomena; plasmas, waveguides, electrical energy generation and transmission, Maxwell's equations and electro-magnetic waves, electric and magnetic properties of matter. P: 754-202 and 600-209.

754-405 Electronics for Scientists 4 cr.
Fundamentals of electronics, electronic elements, basic circuits, combinations of these into measurement and control instruments. P: 754-104 or 202.

754-483X Selected Topics 1-4 cr.
See page 76.

754-498 Independent Study 1-4 cr.
See page 77.

778 POLITICAL SCIENCE

778-100 Introduction to Political Science † 3 cr.
A survey of the major areas of modern political science: political philosophy and theory, including methodology; comparative government; political development and change, including revolution; and international relations and politics. Topics covered include: the balance of power, liberty and freedom, justice and equality.

778-101 American Government and Politics † 3 cr.
An introduction to the institutions and political processes of American government, with emphasis on the national level. The course covers the nature of political analysis; the constitutional, ideological, and cultural bases of American politics; public opinion and political information; the role of political parties, elections, and interest groups; policy-making processes in the Congress, the presidency, the courts, the bureaucracy, and state and local government; and issues and controversies in politics and public policy.

778-215 Understanding Presidential Elections †4 3 cr.
An examination of the electoral system affecting presidential campaigns and elections. Topics include the role of political parties, political action committees, the mass media, and campaign professionals; the nomination process; electoral rules and procedures; voter behavior; and political strategies. Students participate in a particular campaign and compare practical political strategies and activities to theoretical ideas. Offered only during presidential election years.

778-216 Political Behavior † 3 cr.
An introduction to political behavior, with emphasis on individual political beliefs and behavior. Special attention is given to the relationship between political knowledge and political behavior. Topics include: political socialization, public opinion, personality and politics, the mass media, and political participation. Students introduced to empirical political analysis, both qualitative and quantitative.

778-283X Selected Topics 1-4 cr.
See page 76.

778-298 Independent Study 1-4 cr.
See page 77.

778-305 Urban Politics and Policy 3 cr.
Concerned with urban social theory and its relation to urban political processes and public policy. Of central concern is the question: To what extent are basic human needs, as identified by urban theorists, frustrated and/or fulfilled by urban political processes and public policy. Policy arenas examined include: urban renewal, welfare policy, urban transportation, fiscal policy.

778-310 The American Presidency 3 cr.
An examination of the American presidency, with emphasis on recent presidents and public policy making. Topics include: the history of the presidency; the nature and use of presidential power; presidential nominations and elections; the organization and operation of the executive office; the presidential role in public policy making; the relationship between the president and other key political actors, including the Congress, the bureaucracy, interest groups, public opinion, and the media; and presidential leadership and personality. P: 778-100 or 778-101 or cons inst.

778-312 Community Politics 3 cr.
An examination of power and decision making at the community level, focused on the question: "who governs?" Careful attention is given to alternative theories and approaches to community politics and to methods for the conduct of empirical research in the field. Class assignments include the study of local power structures and local policy formation. P: 778-100 or 778-101 or cons inst.

778-313 Elections and Voting Behavior 3 cr.
An examination of the role of elections in the American political system and the behavior of voters in elections. Topics include the nature of modern political elections; campaign techniques; the role of the mass media and campaign professionals; trends and issues and recent national elections; and psychological, social, and political influences on voter behavior. P: 778-101 or cons inst.

778-320 Constitutional Law 3 cr.
An examination of the law of the United States Constitution as that law has been developed by decisions of the United States Supreme Court. Topics include: the general structure of the Constitution, federalism, the doctrine of separation of powers, the limitations upon the powers of the United States and of the states imposed by the guarantees of rights and liberties to individuals made in the Constitution and amendments to it. The structure, operation and jurisdiction of the United States courts are also considered. P: jr st or cons inst.

778-330 Law and the Judicial Process 3 cr.
An examination of courts as institutions of government and law as an instrument of government. Topics examined include: the judiciary in the American system of government, the nature of the judicial process, judicial decision making, judicial policy making, compliance with judicial policies, and theories of law and jurisprudence. P: 778-101 or cons inst.

778-340 Political Theory 3 cr.
The foundations of Western political theory from the Greek polis to the 20th century. Leading political theorists are analyzed and discussed in their historical contexts and in terms of their basic ideas and concepts. The basic axiom of the course is that in order to understand particular political events, we need to understand general characteristics of governing, government, and politics. To help students gain such an understanding, the course attaches the study of politics to the history of Western political thought and practice. P: jr st or cons inst.

778-351 Comparative Political Systems 3 cr.
An introduction to comparative political analysis, stressing both the structure of political systems and major functions. Particular attention is given to the politics and government of Great Britain, France, the Soviet Union, and selected other developed nations. P: 778-100 or 778-101 or cons inst.

778-353 Politics of Developing Systems 3 cr.
Political processes in contemporary developing systems, with particular attention to problems of nation building, the formulation of cross national comparisons, and emerging patterns of regional cooperation. P: 778-100 or 778-101 or cons inst.

778-360 International Politics 3 cr.
An overview of international politics, including an analysis of "the national interest," the nation-state systems, nationalism, arms control and disarmament, international conflict, and conflict resolution. Examples are drawn from both the American and non-American perspective. P: 778-100 or cons inst.

778-368 Geopolitics of World Regions 3 cr.
An examination of the impact of social, physical, and cultural geographic factors on political behavior and relationships, including political conflict. Topics include concepts such as political space, political territoriality, the organization of space for political purposes, and the nature of boundaries. The course also considers human movement and migration as a political and social process, and examines the impact of regional relationships on global, social, economic, and political structures. P: 778-101 or cons inst. See 834-368.

778-410 Intergovernmental Relations 3 cr.
An analysis of the American system of government as a federal system with governments operating on three levels (federal, state, and local), yet functioning as one integrated and interdependent system. Attention is given to constitutional bases of federalism, how intergovernmental relations affect public policy, and revenue sharing. P: 778-100 or 778-101 or cons inst.

778-412 Political Parties and Pressure Groups 3 cr.
An examination of the nature and role of political parties and pressure groups in the American political system. Topics include: the environment, structure, and activities of major and minor political parties; the changing character and functions of the national parties, especially their role in the electoral process; and the organization, politics, techniques, and influence of contemporary pressure groups in American politics. P: 778-101 or cons inst.

778-416 American Legislative Process 3 cr.
An examination of legislative institutions and policy making, with special emphasis on the United States Congress. Topics include: the role of legislatures in American politics; the electoral process; the nature of representation and the impact of the public on policy decisions; the political behavior of legislators; the impact of formal and informal institutions and practices on public policy making; political parties, leadership, staffs, committees, rules and norms, interest groups and lobbying; the role of the mass media; the role of legislatures in policy innovation and social change. P: 778-100 or 778-101 or cons inst.

778-460 American Foreign and Defense Policies 3 cr.
An examination of the major foreign and military problems facing the United States. Includes discussion of such topics as the organization and role of the military in American life; strategic and tactical military theory; the intelligence community, alliance politics, and the foreign policy-making process in the United States and an assessment of its effectiveness. P: jr st or cons inst.

778-483X Selected Topics 1-4 cr.
See page 76.

778-498 Independent Study 1-4 cr.
See page 77.

820 PSYCHOLOGY

820-102 Introduction to Psychology † 3 cr.
Introduction to the understanding of behavior from psychophysiological, cognitive, social, and clinical perspectives; important issues, methods, and findings in the study of psychological processes.

820-202 Introduction to Social Psychology † 3 cr.
Introduction to social psychology; attitude formation and change, group processes, communication, roles, multiple-group membership, social prejudice. P: soph st.

820-205 Psychology of Human Adjustment † 3 cr.
Personality adjustment and maladjustment in normal persons; need, frustrations, and conflict; adjustive techniques; analysis and rehabilitation. P: soph st.

820-283X Selected Topics 1-4 cr.
See page 76.

820-290 Environmental Psychology 3 cr.
A basic introduction to human-environment relationships that examines ways in which the physical environment influences human behavior. It introduces students to a variety of human-environmental relationships such as attitudes and beliefs about the physical environment, measuring and conceptualizing human response and behavior to physical environments, perceiving and knowing the physical environment, human social behavior in unusual environments, and geophysical factors that influence human behavior.

820-298 Independent Study 1-4 cr.
See page 77.

820-300 Experimental Psychology 4 cr.
Experimental methods in psychological research; designing and drawing conclusions from experimental research; critiques of research reports; individual and group laboratory projects in designing, conducting, interpreting and reporting research. P: soph st and 255-205 or 600-260.

820-306 Psychology of Perception 3 cr.
Nature of perceptual processes and their functional relationships to environments, behavioral, and central factors such as motivation, learning and personality. P: jr st.

820-309 Psychology of Motivation 3 cr.
The initiation and direction of behavior; role of physiology, personality, and environment in motivation; conflict, persistence, and change of motives; social motivation of achievement. P: jr st and 820-102 or 461-210.

820-310 The Self-Concept in Social Context 3 cr.
Surveys current theories and knowledge of the self-concept with particular emphasis on variations among groups which differ in ethnic background, gender, social class and age. Implications for interpersonal relations and achievement related behavior will be examined. P: 820-102 or 820-205.

820-335 Psychology of Attitude and Public Opinion 3 cr.
Analysis of attitudes; social factors in the formation and change of attitudes; expression of attitudes in public opinion, voting, and consumer behavior; polling techniques and problems. P: jr st.

820-337 Social Behavior Dynamics 3 cr.
Important factors in social behavior, roles, multiple group membership, cognitive processes, motivation, aggression, social prejudice. P: jr st and 820-202.

820-338 Psychology of Learning 3 cr.
Basic principles of conditioning and learning, functional relationships between salient variables related to rate of acquisition and degree of retention, transfer effects and related phenomena. P: jr st and 820-102.

820-415 Organizational Psychology 3 cr.
Relation between social structure and psychological behavior, problems of bureaucracy, leadership styles, communication networks, decision-making processes, and group productivity. P: sr st.

820-416 Psychology of Intergroup Relations 3 cr.
The psychology of conflict and cooperation, cleavage and integration. Principles and applications in such contexts as industrial organizations, cross-generation adjustments, race relations, and international relations. P: sr st.

820-417 Psychology of Cognitive Processes 3 cr.
Examines the contemporary theory and research on thinking processes; how people understand and interpret events around them; specific consideration is given to attention, recognition, thinking, memory, language, imagery, and problem solving.

820-420 Tests and Measurements 3 cr.
Methods and problems of measuring human characteristics, including determination of validity, reliability, and interpretive schemas for such measures. Examination of selected tests in intelligence, achievement, attitudes, interests, and personality. Typical uses of tests and methods for reviewing tests. P: a course in statistics.

820-429 Theories of Personality 3 cr.
Major ideas and systematic statements about the organization, function, change, and development of human personality. Readings acquaint students with a variety of personality theorists, such as Freud, Adler, Jung, Sullivan, Erikson, Dollard and Miller, Skinner, and selected existentialists. P: 461-331 and jr st.

820-430 History and Systems of Psychology 3 cr.
This seminar focuses on the major schools, figures, trends, and systems of thought in the field of psychology. It reviews the development of the field by looking at shifts in the conceptualization of the problems, phenomena, methods, and tasks for psychology. P: 820-102, 820-300, 1 upper division 820 course, jr st.

820-435 Abnormal Behavior 3 cr.
Deviations from normal intellectual, physical, emotional, and social development (e.g., retardation, psychopathology, emotional problems) throughout the life cycle are covered. Biological and environmental origins of deviations are examined. P: 461-331, 332.

820-438 Group Dynamics 3 cr.
Psychological principles as they apply to the individual in social groups, experimental analyses of group formation, maintenance, morale, and productivity. P: sr st and 820-202.

820-450 Psychological Stress and Adaptation 3 cr.
An examination in depth of the nature of stress, its effects on fundamental aspects of human behavior, its interrelationships with emotion, learning, and cognition. Some emphasis is placed on psychological methods of dealing effectively with stress, tension and anxiety. P: 156-100, 478-201, 820-102, 820-202 or 900-202.

820-466 Clinical and Community Psychology 3 cr.
Describes the typical activities, social functions, major theories, history and future trends of these two applied fields. Evaluates effectiveness of typical activities. The fields are differentiated from other human service fields. Discusses programs of study and training for aspiring psychologists, licensing qualifications, and occupational opportunities. Presents research on characteristics of practitioners. Most suited for persons considering careers in these fields. P: 820-102.

820-483X Selected Topics 1-4 cr.
See page 76.

820-498 Independent Study 1-4 cr.
See page 77.

834 REGIONAL ANALYSIS

834-205 Introduction to Cooperative Principles and Functions with Regional Variations 3 cr.
Various aspects of cooperatives; their history and development, present status and scope and future opportunities. Member relations and communications, financial and legal structures, policies and objectives.

834-222 The Ocean of Air: An Introduction to Weather and Climate 3 cr.
Fundamental processes of the atmosphere, the resulting weather and climate, and the effects of the atmosphere on other aspects of the earth's environments and on humans. See 296-222.

834-235 Wisconsin Landscapes and Regions 3 cr.
Wisconsin's natural and cultural landscapes—specifically the characteristics and origins of land form and earth material regions and their associated cultural features. Field trips included. See 416-235.

834-281 Student-Led Courses 1-4 cr.
See page 76.

834-283X Selected Topics in Regional Analysis 1-4 cr.
See page 76.

834-298 Independent Study 1-4 cr.
See page 77.

834-320 Introduction to Regional Analysis † 3 cr.
The choices that people can and must make in the use of the limited space and resources available to them to satisfy their needs. Methods of defining regions, as based upon human activities and the nature of the total environment are developed.

834-322 Regional Planning 3 cr.
The concept of planning, the history of its use in the development of regions, and the present status of planning in the United States with some international comparisons. P: jr st.

834-323 Land-Use Controls 3 cr.
Provides an opportunity to appreciate various forms of public land-use controls to students interested in land use planning and administration; as such the course aims to meet the needs of the students of Regional Analysis, Urban Studies, and Public and Environmental Administration in particular, and of those who are interested in the spatial manifestations of socio-economic functions in general. The course addresses "what, why, and how" aspects of land use controls. The "what and why" aspects are dealt with through lectures/discussions in the classroom, and the "how" aspect, being applied in nature, is illustrated with reference to a "real world" situation. Students analyze zoning and subdivision regulations of a selected community. P: soph st or cons inst.

834-325 Behavior in Designed Environments I 3 cr.
How the physical development of indoor and outdoor living spaces, including their location, form, and design, influence and shape human behavior. Contributing variables and techniques of measuring environment-behavior relationships. P: jr st. See 944-325.

834-326 Behavior in Designed Environments II 3 cr.
The application of techniques and knowledge of the environment-behavior relationship to studies of the designed area. The student develops and carries out all aspects of detailed study of a selected environment-behavior problem. P: jr st. See 944-326.

834-335 Transportation Systems in the United States 3 cr.
Intercity transportation systems in the United States, their development, impact, present character problems and trends. P: jr st.

834-340 Economics of Land Use 3 cr.
Study of economic relationship between humans and land. Emphasis is on the principles governing the land use and conservation, and in particular, the institutional arrangements—the working rules—of this basic resource. Application of principles in policy making in the areas of land valuation, taxation, and zoning in the context of economic regional development. Land use policies as they relate to management of public and private lands are studied intensively. P: jr st or cons inst.

834-342 Community Economic Development 3 cr.
Study of various forces involved in the process of community economic development. Includes the resource potentials—human and non-human—motivation, values and attitudes. The importance of education, and other institutional factors such as family, the political institutions and social and cultural institutions are studied and analyzed. The social and economic structures—transportation, communication, community services—are examined from the point of view of community development. P: jr st or cons inst.

351 Elements of Cartography 3 cr.
See 416-351.

353 Air Photo Interpretation 3 cr.
See 416-353.

355 Introduction to Quantitative Methods of Spatial Analysis 3 cr.
See 416-355.

834-356 Environmental Impact Analysis 3 cr.
Procedural requirements of NEPA; State NEPA equivalents; methodologies of and approaches to environmental impact analysis; assessment of alternatives; interdisciplinary exposure to substantive types of impacts using natural and social sciences; emphasis on social impact analysis; local field project in impact analysis. P: jr st.

834-357 Field Methods in Regional Analysis 3 cr.
A summer field camp under faculty supervision in which students are trained to inventory the uses humans make of the resources of a region. Techniques for evaluating the human resource of the region are developed. Each team of students is assigned to a specific research area. P: jr st.

834-362 Analysis of the Great Lakes Region of Africa 3 cr.
A systematic analysis of the areas surrounding the Great Lakes of Eastern Africa, with emphasis on the ecological and historical bases of cultural, economic, and political diversity; the resource base with respect to economic activities and regional development. P: soph st.

834-365 Impressions of Southern Africa 3 cr.
This dynamic and troubled region is studied from a variety of perspectives—those of the Africans, the colonial administrators, the entrepreneurs, the settlers, and the world community. Using a variety of resources, an attempt is made to understand how different groups of peoples, each with their own values, technology, and institutions, have created the spatial variations and conflict in Southern Africa.

834-368 The Geopolitics of World Regions 3 cr.
An examination of the impact of geographic factors on political behavior and relationships. Topics include concepts such as political space, political territoriality, the organization of space, and the nature of boundaries. The course also considers movement and migration as a political and social process and examines the impact of regional relationships on global social, economic, and political structures. See 778-368.

834-372 Analysis of the Great Lakes Region of North America 3 cr.
A systematic analysis of the areas surrounding the Great Lakes of the United States and Canada; internal and external relationships; economic activities; regional change and problems. P: soph st. See 416-372.

834-377 Analysis of Northern Lands 3 cr.
A topical and regional analysis of the subarctic and arctic areas of North America and Eurasia; regional emphasis on Alaska, Northern Canada and Scandinavia. P: soph st. See 416-377.

834-382 Regional Analysis of Northwestern Europe 3 cr.
An analysis of the physical, economic, and cultural regions within the British Isles, France, the Germanies, Switzerland, Austria, and the Benelux and Scandinavian countries. Comparison of the region as a whole in its relationships with the rest of the world. Map work is emphasized. P: soph st.

834-392 Analysis of South Asia 3 cr.
Regions of South Asian countries in various stages of development. Emphasizes the interaction of physical and human resources. P: soph st.

834-395 Seminar: Transportation Systems in Wisconsin 3 cr.
An analysis of the existing character of intercity rail, highway, water, pipeline, and air transportation in Wisconsin. Existing problems are identified and plans for the future evaluated. Each student will do a research paper dealing with one of the above types of transportation. (Offered in January only.) P: jr st or cons inst.

401 Regional Economic Analysis 3 cr.
See 298-401.

834-421 Techniques and Methods of Planning Analysis 3 cr.
The use and application of basic tools for urban and regional planning; source of data and other information; techniques and methods of population, economics, land use, housing, and transportation analysis and projects. P: jr st.

834-454 Remote Sensing of the Environment by Satellite 3 cr.
Large area, small scale analysis of earth surface features by satellite imagery and data. Major emphasis will be on use of LANDSAT (NASA Earth Resources Satellite). Hands-on experience in manual interpretation of multispectral images with respect to vegetation, geology, soils, water resources and land use. Introduction to computer assisted analysis. Overview of other satellite systems including weather, passive and active microwave (radar) and thermal infrared. Fundamentals of the electromagnetic spectrum, sensors, and data processing systems. Public access to data and imagery. See 862-454.

834-462 Land-Use Study Tour 1-2 cr.
Cooperative joint offering by UW-Madison and UW-Green Bay. The tour focuses on land use, soil and water management in Northeastern Wisconsin including the upper and lower Fox River watershed, and Door County. A two-day bus tour includes some overviews by representatives of planning agencies, consulting groups, governmental agencies, and industrial organizations. P: jr st. See 862-462.

834-472 Senior Seminar in Regional Analysis 3 cr.
A seminar focusing on regional problems relating to land use, economic development, outdoor recreation, transportation or others which might be of personal concern. Student research projects of a professional quality are included. P: sr st.

834-481 Student-Led Courses 1-4 cr.
See page 76.

834-483X Selected Topics in Regional Analysis 1-4 cr.
See page 76.

834-484 Senior Honors Project 3 cr.
See page 77.

834-498 Independent Study 1-4 cr.
See page 77.

862 SCIENCE AND ENVIRONMENTAL CHANGE

862-100 Scientific and Technical Based Problem Solving 3 cr.
Scientific literacy, an understanding of the basic assumptions, values, and objectives of the natural sciences, is a general prerequisite to learning the knowledge and following the developments of science in our society. This course seeks to enhance the science literacy of the nonscience student through a focus on the nature of and values implicit in scientific reasoning and inquiry. Parallels and contrasts between our common logical reasoning skill heritage and those of science are studied. Criteria for determining the levels of goodness, worth and beauty of scientific reasoning and inquiry are examined. Readings from the areas of puzzle solving, science investigation histories and the nature of matter and energy provide the basis for those studies.

862-102 Introduction to Environmental Sciences † 3 cr.
The interrelationships between people and the various parts of the biophysical environment including the atmosphere, water, rock and soil, and biotic communities. Study of both the natural state and current problems of pollution and mismanagement. Scientific principles facilitate understanding of environmental processes. The social and personal consequences of environmental processes and possible solutions to current environmental problems. Designed for nonscience majors.

862-105 Elements of Descriptive Geometry 3 cr.
Orthographic projection and its application to analyzing and solving three-dimensional problems involving points, lines, planes and solids; axonometric projections for pictorial representation with engineering and design applications. P: 600-101.

862-125 Introduction to Horticulture 3 cr.
Introduction to techniques of intensive plant culture. Biological characteristics of horticultural plants, identification of home and commercial plant species, plant propagation, physiology and development. Examination of selected aspects of horticultural industry including vegetables, ornamentals, orchards, and greenhouse systems. Landscape techniques, home gardens, and plants in the home. Local field trip.

862-141 Elementary Astronomy † 3 cr.
A study of the solar system, stars, galaxies, and universe.

862-142 COSMOS, The Societal Implications of the Study of the Universe 3 cr.
Based on the television series, *Cosmos*, produced by Dr. Carl Sagan. The course examines the economic, educational, social and cultural impact of space exploration and of our knowledge of the universe. Students identify the major periods in human history which have to do with development of our knowledge of the Cosmos, examine the impact of the various scientific developments such as the Copernican heliocentric model and Darwinian evolution. The television series also leads students to examine the way in which current human activity is bringing about change in environmental conditions and the implications of this activity for the future of the planet as a human habitat and for activity of humans on other heavenly bodies in the solar system. P: 862-141 or 754-103 or 201 or 225-111.

862-162 Technology and Society 3 cr.
What are the effects and implications of technology on our society? How can we find out, and what can we do about it? This course considers the general problem of technology. With that as a background, some possible solutions, including alternate technologies and technology assessment, are considered.

862-186 Man and Wildlife I 3 cr.
This all-University requirements course examines the place of wildlife in the world shaped by humans. This part of the six-credit sequence is a survey of the positive and negative interactions of humans and wildlife resources of the world. The concepts of ecosystem stability, habitat diversity, and the basic ecological principles of sound wildlife management are examined. Identification, census techniques and current management strategies are reviewed. Man's effects on wildlife, through hunting, trapping, habitat modification and intrusion are studied. The values issues which set the context for the interaction between humans and wildlife are the main theme of the course.

862-187 Man and Wildlife II 3 cr.
The second part of a six-credit all-University requirements sequence. In this portion, special consideration is given to current wildlife resources, the principles of predator management, rare and endangered species, wilderness and primitive areas, changes in wildlife resources, environmental politics and environmental economics. The important value issues that set the context for the interaction between humans and wildlife continue as a main theme. P: 862-186.

862-190 Emergence of Western Technology † 3 cr.
Since about 1500 the technological balance of power has shifted dramatically from China, India and the Islamic world to western Europe and later to North America. This course traces the history of this transition and examines some of the factors which may have contributed to it, as well as discusses the implications and future of technology. P: 296-200 or 296-202 or 225-111 or 754-103 or 225-108 or 862-102 or 141.

862-205 Wilderness Ways 2-3 cr.
Lecture-Discussion: 2 cr. A course covering various aspects of the North American wilderness; including historical, legal, management, protection, means of travel, equipment, camping techniques, food and cooking, wilderness medicine, and basic survival principles. Emphasis on backpacking and canoeing as methods of wilderness travel. Demonstrations of several techniques and types of equipment and short field trips are included. Field Lab: 1 cr. The field lab involves planning and undertaking a 5-day wilderness trip (dates to be specified). The cost of the field trip is borne by the student. Equipment rental can be arranged at group rates. Contact instructor for further details.

862-207 Strength of Materials 1 cr.
A five-week module introducing topics in stress and strain of common building materials and deflections of rods, beams, columns, and structures. Specifically designed for students interested in environmental design.

862-260 Energy and Society † 3 cr.
A course concentrating on the issues relating energy and society rather than on energy technology. The technology studied is at a level compatible with a minimum mathematical preparation by the student. Topics covered are global energy flows, sources of energy, energy related problems, energy policy, energy conservation, energy growth, future scenarios. P: 862-102 or 754-103 or 225-111.

862-281 Student-Led Courses 1-4 cr.
See page 76.

862-283X Selected Topics 1-4 cr.
See page 76.

862-284 Husbandry of the Land 3 cr.
Concepts of and attitudes concerning land and husbandry; historical aspects of our relationship with land; agricultural development in the U.S.; land ethics as related to land economics; conflicting demands on the land; state and national land use policies; land for the future.

862-286 Forest Vegetation of Wisconsin † 3 cr.
Historical (native American, settler, logger) and contemporary (browsing, herbicide, urbanization) modification of Wisconsin forest vegetation. Biology of individual species and community dynamics (competition, nutrient cycling). Current management practices (clear-cutting, genetic selection, energy plantations, complete tree utilization) and problems (pest control, recreational impact, preservation of natural remnants). P: 862-102 or 204-202.

862-295 Water Microbiology 2 cr.
A course acquainting the professional allies of microbiology—the medically trained, the engineer, the urban planner, the conservationist—with the function of microbes in water. This includes the health aspects as well as their cleansing effects.

862-298 Independent Study 1-4 cr.
See page 77.

862-302 Principles of Ecology 3 cr.
The biological principles that govern the interactions of plants and animals in their physical and biotic environments. Concepts of succession, productivity, energy flows, and nutrient cycling in ecosystems. Physiological and behavioral adaptations of individuals to their environment. People as a factor in the ecosystems and concepts underlying strategies used in the management of natural resources. P: 204-203. (Credit will not be granted for both 862-302 and 862-322, 323.)

862-303 Conservation of Natural Resources 3 cr.
Principles of conservation, including the nature and extent of our natural resources; exploitation and conservation of our resource system; and the chemical, physical and biological processes occurring in nature which affect and influence our conservation and management practices. The politics and economics of resource conservation. P: 862-102 or 204-203 or 296-202.

862-306 Biophysics 3 cr.
The application of physical principles to understanding biological structure and phenomena; the physical-chemical basis of life and its origin. Applications to organisms, their subsystems and their relationship to physical factors in the environment. P: 204-203 and either 754-104 or 754-202.

862-307 Ecology of Fire 2 cr.
The use of fire to modify vegetation by native peoples in the past and by contemporary landscape managers. Examples of landscapes considered are grasslands, chaparral, southern pine forests and northern aspen forests. Causes and control of wildfires are discussed, as well as their impact on air pollution and soil conditions. Case histories of prescribed burning, e.g., blueberry production, big game management and bird habitat preservation are analyzed.

862-308 Ecology of Invasions 2 cr.
An examination of invasions of plant and animal species into new areas. Case histories are examined to explore how some species successfully invade a new region whereas others fail. Ramifications of invasions including species extinction, disruption of food webs, and establishment of new population equilibria, are considered. The role of people in initiation and control (management) of invasions are integral parts of this course. P: 204-203.

862-309 Ecology and Management of Endangered Species 2 cr.
The course covers the population dynamics, niche relations and functional role of species, including those endangered, in ecosystems. Comparisons are made of mechanisms whereby species became extinct in the past and are becoming extinct today. A review is made of management tools available for species preservation, with an assessment of specific successes and failures. Management alternatives for species preservation, considering economic, political and biological limitations are evaluated. P: 204-203.

862-313 Mechanics I 3 cr.
Elementary vector operations, resultant of two and three dimensional force systems, centroids, hydrostatic forces, equilibrium of trusses and frames; displacement, velocity and acceleration components, kinematics of particles using rectilinear and curvilinear coordinates; relative motion. P: 800-202.

862-314 Mechanics II 3 cr.
Laws of friction and impending motion, moments of inertia, virtual work, stability, translation, solution and plane motion of rigid bodies, work and potential energy of particles and rigid bodies, linear and angular impulse and momentum, central force motion. P: 862-313.

315 Mechanics III 3 cr.
See 754-315.

862-316 Mechanics of Materials 3 cr.
Stress and strain; torsion; bending of beams; shearing stresses in beams; compound stresses; principal stresses; deflection of beams; statically indeterminate members; columns. P: 862-313.

862-318 Industrial Pollution Control Techniques 2 cr.
This course first explains general air and water pollution control methods, including the nature of the major existing pollutants and a brief overview of the present governmental regulations. Then several selected types of industries (for example, paper and pulp making, cement manufacture, iron and steel processing, breweries, foundries, chemical process industries...) are discussed in detail; the general manufacturing process, how and where the major pollution arises, and the specific techniques used in that industry to control these emissions. P: 225-112.

862-319 Industrial Pollution Control Field Trips 1 cr.
Optional field course to accompany 862-318. Field trips are scheduled to a variety of local industries including a paper mill, foundry, MSD, etc. In addition, each student is required to prepare a research paper. P: Concurrent registration in 862-318.

862-320 The Soil Environment 3 cr.
The physical, chemical, and biological properties of soil; formation, classification, and distribution of major soil orders; influence of soil on agricultural, engineering, urban, and water systems. Field trip. P: 225-108 or 112; 296-202 recommended.

862-321 The Soil Environment Laboratory 1 cr.
Laboratory and field study of physical, chemical, and biological properties of soils. P: credit or concurrent registration in 862-320.

862-326 Mechanics of Materials Laboratory 2 cr.
Tensile and compression tests of wood, steel, aluminum and cast iron. Torsion, creep, beam stress and deflection. Combined stress, columns, Concrete cylinder and beam tests. P: Concurrent registration in 862-316.

862-327 Urban Technological Design 3 cr.
Develops an awareness and understanding of systems which sustain urban areas and the environmental changes caused by these systems. Serves as a communication bridge among the natural sciences, social sciences, and humanities, and as a basic course in environmental design processes. P: jr st. See 242-405.

862-330 Descriptive Hydrology 3 cr.
Qualitative study of the principle elements of the water cycle including precipitation, runoff, infiltration, evapotranspiration and ground water. Specific applications of hydrologic principles to water resource projects such as low flow augmentation, flow reregulation, irrigation, public and industrial water supply and flood control. Full graduation credit is not granted for both 862-330 and 862-430. P: 296-202.

862-331 Oceanography 3 cr.
Major disciplines in oceanography including the nature and extent of the marine environment, the physical and chemical properties of sea water, mass movements of oceanic water, marine geology, plant and animal life in the sea. Environmental problems associated with the exploitation of the marine environment and the Great Lakes. Field trip. P: 296-202 or cons inst.

862-334 Solid Waste Management 3 cr.
A study of the nature of the solid waste problem. Generation, collection, processing, and disposal of solid wastes is studied. Special attention is given to the recovery of material and energy resources from solid wastes. Guest speakers and field trips contribute to an understanding of local and regional solid waste problems and solutions. P: 204-202 or 225-111 or 296-202.

862-335 Water and Waste Water Treatment 3 cr.
Fundamentals of water and waste water treatment systems including both sewage and potable water treatment plants and their associated collection and distribution systems. Study of the unit operations, physical, chemical, and biological, used in both systems. P: 296-202 or 225-111 or 204-202.

862-341 Intermediate Astronomy 3 cr.
Emphasizes the modern developments in astronomy, stellar birth and death; white dwarf, neutron stars and black holes, origin and evolution of the universe; galaxies, quasars and radio sources; results of recent investigations of the solar system; search for extraterrestrial intelligence. P: Either 862-141 and 600-104 or 754-104, 202.

862-342 Environmental Geology 3 cr.
Applications of fundamental geologic concepts in the interpretation of environmental problems resulting from our exploitation of crustal resources. The environmental impact of construction, mining, waste disposal, natural geologic hazards, and the tapping of crustal energy reservoirs (fossil fuels, geothermal heat). Field trips. P: 296-202.

862-345 Geology of Energy Resources 3 cr.
A survey of geological energy resources: petroleum and natural gas, coal, uranium and geothermal energy. Geological environment of these resources, methods of discovery and utilization, and environmental and economic problems associated with them. P: 296-200 or 296-202 or equivalent.

862-350 Meterology 3 cr.
Examines the composition and structure of the atmosphere; surveys atmospheric thermodynamics, dynamics and kinematics of air motion and radiation in the atmosphere. P: 754-201 or cons inst.

862-351 Synoptic Meteorology Laboratory 1 cr.
Application of principles presented in 862-350 to actual synoptic-scale weather situations. Techniques of weather analysis and forecasting. P: 862-350 or concurrent registration.

862-363 Plants and Forest Pathology 3 cr.
Studies of important diseases of forest, shade, and orchard trees and diseases of representative economic plants; fungus deterioration in wood storage and their economic importance with methods of control; field trips. P: 204-203.

862-366 Integrated Pest Management 3 cr.
The management of pest plant and animal populations employing an integrated combination of control methods emphasizing maximum dependency upon natural regulators of populations. Various control methods are analyzed, e.g., chemicals, disease agents, predators, parasites, hormones, breeding for resistance, habitat modification. Case histories of success and failure with integrated pest management programs for weeds, insects, fish, rodents, predators, and ungulates are discussed, as well as obstacles and incentives in the future for integrated pest management. P: 204-203.

862-378 Chemical Ecology 2 cr.
Selected topics concerning the chemical interactions of organisms and the environment. Topics such as chemical communications, chemical defense mechanisms and sex attractants are covered. The course is in basic lecture format and each student prepares a paper on an aspect of chemical ecology which is of interest to him or her. P: cons inst.

862-380 Radiobiology 2 cr.
An introduction to the use of radionuclides (C-14, P-32, etc.) and sources of ionizing radiation in biology, medicine and environmental sciences. Emphasis is on experimental methods currently used in the life sciences, including tracers in biology, radiation biology, nuclear medicine and radioecology. This course provides the background needed to obtain an AEC license to use radionuclides in most tracer experiments. Credit is not given for both this course and 226-418.

862-382 River Basins in Transition 3 cr.
Use of the river drainage basin as an important element in planning human activities compatible with existing local natural resources is introduced. A review of the natural and human history in one or more river basins in the U.S. is presented with an emphasis on the interrelationship between the natural resources such as water, land, plants and animals and human activities such as agriculture, industry, transportation and pollution. Elements of hydrology, geomorphology and socio-economic geography are used in the review. After completing a focus on a United States river basin, an integrated global perspective is provided by including land forms, human populations, land use, economic development, climate and other important features of selected river basins throughout the world. The case study approach is used on a comparative basis to analyze and to synthesize natural science and social science data available both domestically and in other countries. Value questions associated with basin resource use such as land ownership vs. land stewardship and upstream vs. downstream water rights in arid land are included. Occasional field trips and guest lecturers are used. P: jr st.

862-383 River Basins in Other Regions 3 cr.
A case study investigation of interaction between human activity and natural resources in river basins in other regions. Analyzing and synthesizing natural science, social science, and cultural data. Issues of basin resource use (such as land tenure vs. land stewardship and upstream vs. downstream water rights in arid land) in agricultural, industrial, commercial, residential, and preservational contexts are examined. P: jr st, plus either 862-382 or 862-102 or 296-202.

862-384 The Environment's Response to Human Settlement 3 cr.
Covers all facets of human settlement and resettlement as they apply to environmental impact and maintaining a steady state. The effects of initial settlement on the land and how the environment responds, and the issues and values that produce varying effects are discussed. Techniques of environmental protection for present day settlement and resettlement are covered. Each student selects a project (preferably in the Kewaunee Watershed) involving some aspect of the environment. The resulting research is reported in a research paper. P: jr st and one of the following: 862-102 or 296-202 or 225-106 or 225-111 or 754-103 or 754-201 or 204-202.

862-385 The Environment's Response to Human Settlement Laboratory 1 cr.
Each student manages an environmental project or a portion of a project if there is team effort, collects and analyzes the data and prepares a research paper. The paper should include literature research, project planning, data collection, discussion of results and analysis of impact of the research. The project site will preferably be in the Kewaunee Watershed, Wisconsin. This project is an extension of the project initiated in 862-384. P: 862-384 or concurrent registration.

862-403 Limnology 3 cr.
Physical, chemical, and biological interactions in lakes and streams as expressed in the nature and dynamics of aquatic communities; laboratory and field techniques used in characterizing the aquatic environment. P: 204-203 and 225-111.

862-405 Winter Conditions in Lakes 3 cr.
Physical, chemical and biological characteristics of selected Wisconsin lakes are examined. Emphasis is on limnological parameters demonstrating trophic status and the effects of metabolism of lake ecosystems imposed by winter conditions of low temperature and reduced light. Intensive sampling and analysis during a one week field trip to northern Wisconsin lakes provides a data base for specialized individual student projects. An interdisciplinary analysis of the data is accomplished through student seminar presentations of specialized projects. P: Advanced course work in ecology and/or chemistry desired (analytical chemistry); also cons of inst; 1 week field trip to northern Wisconsin.

862-412 Bio-Energetics 3 cr.
Energy biology, a thermodynamic and information content view of energy and energy flow in biological systems. Results applied to biochemical, human, and ecological systems. P: 204-203 and either 754-104 or 226-202.

862-414 Conventional Energy Technology 3 cr.
An advanced course on conventional energy conversion equipment, electric power generation facilities, available fuels, energy related to transportation and energy policy. P: 600-203, 226-320.

862-415 Solar and Alternate Energy Systems 3 cr.
A study of alternate energy systems which may be the important energy sources in the future such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magnetohydrodynamics. P: 226-104 or 754-202 or equivalent.

862-421 Soils of Wisconsin Field Trip 2 cr.
An intensive three-day field study tour of the properties, origins, and uses of major soils and landscapes of Wisconsin. This tour is offered in cooperation with UW-Madison departments of Soil Science and Geography. Pre-tour lectures at UWGB on Tuesday and Wednesday following Labor Day; depart for Madison Thursday evening. Tour leaves from Madison at 5:30 a.m. Friday with overnight stops at River Falls and Wausau and returns Sunday night to Madison. Two post-tour discussion periods at UWGB during September. Trip log and a paper on a topic related to soils and landscapes required before end of semester. Cost of tour bus, guide book, meals and lodging (3 nights) borne by student. Approximate cost in 1981 was $100. Deposit required. Enrollment is limited. See T. H. McIntosh for tour registration form. P: 296-202, credit or classification in 862-320 or 420 or cons inst.

862-422 Environmental Biogeochemistry 3 cr.
Microbial and chemical transformations of carbon, nitrogen, phosphorus, sulfur, and certain trace compounds in soil-water-atmosphere systems; fate of selected pesticides, fertilizers, natural and synthetic wastes in the ecosystem; beneficial and toxic effects on plants and animals; role in pollution of the environment; use of waste disposal systems for pollution abatement. Field trip. P: 204-202, 225-300, 296-202.

862-430 Quantitative Hydrology 3 cr.
Quantitative oriented study of the water cycle including precipitation, runoff, infiltration, evapotranspiration and ground water. Numerical procedures for various water resource developments including hydrograph prediction in both urban and rural areas, reservoir and streamflow routing and hydrologic uncertainty. Full graduation credit is not granted for both 862-330 and 862-430. P: 600-202, 296-202.

862-434 Water Chemistry 4 cr.
The physical, chemical, and biological factors that alter the composition of surface and ground water. Field and laboratory analysis techniques. Field trip. P: 225-311.

862-440 Practicum in Environmental Interpretation and Communication 3 cr.
A practicum for persons who intend to work as environmental interpretive naturalists or environmental educators with youth and adults in outdoor environmental centers, or as leaders in school or camp outdoor programs. Participants spend about one-third of their time teaching youth and/or adults. Lectures, seminars and field experiences at camp(s), schools and/or environmental centers emphasize developing, implementing, and evaluating programs and activities in environmental interpretation communication. P: 862-302 or equivalent, jr st and cons of inst; course work in Earth Sciences is highly recommended.

862-441 Seminar in Environmental Interpretation and Communication 3 cr.
This seminar-practicum is primarily for seniors in environmental interpretation communication and others who intend to become practicing outdoor environmental educators. Lectures, discussions, laboratories and field experiences focus on bringing together students' training and experiences in environmental sciences and skills of interpretation and communication, so that they may gain competencies necessary to future employment in environmental interpretation communication. P: 862-302 or equivalent, jr st and cons of inst; course work in Earth Sciences highly recommended.

862-450 Air Pollution Chemistry and Meteorology 3 cr.
Chemical reactions and transport phenomena in the unpolluted and polluted atmosphere with emphasis upon dispersal processes and control. P: 225-112.

862-454 Remote Sensing of the Environment by Satellite 3 cr.
Large area, small scale analysis of earth surface features by satellite imagery and data. Major emphasis is on use of LANDSAT (NASA Earth Resources Satellite). Hands on experience in manual interpretation of multispectral images with respect to vegetation, geology, soils, water resources and land use. Introduction to computer-assisted analysis. Overview of other satellite systems including weather, passive and active microwave (radar) and thermal infrared. Fundamentals of the electromagnetic spectrum, sensors, and data processing systems. Public access to data and imagery. P: 296-202 or 416-250. See 834-454.

862-460 Resource Management Strategy 3 cr.
Applications of principles of system analysis to designing resource management systems and to developing strategies for maintaining optimum environmental utilities. Decision models and the role of economic systems in resource management. P: jr st and some background in economics or conservation.

862-462 Land-Use Study Tour 1-2 cr.
Cooperative joint offering by UW-Madison and UW-Green Bay. The tour focuses on land use, soil and water management in Northeastern Wisconsin including the upper and lower Fox River watershed and Door County. The two-day bus tour, during first weekend of summer session, includes some overviews by representatives of planning agencies, consulting groups, governmental agencies and industrial organizations. Students pay travel costs. See 834-462. P: jr st.

862-466 Vegetation Management 3 cr.
An analysis of current practices in managing U.S. vegetation, including establishment, maintenance, control and conversion. An assessment of management tools, such as cutting, grazing, chemical spraying, flooding and burning. Experience with and potential for vegetation management on the UWGB campus is observed and discussed, e.g. prairie and pond establishment, tree and shrub control, erosion control, conversion of forest to park and old field to forest, maintenance of lawns, golf greens and fence rows. The various practices and tools are evaluated in regard to their effectiveness, economic cost and environmental impact. P: 204-203.

862-472, 473 Ecosystems Analysis I, II 4, 4 cr.
The dynamics of ecosystems, emphasizing principles essential to analysis, understanding, and management. Description of major ecosystems, energy relationships, nutrient cycling, limiting factors, genetic adaptations and mechanisms of evolution, and management problems. Field trips, environmental data collection and laboratory analysis, and an introduction to systems analysis. To be taken in sequence. P: 204-203, 225-112, 754-104 or 202, 296-202 and 600-260.

862-481 Student Led Courses 1-4 cr.
See page 76.

862-483X Selected Topics in Science and Environmental Change 1-4 cr.
See page 76.

862-484 Senior Honors Project 3 cr.
See page 77.

862-498 Independent Study 1-4 cr.
See page 77.

867 SENIOR SEMINARS

867-401 The Role of International Organizations in Support of Cultural and Scientific Developments (V. Nair)
Examines working conditions and nature of activities of international organizations supporting the work of the United Nations as well as the global problems and decision-making processes involved.

867-402 Images of Woman and Man (S. Bremer)
Western man has created clear-cut images of woman and man as interdependent (but not equal) opposites. These are treated as complex, far-reaching, and powerful strategies for organizing experience. These cultural images are identified, their purposes considered, and preservation and changes debated. Alternatives to traditional modes of treating men and women are considered.

867-403 Overcoming World Hunger (K. White)
Focuses on developing practical, and perhaps new, approaches to overcoming world hunger. Constructing these approaches will involve a better understanding of the present interdisciplinary nature of the problem; what has been done in the past to solve the problem; the state of our current knowledge; and the synthesis, through application of creative thinking, of policies and strategies for future action.

867-405 Transactional Analysis in Decisions Affecting Man's Environment (R. Presnell)
Investigates transactional analysis, environmental issues in society, and citizen roles in the decision-making process. This seminar is not designed as a therapeutic course; it is concerned with societal problems rather than personal problems. Transactional analysis is examined as a tool or technique useful in communication with others in efforts to affect solutions to environmental problems.

867-406 Science and the Quality of Life (G. O'Hearn)
Scientific developments are reshaping many of our basic beliefs and altering our style of living. This is not a new phenomenon but in recent years the rate of change has been greatly accelerating. Areas of concern include: analysis of selected scientific developments and their ethical and human value implications; social, political, economic, and cultural implications; and the problem of anticipating both beneficial and adverse consequences. Emphasis is on basic scientific propositions rather than on technological developments. Knowledge of science is not required; students examine the implications from their own perspective using tools and knowledge of their own majors.

867-407 The Improvement of Life and the Use of Law
Examines the subject of human rights as a philosophical, cultural, political, legal, and international phenomena. Six aspects of the human rights question are addressed: what is meant by human rights; how are rights integrated into political and social systems; how are rights defined and implemented in various settings; how have rights been codified and promoted on the international level; how can the average citizen use the domestic legal system to insure that the government does not neglect the practice of existing law; how can the average citizen challenge existing domestic laws and regulations so that new equitable and humane laws be created?

867-408 Culture, Life-Style, and Science in a No-Growth World (N. Petrakopoulos)
Implications of pressures of population growth coupled with limited resources, the possibility of steady-state economic systems, technological changes, and effects on everyday life. What would life be like in a steady-state, no-growth society? The course considers how education can come to terms with problems so that citizens can change values and social attitudes, invest new technologies, and create imaginative and highly responsive new democratic systems.

867-409 The Humanistic Movement: Its Philosophy, Principles, and Applications (D. Littig)
Many have a pessimistic view of the future once the possibility of a steady-state society based on depleted nonrenewable resources is accepted, fearing that society may be plunged into a "dark ages," with disregard for human rights, increasing socio-political repression, and authoritarianism. This course explores an alternative view—the homo humanus vision of humanistic psychology and the human potentials movement through the works of authors like Abraham Maslow, Carol Rogers, Fritz Perls, Alan Watts, Sidney Jourard, Charles Hampden-Turner, Martin Buber, Baba Ram Dass, and others.

867-410 Biopolitics: The Potential Influence of Modern Biology on our Social, Economic, and Political Future (W. Kaufman)
Impact of current developments in genetics, behavior, and other biological studies on the future of humans, including genetic controls, determinant breeding in humans, professional motherhood, sperm banks, breeding for job category, and selecting leaders through genetics. Potential dangers to society through the improper use of biological knowledge will be starting points for class members to use in developing some theoretical protective devices for saving the future.

867-411 Contemporary Critical Views of the American Prospects: Closing Circle or Expanding Horizons? (C. Lockard)
Considers some of the major crises facing contemporary America through the eyes of social critics representing a variety of viewpoints and disciplines: the interrelated themes of political and social oppression, rampant technological and economic change, and the decline of contemporary values. Readings take a critical perspective towards contemporary attitudes and view problems at least in part as deriving from prevailing socio-political realities. Among concepts discussed are freedom, human progress, revolution, social change, ecology, individualism, democracy, governmental institutions, love, stability, alienation, and poverty. In addition to discussing dilemmas and views of social critics toward them, the course critically examines both the critics and their intellectual modes of thinking.

867-412 The Impact of Science and Technology on Society (J. Wiersma)
Examines various technologies from both historical and present day perspectives and makes projections for the future. In general, the course attempts to examine the responsibility of science and technology to society and vice versa. Mechanisms used by government, industry, and the public for maintaining and developing responsible technology are scrutinized.

867-413 Imagination and Myth (E. Lauter)
The traditional myths of Western culture no longer have the power to organize our lives. The course posits that myths are inevitable and can just as well serve positive functions as negative ones. Several questions are explored: what kinds of imaginative activity lead to making satisfying personal or cultural myths; what models can be used from contemporary thought; who should assume responsibility for creating new myths? Students engage in the process of imagining, analyzing and evaluating contemporary myths, and creating a myth of their own.

867-414 International Aspects of Environmental Planning (J. Reed)
Readings in global ecology are required; then students select specific topics related to the theme; develop an appropriate reading list for the topics; formulate a thesis within the topic; and prepare a defense of the thesis for both oral and written presentation.

867-415 Applied Imagination (F. Fischbach, J. Harris)
Examines and uses various practical means of enhancing creative thinking in the environmental sciences, in the realm of leadership, and in the area of ethical concerns. Students develop attitudes and abilities that help them meet future challenges by creatively finding better solutions to problems. Emphasis is on developing personal creativity and using that talent to express decisions.

867-416 Social Consciousness and the Scientist (W. Kaufman)
Consideration of the motivation of scientists, their attitudes toward ethical practices in research, application of research findings, and the relation of political and national concerns to science and research. Relates mainly to human experimentation, the ethics that have been established to govern it, and how these have been supported and abused. Thinking can be extended to other areas of science and research where, in decision-making, conflicts with human values may arise.

867-417 Capitalism, Socialism, Democracy: Costs and Consequences for Social Development (C. Lockard)
Critically examines strengths and weaknesses of the major economic and political systems as vehicles for developing and transforming societies. Concerned in particular with various patterns of social order—authoritarian and pluralistic political structures, capitalistic and socialistic economies—and with the costs and consequences of each order for a society.

867-418 Science as Metaphor: The Application of Ecological Principles to Social Systems (H. Harris)
The relevance of knowledge of ecological stability to understanding the stability of industrial man's society is the focus. Attention is centered on four properties of ecosystems and sub-units of ecosystems: diversity and complexity of interactions; history and evolution; spatial attributes; and thresholds. Similarity or dissimilarity between ecological and social systems is examined in the context of the above properties.

867-420 The Organization in Modern Society (M. Troyer)
Analyzes the social, philosophical, and profit oriented concerns which result from the relationship between institutions and modern society. Specific issues explored include: relationships of organizations and commercial spokesmen and political leaders to society; positive and negative economic effects of organizations on modern society; psychological effects of organizations upon individual behavior; socio-political effects of organizations on modern society; and considerations of organizational ethics and cultural norms which may serve as alternative values or organizational behavior in future society.

867-421 Science Fiction: The Social, Political, and Physical Future Through Literature (M. Greenberg)
Examines probable and improbable alternative futures as viewed through the work of leading science fiction writers. Special attention to moral and ethical implications of new technology, new forms of social control and organization, changing religious perspectives, and new lifestyles.

867-422 Relativism, Society and New Politics (N. Petrakopoulos)
Examines scientific and political theories and their relationship to analyzing, evaluating and predicting social problems and alternatives for action. Contemporary problems will be examined to see limitations of contemporary liberal thought and new theoretical frameworks will be discussed through which possibilities and conflicts implicit in improving the quality of life might be approached.

867-423 Madness, Insight and Creativity (K. Fleurant)
Humans are not purely logical but have a nonrationality that reflects the nonrationality of much of what happens daily in the world around them. This is an attempt to understand this antilogical tendency which, historically, has been on the increase in the last 150 years.

867-424 Stereotypes and Minority Groups (S. Bremer)
Explores why human beings stereotype each other and why society creates minority groups; how stereotypes affect those who stereotype and those who are stereotyped; how the maintenance of minority groups affects the oppressors and the oppressed; and what we—as individuals, as groups, and as a society—should do about stereotyping and maintenance of minority groups.

867-425 Ages of Man: Images of Modern Morality (T. Churchill)
Focuses upon the lives of men and women who have shaped reality in this century, and others who have had that reality shaped for them. Points to the disparity between what the average American determines he or she needs as models for a style of living (politically and ethically), and the models that present themselves through the usual channels of church, government, and neighborhood.

867-426 The Search for an Ideal Community: Planned New Towns and Cities (J. Murray)
Begins with a brief explanation of early literature from the proponents of the Greek city-state, to the 19th century utopians, and the 20th century new towns movement; then the class will simulate a planned community incorporating their own values and expertise.

867-427 The Artist as Pioneer of Effective Communication: The Social, Environmental, Administrative, Cultural, and Scientific Uses of Art (C. Nelson-Cole)
Deals with problems confronting public life as governed by large administrative organizations whose languages follow traditional patterns and which are based on bureaucratic systems; tasks of the artist in simplifying the individual's contacts with the authorities; the democratic system, where the ordinary citizen must be able to understand political decisions: the artist and the scientist.

867-428 Beyond Survival: Visions of Meaning and Hope for the 21st Century (D. Steffenson)
The 21st Century is only 20 years away, and almost everyone agrees that life will be very different, if in fact we survive at all, due especially to energy-resource-environmental constraints closing in on all human systems and relationships. Assuming our survival, what will be meaningful and fulfilling to us as human beings as we live and cope in this new context? How shall we live and relate to each other as human beings? What values can inform and enrich our lives, our culture, and our social system? It has been said that one cannot plan for a meaningful future unless one has a vision of what that future might (or should) be like, however this provisional utopianism must be realistically grounded within the physical, social and cultural contexts we might expect. This seminar will deal with some of the key questions and issues related to constructing such a vision. It will be basically philosophical and exploratory, but it can and will touch specific questions relating to the disciplinary backgrounds and interests of the students. The central issue dealt with is the future of individualism, particularly in the American experience, and the individual's relationship to material/technological culture.

867-429 Comparative Perspectives on Race, Ethnicity, and Cultural Conflict in Modern Society (C. Lockard)
Recent headlines confirm that ethnic, racial, and cultural conflicts with nations constitute a problem of great magnitude in the contemporary world. Most societies contain some heterogeneity in their population based on racial, ethnic, caste, linguistic, or religious differences; most have faced some problems because of this diversity, and some have suffered from serious conflict, sometimes erupting into violence. Given the widespread nature of this problem in both industrialized and under-developed, capitalistic and socialist societies, it is important for Americans to understand something about this phenomenon in an increasingly interdependent and ethnicity-conscious world. Among other things, we shall try to better understand American racial problems through analyzing conditions elsewhere and the theories arising from them. An interdisciplinary approach will be employed as we seek to understand the origins and nature of pluralistic societies, the dimensions of conflict, and possible ways in which such societies can maintain social cohesion. A number of countries which have experienced conflict will be studied, including Lebanon, Northern Ireland, Canada, Belgium, Malaysia, Nigeria, Yugoslavia, South Africa, Guyana, and the United States; we will also briefly examine several multi-cultural societies which some specialists believe to be relatively free of conflict, including Switzerland, Hawaii, and Brazil. After analyzing case studies, we shall try to determine how well the demands of national unity and social cohesion can be met in multi-cultural and multi-ethnic societies while at the same time guaranteeing as much as possible the integrity and rights of minority groups.

867-430 Value, Reason, and Action in Art and Society (G. Null)
A transdisciplinary exploration of the problem of action in abstract theoretical and concrete applied contexts. The goal is to sharpen and enlarge the student's perspective on, analytical ability in relation to, and interest in the problem of the relation of self to society in the context of deliberately conceived, planned, and executed practical actions. Since social action is a fundamental and recurrent aspect of every individual's experience of him/herself in relation to cultural and subcultural contexts, the seminar will emphasize reflection on and conceptual articulation of universally practiced but seldom examined aspects of action.

867-431 Critical Views of Higher Education: Closing Circles or Expanding Horizons? (D.Harsten)
Examines the history, social aspects, economics, and systems of higher education. Given the historical overview, the seminar will proceed with detailed discussions of the writings, and processes of contemporary innovative leaders in higher education such as Louis Mayhew, Paul Dressel, Fred Harvey Harrington, Ernest Boyer, and Clark Kerr. A central concern of this seminar will be maintaining, protecting, and enhancing the quality of higher education in an uncertain future. Students will prepare and present an in-depth analysis of a current problem facing higher education.

867-432 Rebels and their Causes: Explorations in Biographies of Personal Rebellion and Social Change (H. Kaye)
This seminar will attempt to join our own individual journeys of discovery to an understanding of other person's crises in their social and political context. Students will read and discuss biographies or autobiographies of persons who have experienced crises between their values, observations, or personalities and the demands of society. The first weeks will be spent in detailed discussion of the social contexts, personal background, actions, and some of the writings about and by Tom Paine, Mary Wollstonecraft, Toussaint L'Overture, Emiliano Zapata, and V.I. Lenin. Then students will choose others to read and discuss. People such as Emma Goldman, Peter Kropotkin, Ho Chi Minh, Eugene Debs, Vincent Van Gogh, Gauguin, Jack Kerouac, Fyodor Dostoyevsky, Hermann Hesse, Nikos Kazantzakis, Henry Miller, Anais Nin, Frank Kafka, T.E. Lawrence, Isadora Duncan, Marilyn Monroe, St. Francis of Assisi, Albert Schweitzer, Henry David Thoreau, Bertrand Russell, Carl Gustav Jung, Albert Einstein, Wilhelm Reich, and Robert Oppenheimer are among possibilities.

875 SOCIAL CHANGE AND DEVELOPMENT

875-201 Fiction and American Society 3 cr.
875-202 Fiction and Society of Other Cultures 3 cr.
Focuses on the relationship between fiction and the social sciences, particularly on how the two areas of knowledge are related in that both attempt to show humans and human societies and cultures as they really are. The courses demonstrate that there is a need for both the imaginative and scientific approaches if we are to reach some kind of understanding of our values, both personal and societal, and of the impact those two sometimes very different sets of values have on us, on our society, and on other cultures. The two course sequence examines what happens when those cultural values clash, what can be done to avoid or lessen such clashes, and how we can best understand, if not embrace, the values and commitments of a variety of other cultures.

875-203 Prejudice and the Human Condition 3 cr.
Origins, functions, and consequences of prejudice in relation to intergroup competition and conflict; impact of prejudice on the victims; potential means for reducing the role of prejudice in human relations. P: 255-102.

875-204 Freedom and Social Control 3 cr.
In the struggle between individual freedom and institutional power, our freedoms have become more fragile and vulnerable, while institutional and governmental authority has become more subtle and powerful. The increasing infringement upon individual freedoms, and increasing institutional power and prerogative, raising ever important questions of ethics, morals, and values concerning freedom and social control which this course explores. A significant portion of time is spent on individuals' freedoms and institutional controls from other culture perspectives. P: 255-102.

875-235 Sex and Society † 3 cr.
Examines some of the major social, political and personal issues related to sexual attitudes, sexual behavior, and sexuality in American society. Areas of study include changing sexual attitudes and behavior patterns; varieties of sexual expression (including homosexuality, bisexuality, transsexualism); the politics of socio-sexual issues (pornography, prostitution, health care, sex education, homosexuality); sexual offenses and offenders; sex counseling and therapy, and sex and ethical issues. P: one previous social science course.

875-241 Women and Changing Values † 3 cr.
Examination of traditional restrictions placed on women in family roles, sexual behavior, economics, politics, and religion to determine if they are crumbling. Discussion of what new roles and values are possible or probable, whether the more prescribed traditional values and roles are still valid, and how individuals can adapt to change.

875-260 Culture and Society: Keywords 3 cr.
The goal or intention of "Keywords" is not to arrive at or develop a glossary, i.e., specific definitions. Rather, we seek to critically examine a variety of words (e.g., industry, class, democracy, art, culture) which have developed several meanings and to recognize the political, cultural and social significance of the existence, or coexistence of those meanings. Thus, through the study of "keywords" we become more aware of and sensitive to past and present social formations, continuity and change. P: 900-202 or 156-100.

875-265 Folk Music and Social Change 3 cr.
Analyzes non-elite song as a form of socio-political expression and protest in modern societies. Using an interdisciplinary and comparative social science approach, the course explores a variety of musical developments in several different countries in an attempt to understand the history of common people through their songs and ballads, and the socio-political movements which accompanied them. Although folk songs and kindred traditions of non-elite music are emphasized, some attention may be paid to other popular musical styles such as rock, jazz, country, bluegrass, reggae, highlife, and Norteno music. Among the examples that may be discussed are American folk songs generated by the Depression and Dust Bowl of the 1930's; the protest and topical American folk music of the 1960's; the "New Song" movement in Chile; the vocal traditions of Irish rebellion; songs of black struggle in North America and Southern Africa; Appalachian coal miners' songs; and the revolutionary songs of Maoist China. The song is placed in its historical, social, cultural, political, and economic context.

875-270 Third World: Development or Despair 3 cr.
Surveys causes and consequences of development and underdevelopment in selected nations and regions. Examines such themes as natural resources, imperialism, neocolonialism, population, education, food and fuel, employment, health, and political power. Emphasizes various cases indicating possible futures for the world's poor people. P: 156-100 or 298-102 or 202, or 778-100 or 875-100 or 900-202.

875-273 Blood, Honor and Envy: Values and Society in Southern Europe 3 cr.
Examines some values themes found in historical and contemporary societies in Southern Europe (Greece, Italy, Southern France, Spain). These include honor and shame, family loyalty, the menace of envy, male and female relationships, and political organization, among others. The values, and the sometimes rightly elaborated symbolic systems through which they are expressed (e.g., the bullfight, the evil eye belief system, the cult of saints and the virgin, etc.), are studied through case studies. Values themes are examined in the context of both historical process and social structure and comparisons across Southern European cultures and with North American culture will be stressed. P: 156-100, 900-202 or 255-102.

875-281 Student-Led Courses 1-4 cr.
See page 76.

875-28IX Selected Topics in Social Change and Development 1-4 cr.
See page 76.

875-290 Power and Change in America † 3 cr.
Who has power and what to do about it. Systematic analysis of where power in America and the community lies. How the holders of power got where they are, and how change occurs. How to gain power.

875-298 Independent Study 1-4 cr.
See page 77.

875-300 Community Organizing: Strategies and Techniques 3 cr.
Explores different ways of solving social problems in a local community. Studies of successful projects and comparison of alternative organizing strategies. Includes practical instruction in running a conference, preparing publicity, lobbying, and other organizing skills. P: 6 credits in Social Change and Development or social science courses.

875-301 Social Change and Development Field Studies 6 cr.
Field course designed to be taken in conjunction with other Social Change and Development courses. Concentrates on aspects of social change in Northeastern Wisconsin and elsewhere.

875-311 The Role of Punishment in Society 3 cr.
Punishment and its many corporal and psychosocial variations has always been with us. Its effectiveness as an institutional and individual tool for social control and change is rarely questioned by the general public. This course challenges the effectiveness and values of punitive societies. Can a punitive society achieve and maintain constructive social control and change and sustain human values? If not, can we go beyond punishment and find an effective instrument for beneficial social control and change? P: 156-100 or 900-202.

875-320 Constitutional Law
Interpretations of the constitution and the development of our legal system. The law as a parameter and a molder of processes in society; current trends in constitutional law, implications for our development, and social options available if different interpretations occur. P: 6 credits in Social Change and Development, political science or history courses.

875-325 Law in Society 3 cr.
Examines the place of law in society and in relationship with other social institutions. Law in society is viewed from historical and cross-cultural perspectives. P: jr st or cons inst.

875-333 Social Change in a Selected Area 3 cr.
Processes and strategies of social change and development in a selected nation or set of nations. Course may be repeated for credit each time it focuses upon a different area.

875-340 Woman as Worker 3 cr.
Focuses on the problems women encounter as workers. The implications of such issues as women's double shift (as public and domestic worker), the socialization of domestic work, wages for housework and child care, women as a reserve labor force, differential wage scales and job segregation will be explored within a study group format. Analysis of the socioeconomic variables and ideologies which have shaped and supported women's place in the economic system; and examination of strategies for change, including legal action, social protest, trade unionism, community action, and the women's movement.

875-342 Women, Myth, and Identity 3 cr.
How archetypal and mythological images of women influence contemporary images of women and their roles. How early images of women, such as those revealed in Paleolithic cave art, early Mediterranean civilizations, Greek mythology, and Judaeo-Christian tradition, continue to influence modern images of women. Freudian and Jungian psychoanalytic theories concerning women. Prevailing images of women in education, economics, family, the sciences, politics, the arts, in our own and other cultures, are investigated to determine if the images are similar, if they are valid, and if there is a universal need for change.

875-345 Women in Cross-Cultural Perspective 3 cr.
Research materials and analytical tools from anthropology and sociology used to examine the changing position of women in selected pre-industrial, developing, and industrial societies. In addition to analyzing women's status and role in particular social context, comparisons across societies are drawn and reasons for differences proposed and discussed. Special emphasis on discovering the cultural, social, political, and economic institutions which shape women's lives worldwide. P: 875-241.

875-348 Women and the Law 3 cr.
Examines the changing legal status of women in relationship to other social forces. Surveys major historical landmarks in the development of women's legal rights and the current status of such areas as property rights, family law and employment opportunity. Based on an examination of the effectiveness and limitations of various legal tools—ERA, legislation, and lawsuits—in the struggle for women's equality, discusses alternative strategies for future action.

875-354 Comparative Communism 3 cr.
An examination of social institutions, political processes, and social values in selected communist-led nations. Human rights in communist states will also be discussed.

875-360 Models and Social Change 3 cr.
The value oriented problems of defining social change. Use and construction of models as analytical tools in the study of social change.

875-361 Historical Perspectives on Social Change 3 cr.
Application of the concepts and models of social change discussed in 875-360 to the question of the processes of social change through time. Emphasis on both the historical processes of social change and on values implicit in them. P: 875-360 or cons inst.

875-365 People and Development 3 cr.
Historical overview of population technology, and economic development. Survey of the current and projected future situations in population, resources, and socioeconomic geography in the world's poor countries. A framework, based upon the concept of human resources (population weighed by "quality" of human potential), for considering, "What is the role of population in the economics of poor countries in the world today?" P: 875-360, 361 or 478-321.

875-366 Continuity and Change in Agrarian Societies 3 cr.
A comparative study of the agrarian sectors within underdeveloped nations and within highly industrialized nations. Emphasizes the relationships between urban centers and rural society and the forms of adaptation and resistance created by agrarian peoples in such relationships. P: 875-360 or cons inst.

875-371 Motivation and Social Change 3 cr.
A selective review of motivation theory with applications to change-related behaviors such as innovation, leadership, and entrepreneurship. Motivationally based theories of economic development. The interaction of psychological and sociocultural forces in collective phenomena such as social movements, the diffusion of innovations, and generational changes.

875-440 Women and Religion 3 cr.
Religion is an extremely powerful force in all societies and cultures. It is, however, a force whose pervasiveness, whose influence in all areas of human endeavor, is not fully recognized or understood. This course examines organized religions, principally those in the Judeo Christian tradition; it explores the history of organized religions, theologies and religious traditions as they shape and enforce the "accepted" roles and rules for women and men.

875-470 Senior Seminar in Social Change and Development 3 cr.
A rigorous analysis of an important social change issue or of the work of an important social change theorist. The emphasis is upon intellectual depth. P: 875-360/361.

875-481 Student-Led Courses 1-4 cr.
See page 76.

875-483X Selected Topics in Social Change and Development 1-4 cr.
See page 76.

875-484 Senior Honors Project 3 cr.
See page 77.

875-498 Independent Study 1-4 cr.
See page 77.

892 SOCIAL SERVICES

892-202 Introduction to Social Services 3 cr.
The role of social change in modern society; field methods, principles, scope of the social services. P: soph st.

205 Personal Values and Social Reform 3 cr.
See 493-205.

892-250 Concepts of Counseling and Psychotherapy 3 cr.
Defines conditions which must be met to separate therapeutic from pseudo-therapeutic activities. Fundamental scientific and social concepts underlying all therapeutic activities are discussed as to their strengths and weaknesses. The course attempts to de-mystify counseling and psychotherapy interventions without destroying their usefulness as benign social means of controlling individual behavior. Not a "how to do" course but an introduction to understanding the social-psychological cultural matrix which underlies all forms of psychological helping. P: background in psychology or sociology.

892-255 Interviewing Skills: The Art and Practice of Social Communication 3 cr.
Enables the student to become an effective communicator/interviewer. The program emphasizes three basic components involved in being a communicator: (1) knowledge of communication/interviewing skills, (2) experience in applying communication skills, and (3) an understanding of oneself as a receiver and sender of messages. Oriented toward people interested in improving their abilities to relate to others. Particularly valuable for persons who plan vocations which involve considerable interaction with other people, such as public relations work, advice giving, personnel, administration, counseling, and social services.

892-257 Training in Social Service Skills and Techniques 3 cr.
The lab consists of a number of learning experiences intended to assist students in developing and/or increasing skills and awareness required for competent behavior as a helping person. Areas of focus include: (1) inner communication and awareness of personal values and behaviors; (2) other communication including dissecting messages, increasing listening skills, negotiating contracts and understanding roles within a system; and (3) assertion training for use in intervention with clients, colleagues and administrators. Students will learn about and share information on various helping agencies in the community.

892-281 Student-Led Courses 1-4 cr.
See page 76.

892-283X Selected Topics in Social Services 1-4 cr.
See page 76.

892-298 Independent Study 1-4 cr.
See page 77.

892-300 Introduction to Field Experience in a Social Service Agency 1-3 cr.
Offers an introductory exposure to working in a social services agency. A supervised program of observation and assistance to the agency is provided by a professional staff member of the agency. This course is necessary for students seeking career preparation in social work or human development. Students are expected to contract for placement with an approved social services agency for 40 hours of time per credit. A written assignment discussing the experience is required.

892-302 Social Service Issues: Public Welfare, Aged and Infirm, Drug Abuse, Probation and Parole, Child Welfare, Others 3 cr.
May be repeated for credit each time a different issue is studied. P: 892-202.

892-305 The Social Work Profession 2 cr.
An orientation to the knowledge, skills, and values of professional social work practice. Professional competencies expected of a Bachelor of Social Work graduate are defined and related to field training experiences. Required for B.S.W. majors and may be taken concurrently with 892-300, Introduction to Field Experience.

892-330 Basic Concepts of the Social Services I 3 cr.
Generic social service practices. Concepts focus on individuals, groups, and organizations as subjects of change; understanding techniques of interviewing, group management, and organizational change, with an emphasis on mental health and social work. Relationships between values and strategies of social intervention. Concurrent registration in 892-402 and 892-410. P: 892-202 or equivalent.

892-331 Basic Concepts of the Social Services II 3 cr.
The second part of a two-semester sequence which introduces students to analysis of generic social service practices. The sequence focuses on individuals, groups, and organizations as subjects of change. This course emphasizes concepts and techniques relevant to organizational and community change. Students are introduced to the different conceptual frameworks within which models of planned social change may be developed. Concurrent registration in 892-403 and 892-411. P: 892-330.

892-350 Concepts of Group Therapy and Group Counseling 3 cr.
Group work is based on concepts distinctly different from those of individual intervention. Concepts particular to group work are presented and, when possible, demonstrated in the laboratory. The relationship between group concepts and group counseling and group therapy is examined. This course will not prepare an individual to function as a group counselor/therapist; it will enable a student to be more critical and evaluative of counseling and therapy activities. P: jr st.

892-355 Theory and Practice of Human Relations Skills 3 cr.
Utilizes theories of human relations skills as developed in the behavioral sciences and tests the meaning and the application of these theories through small group participation.

892-360 Social Service Delivery Systems and Cultural Differences 3 cr.
Social service programs of culturally and technologically different societies are visited. The nature of the differences between the care-giving institutions are related to the cultures from which they emanate and which, in turn, they service. Offered in January and summer.

893-402, 403 Field Experience in a Social Service Agency I, II 3, 3 cr.
Actual social service work through placement in a social service agency; weekly seminar meetings and written reports. Concurrent registration in 892-410, 411 and 892-330, 331. P: 892-202.

892-410 Principles of Social Service Methods I 3 cr.
Applications of concepts important to the understanding of individual, group, organizational, and community dynamics to generic social service practices. Students bring to the class issues generated through their exposure to field placement activities. Discussions focus on applying conceptual tools for assessing the variety of responses to changing social needs from the perspective of the consumer of the service, the service deliverer, and the needs of society. Students develop an understanding of what they want to do and methods to achieve their goals. Skills to influence individuals, groups, and organizations are refined through the field experience. Concurrent registration in 892-330, 892-402. P: 892-202.

892-411 Principles of Social Service Methods II 3 cr.
Students apply various social service methods to stimulate the clients and the placement agency into greater effectiveness in the direction of their/its goals. A dual focus of client change and organizational change using general problem solving methods for change is developed. Concurrent registration in 892-331 and 892-403. P: 892-410.

892-481 Student-Led Courses 1-4 cr.
See page 76.

892-483X Selected Topics in Social Services 1-4 cr.
See page 76.

892-498 Independent Study 1-4 cr.
See page 77.

900 SOCIOLOGY

900-202 Introduction to Sociology † 3 cr.
Introduction to major sociological concepts and ideas and their application to contemporary problems of societies.

900-203 Minority Groups † 3 cr.
Analysis of the structure and dynamics of majority-minority relationships in society; examination of diverse religious and ethnic minority groups.

900-208 Marriage and Family in American Society † 3 cr.
Nature of marriage and familial institutions; processes of premarital and marital interaction in a variety of contexts; alternative patterns of establishing close relationships.

900-283X Selected Topics 1-4 cr.
See page 76.

900-298 Independent Study 1-4 cr.
See page 77.

900-301 Foundations for Social Research 3 cr.
An integrated introductory examination of the nature of science, theory, methodology and statistics. The emphasis is on identifying and interpreting relationships between social phenomena. This is assured by applying the conceptual tools provided in the course to specific problems. P: 255-205 or cons inst.

900-302 Social Stratification 3 cr.
Class, status and power as determinants of group interests, preferences, ideologies, and struggles; examination at the national and international level. P: 900-307 or cons inst.

900-304 Deviant Behavior 3 cr.
Description and analysis of the range of behavior regarded as problematic in contemporary society; evaluation of the major theoretical positions on norm constriction, labeling, causes and treatment. P: 900-202.

900-307 Social Theory 3 cr.
A critical analysis of classical and contemporary social theories with attention to their social and intellectual context, and contemporary application. P: 900-202 or cons inst.

900-311 Collective Behavior and Social Movements 3 cr.
Analysis of structure and processes of crowds, social movements, and masses with emphasis on societal contexts and relationships to social change. P: 900-202.

900-312 Social Change 3 cr.
Analysis of contemporary theories of social change in communities and societies; examination of processes, problems, planning and value perspectives in relation to change. P: 900-307 or cons inst.

900-356 Social Demography 3 cr.
Social and economic factors related to the size, growth, distribution, and dynamics of human populations. Theoretical approaches to human population growth. The impact of population policy upon demographic trends. See 799-356.

900-375 Sociology of Human Sexuality 3 cr.
Sociological analysis of human sexuality within historical and comparative frameworks; focus on areas of major sociological research including development of sexual preference and identities, premarital sex, marital sex, commercial sex and sexual subcultures. P: 875-235 and 900-202 or 900-202 and 2 other social science courses.

900-404 Criminology 3 cr.
Analysis of the relationship of crime and society focusing on causes of crime and programs of control. P: 900-202 and one 300 level course in sociology.

900-405 Rural-Urban Interaction 3 cr.
Dynamic analysis of interaction patterns between countryside and city, their individual and social consequences in cross-national comparison. P: 900-307 or cons inst.

900-406 Comparative Social Systems 3 cr.
Contemporary social systems and institutions in cross-cultural and comparative perspectives. P: 900-307 or cons inst.

900-407 Sociology of Organizations 3 cr.
A general analysis of large organizations, such as bureaucracies, military organizations and educational organizations, from sociological perspectives. P: 900-307 or cons inst.

900-483X Selected Topics 1-4 cr.
See page 76.

900-498 Independent Study 1-4 cr.
See page 77.

944 URBAN STUDIES

944-200 The City: An Introduction † 3 cr.
Looks at the richness and complexity of the human experience in the modern city. We examine the city as an arena in which interrelationships between enduring human concerns and social institutions find articulation and ask how the city influences these as well as how the established institutions and concerns influence the city.

944-210 Drawing Systems for the Designer 3 cr.
Introduction to the theory and practical application of various drawing systems, including orthographics, axiometrics, and perspectives. Emphasis is on the use of these drawing systems as aids in the design process. Projects ranging from working drawings to finished display renderings done for various methods of reproduction are required.

944-230,231 Values in Black and White America I, II 3, 3 cr.
Designed to increase student's self knowledge, to help develop a considered, responsible set of personal values, and to promote understanding between black and white Americans. The courses compare basic values and views of life in two cultures, beginning with a brief look at values in white America and moving to a detailed study of the history and culture of black America. In the second course, we try to enrich our understanding of and appreciation for the range of possible expressions of the aspirations of the human spirit and the social context of individual values.

944-233 The Individual, Society, and Identity 3 cr.
People are social beings. Each of us is a member of society and at the same time both a product and a creator of society. To what degree and in what ways are we influenced by the social environment we live in? How can we shape that environment? Where do we get our basic values, goals and identities? To what extent are we independent individuals and to what extent social products? What choices do we have about the kinds of persons we will become? How can we best exercise those choices? This course uses readings and discussion to explore these and related questions.

944-240 Images of the City in American Literature and the Arts 3 cr.
Focusing on how American writers have dramatized and symbolized cities in novels, poems, and plays, this course also explores visual images of the city in paintings and photographs.

944-281 Student-Led Courses 1-4 cr.
See page 76.

944-283X Selected Topics in Urban Studies 1-4 cr.
See page 76.

944-298 Independent Study 1-4 cr.
See page 77.

944-302 Urban Behavior 3 cr.
This course focuses on the life that people live in cities. It examines how we perceive and form impressions about urban areas, how we use urban areas, and how we interact with others in these settings. The topics covered are psychological in nature, but rely on material from a variety of disciplines. P: jr st, 1 lower division social science course; 255-205 or equivalent.

944-305 Urban Politics and Policy 3 cr.
Concerned with urban social theory and its relation to urban political processes and public policy. Of central concern is the question: To what extent are basic human needs, as identified by urban theorists, frustrated and/or fulfilled by urban political processes and public policy. Policy arenas examined include: urban renewal, welfare policy, urban transportation, fiscal policy.

944-307 Urban Public Law 3 cr.
Examines the changing character of United States' public law toward urban communities as that law is expressed in Congressional statutes, judicial decisions and administrative rules. The response of public law to housing problems, equalization of municipal services, school desegregation, land use, growth controls, etc., are analyzed. The course requires an in-depth description and analysis of national public laws (statutes), rules (administrative), and order (administrative and judicial) having to do with the urban setting. Students study government documents as primary materials. The government document center serves as a laboratory. P: 944-200.

944-310 Studies in Urban Culture and Society 3 cr.
Cultural and social dimensions of urban life are explored through case studies. Specific topics vary from year to year. Examples of topics include: The Political Economy of Cities, The Culture of Poverty, Urban Values, and the Corporation and the City.

944-311 Studies in Urban Resources 3 cr.
The use of urban space and resources is explored through case studies; specific topics vary from year to year. Examples of topics include: Urban Environmental Policy, Housing, Land Use Policy.

944-312 Studies in Urban Behavior 3 cr.
The interrelation of human behavior and the biophysical and sociocultural environments of cities is examined through case studies. Specific topics vary from year to year. Examples of topics are: Environmental Perception, Social Responses to Urban Renewal, Altruism, Helping Behavior in Urban Settings, and Urban Behavior Patterns.

944-313 City Through Time and Space 3 cr.
Development and comparison of urban patterns in different cultural contexts. Major issues such as community, expansionism, imperialism, autonomy and participation, stratification systems, mobility, poverty, cityscape and aesthetic qualities of public space are examined in historical and cross-cultural settings.

944-325 Behavior in Designed Environments I 3 cr.
How the physical development of indoor and outdoor living spaces, including their location, form, and design, influence and shape human behavior. Introduction to contributing variables and techniques of measuring environment-behavior relationships. See 843-325.

944-326 Behavior in Designed Environments II 3 cr.
Application of techniques and knowledge of the environment-behavior relationship to studies of the designed area. Students develop and carry out all aspects of a detailed study of a selected environment-behavior problem. See 834-326.

944-335 Aggressive Behavior: Biological and Psychological Roots 3 cr.
Examination of current views on sources of aggressive behavior. Data and theories from both ethological studies of animal behavior and psychological studies of the behavior of humans and other animals are considered. An attempt is made to synthesize these two major points of view, with a special emphasis on the implications for human behavior.

944-337 Urban Violence: Causation and Control 3 cr.
Analysis of collective violence in urban communities. Brings together several strains of scholarship—political science, psychology, sociology, and history—in an effort to probe the nature, causes and consequences of collective urban violence. Special emphasis is placed on links between theories of causation and theories of control.

944-340 Urban Visions and Cultural Traditions 3 cr.
Ways in which creative individuals imagine what the city is and what it could be reflect in part the urban experience and cultural values of their nation's past. Conversely, the expressions of their visions contribute to shaping their nation's future cultural traditions. This course explores the interrelationships between creative works that express urban visions, on the one hand, the experiences and values embodied in cultural traditions, on the other, by comparing examples of creative visions developed in different cultural contexts.

944-345 Women in American Perspective 3 cr.
Provides a historical survey of the changing situations and various contributions of women in American society. It covers the colonial, frontier, Jeffersonian, urban-industrial, and modern periods, and it includes an in-depth study of the turn of the century women's movement. It also uses social analyses and individual life histories to explore the impact of sex role problems on contemporary women from different socioeconomic, ethnic, and personal backgrounds.

944-351 Transportation and the City 3 cr.
The impact of the transportation subsystem of the city upon other urban subsystems (residential, commercial) and upon urban dwellers.

944-370 Police in Modern Society 3 cr.
The relationship of the police with the environment and what police actually do. Emphasis on organizational structure of police departments, personality and attitudinal characteristics of officers, psychology of becoming an officer, public attitudes toward police, policy-minority relations, response to social unrest, and future roles for police.

944-375 Women: Strategies for Change 3 cr.
Designed to combine theoretical knowledge and practical experience in an effort to understand and evaluate alternative strategies for change in the status of women in society today. Intended for students with some background in women's studies and/or community activism. Differing theoretical approaches to social change for women are contrasted, focusing on their concepts of power relations, methods of reform, and effectiveness. Student projects concentrate on acquiring practical skills for social change, through community projects, or through internships with appropriate organizations, office-holders, or other skilled individuals of the student's choice.

944-400 The City as Idea 3 cr.
Attempts to define what a city is have been many and varied, reflecting political boundaries, population density, bricks and mortar, and the like; but it is equally important to understand how the city is perceived, which may well be different from what it is in concrete terms. The ways in which Americans have viewed the city over time—its life as a construct, an image, symbol, and myth—are examined and the implications of population perceptions on public policy are explored.

944-401 Environmental Design Workshop I 3 cr.
Design problems at the individual's scale. Investigation of personal space, privacy considerations, and dimensional characteristics of the human body. Draws heavily on inputs from 834-325, 242-401, and guest lectures on such topics as ergonomics, ecological psychology, lighting, and acoustics. Projects aimed at elucidating interactions between individuals and physical and social situations in which these individuals behave. Investigations culminate in research and design analysis projects of specific individual environments selected by student design teams. Projects are presented in graphic and verbal form at public critiques. P: 242-271

944-402 Environmental Design Workshop III 3 cr.
Community environment. Investigation of such areas as urban neighborhoods, central business districts and whole urban communities. Topics include residential quality, land use analyses, the urban infrastructure, urban amenities, transportation, and urban stressors. Assignments and projects are drawn from the community surrounding the University. Students can expect to participate in a semester long community design project involving one of the ongoing neighborhood planning and programs sponsored by Urban Studies. P: 944-401, 421, and cons inst; 862-327 and 944-430 are recommended.

944-421 Urban Planning I 3 cr.
Planning as a generic process—an examination of planning activities in the various delivery systems of the city; introduction to the basic methods and techniques of urban land use planning, contemporary issues in planning, implementation of plans, an overview of major federal programs for the delivery and improvement of the urban environment.

944-422 Urban Planning II: Community Project 6 cr.
A field research seminar focusing on the planning/decision making processes in an ongoing program for revitalizing a West Green Bay neighborhood. Seminar members constitute a planning team, expected to make all of the organizational and operational decisions necessary to make the team an integral part of the community program. Topics and/or activities which the seminar may investigate include the planner as advocate and change agent; information requirements in planning; interest groups involved in community decision making; definition making; definition of the community and description of its residents; analysis of community needs; systems of service in the community; designing and implementing intervention strategies; basic systems for generating and organizing information for planning, and intervention activities.

944-430 Urban Aesthetics 3 cr.
An investigation of the physical/visual form of the American urban place. The city is analyzed as a response to the aesthetic and value systems of its inhabitants to the history of American urbanization; and to those bureaucratic systems which impact its form. This course is designed around a series of mandatory field trips and other case studies.

944-435 Sociocultural Aspects of Urban Stress 3 cr.
An examination of human adaptation to sociocultural stressors typically prevalent in present day communal life. Emphasis is on planning and executing projects concerned with the impact of such stressors on individual experience and behavior and impact in turn of those adaptive responses upon the nature of the communal environment.

944-440 Social Dynamics of Urban Life 3 cr.
Aspects of culture and environment which impede or facilitate social interaction, solidarity and participation in urban America. The impact of values, images, physical qualities, size, homogeneity, mobility, social class, and ethnic group affiliation upon cooperation, neighborliness, friendliness, companionship, commitment, security, and power. Special attention is paid to changes in these patterns as America became increasingly industrialized and urbanized as well as to changes produced by counterculture movements.

944-444 National Issues and Community Reform 3 cr.
Focuses on two general areas: 1. the effect of national socio-economic problems on urban concerns, and, 2. the effect of community reformist action on urban and national issues. The course explores the urban effects of corporate and national governmental policies towards the distribution of wealth and power in urban America. Also, it examines a variety of strategies employed by Americans who have attempted to use community action to cope with urban and national problems.

944-479 The Concept of Community in American Society 3 cr.
Analyzes changing concepts of community and consequent difficulties involved in American urbanization and industrialization. The term "community" is a complex concept encompassing a variety of both social structures and cultural paradigms. The course examines American tensions between community and individualism emerging from the interplay of agrarianism, urbanization, industrialization, nationalism, and the impact of mass culture on American life. Issues include the self and social interaction, naturalness and artificiality, freedom and order, and spontaneity and organization. Also, changing occupational patterns, family structures, ascribed sex roles and styles of pseudo-communities are examined. In so doing, the course explores folklore and myth, law and art, social science and literature, and philosophy and political theory.

944-481 Student-Led Courses 1-4 cr.
See page 76.

944-483X Selected Topics in Urban Studies 1-4 cr.
See page 76.

944-484 Senior Honors Project 3 cr.
See page 77.

944-498 Independent Study 1-4 cr.
See page 77.

957 ART

957-105 Drawing 3 cr.
Introduction to studio art work and to fundamental concepts of drawing structure and design. Emphasis upon two-dimensional art work employing various drawing techniques in black and white media.

957-106 Design Methods 3 cr.
This studio seminar to serves as an introduction to design methods. Its focus is investigating spatial design as a decision-making and problem-solving process bounded by criteria which include human sensory systems, ergometrics, proxemics, basic structural systems, and materials. These investigations are combined with experiences and creativity systems, graphic and workshop tools and techniques.

957-107 Two Dimensional Design 3 cr.
Introduction to design studio art work and to fundamental concepts of art structure and composition. Emphasis upon two-dimensional art work in color and design utilizing the elements and principles of design.

957-210 Introduction to Painting 3 cr.
Investigation of painting media; oil, watercolor, and acrylics and their inherent expressive qualities and characteristics. P: 957-107.

957-220 Introduction to Sculpture 3 cr.
Introduction to various sculpture media and their inherent expressive qualities. Construction of basic forms using clay, plaster, cement, and other media. P: 957-107.

957-230 Introduction to Ceramics 3 cr.
Introduction to the forming of clay by pitch, slab, and coil methods and throwing on the wheel. Pottery decoration and glaze application. P: 957-107.

957-243 Introduction to Photography 3 cr.
The creative process in photography is studied to develop visual perception through active participation in discussions and photographic exercises. See 246-243.

957-254 Textile Arts Workshop 1 cr.
Intensive one week summer workshop designed for an indepth exploration of one technical area from the vast field of textiles. Demonstrations, slides and examples of traditional and contemporary work, individual and class critiques assist students in developing original designs appropriate to materials and processes. Each technique is explored for its potential as an art form Content is variable. Repeatable for a total of 3 credits as long as content varies. When a technical area is repeated, student should enroll in the advanced textile arts workshop

957-283X Selected Topics 1-4 cr.
See page 76.

957-298 Independent Study 1-4 cr.
See page 77.

957-301 Life Drawing and Anatomy 3 cr.
The skeletal structure and muscular articulation of human and animal forms as a basis for artistic interpretation. P: 957-105, 957-106, 957-107.

957-311 Intermediate Painting 3 cr.
Cultivation of techniques for personal expression; composition and development of imaginative concepts in oil paint and allied media. P: 957-210.

957-314 Watercolor Painting 3 cr.
Creative approach to watercolor techniques; cultivation of personal expression and development of imaginative concepts. P: 957-210.

957-321 Intermediate Sculpture 3 cr.
Intermediate work in sculpture. Students use various media to develop personal forms of expression. May include metal fabrication, casting of metals, carving, lamination of plastics, and innovative methods of working with different materials. P: 957-220.

957-331 Intermediate Ceramics 3 cr.
Intermediate work in ceramic media with emphasis on the potter's wheel and the aesthetics of the vessel, surface decoration form and utility. P: 957-230.

957-332 Intermediate Ceramics: Moldwork 3 cr.
Studio work in the construction and use of molds for ceramic use. Explores multiple imagery, modular units, slip casting and the use of original and found forms in producing the ceramic object. P: 957-230.

957-343 Photography II 3 cr.
Emphasis upon black and white photography and darkroom printing techniques. P: 957-243 or equivalent experience. See 246-343.

957-344 Photography III 3 cr.
A continuation of 957/246-343; investigation of black and white photography, allied media, and applications of photography. See 246-344.

957-353 Textiles: Fiber Construction 3 cr.
Investigation of the varied techniques of creating both two and three dimensional forms with fibers, yarns, and related materials. Areas include weaving (both on and off the loom), knotting and macrame, creative knitting and crochet. Techniques are introduced as a vehicle for creative expression. P: 957-105, 957-106, 957-107.

957-354 Textiles: Designing with Fabrics 3 cr.
Introduction to techniques in design on and with fabrics including batik and tie-dye, creative stitchery, fabric collage (applique) and soft sculpture. Students use techniques to work toward personal expression. P: 957-105, 957-106, 957-107.

957-363 Art Metals: Jewelry Fabrication 3 cr.
Studio work in creating and designing jewelry projects using varied metal techniques, processes and metal media. Forming, shaping, and designing of jewelry as quality handcrafted art forms for personal adornment and expression. P: 957-105, 957-106, 957-107.

957-364 Art Metals: Casting 3 cr.
Study and investigation of casting techniques in jewelry and art metals media. Emphasis on designing wax models; varied casting processes (i.e., "lost-wax," centrifuge, steam casting, vacuum casting, gravity casting), and the aesthetic development of 3-D art metals/jewelry pieces as reflection of individual creative expression. P: 957-105, 957-106, 957-107.

957-371 Relief Printing: Reductive 3 cr.
Aspects of relief printing: woodcut and linoleum printing in black and white or color. Explored and developed as a medium of expression in which the artist communicates personal statements reflecting the human condition of the environment. P: 957-210.

957-373 Intaglio 3 cr.
Studio work in intaglio techniques including dry point, engraving and various etching procedures. P: 957-210.

957-375 Screen Printing 3 cr.
An introduction to studio work in screen printing, including basic materials and equipment, blockout stencil making, paper stencil, pochoir, water soluble film, and photo emulsion technique. P: 957-105 and 957-106; or 957-243 and 957-343; or 242-231 and 242-331.

957-377 Lithography 3 cr.
An introduction to the art of lithography employing fundamental techniques of planographic printing. Explored and developed as a medium of expression in which students communicate personal statements reflecting the human condition of the environment. P: 957-105, 957-106, 957-107.

957-390 19th and 20th Century Art 3 cr.
Analyzes the evolution of art styles from neo-classicism to surrealism (1789-1945) and relates these movements to their historic and cultural origins. Topics include the struggle of the individual against the state and the academy, the influences of scientific and psychoanalytic discoveries on the arts, and the resulting changes in our perception of reality. P: 242-202.

957-395 Exhibition Development and Design 2 cr.
Introduction to the standards, practices and methods of the museum and art gallery profession. Includes most phases of successful exhibition development including planning, promotion and publicity, development of educational materials and programs, exhibition design and installation, and training in the proper handling and treatment of works of art. P: jr st and cons inst.

957-401 Advanced Life Drawing 3 cr.
Emphasis on the interpretation and expressionistic use of the human figure. Logical distortion and exaggeration to heighten the visual expression. May be repeated to a maximum of 9 credits. P: 957-301.

957-410 Advanced Painting 3 cr.
Maturing painting students explore specific problems relevant to their individual artistic development. A major goal is a consistent body of work, both conceptually and formally. The course also deals with portfolio preparation. May be repeated for a maximum of 9 credits. P: 957-311.

957-414 Advanced Problems in Watercolor 3 cr.
The developing watercolorist selects and concentrates on those aspects which seem relevant to artistic growth. A focus on specific problems, leading to development of a unique and personal style of expression. May be repeated for a maximum of 9 credits. P: 957-314.

957-421 Advanced Sculpture 3 cr.
Techniques and equipment; construction of tools; investigation of materials, traditional and innovative, as related to needs and aesthetic considerations of the sculptor. May be repeated to a maximum of 9 credits. P: 957-321.

957-431 Advanced Ceramics 3 cr.
Extension and development of ceramic techniques and aesthetics into a personal expression and portfolio development. May be repeated for a maximum of 9 credits. P: 957-331 or 957-332.

957-443 Advanced Problems in Photography 3 cr.
Each participant identifies an area of interest and an approach to the problems implied and is directed to resources in that problem area. Each student leads a seminar and prepares a paper on a selected photographer. Students also lead seminars on their work in progress and present the finished work to the class in a final portfolio. May be repeated for a maximum of 9 credits. P: 246/957-343. See 246-443.

957-444 Time Duration Visual Media 3 cr.
An investigation of visual media, especially film, video, and programmed multi-image projection, which require the passage of time to be perceived and which enable the producer direct control over the passage of time. The course includes active participation in discussions, exercises, and productions. See 246-444. P: 246/957-243 and 343.

957-453 Advanced Textiles 3 cr.
In depth research in one area of textiles including but not limited to weaving, crochet, knotting, basketry, batik, stitchery, fabric collage, padded or trapunto work, and soft sculpture. Emphasis upon the synthesis of technical mastery and cohesive artistic statement. Portfolio preparation included. Can be repeated for a maximum of 9 credits. P: 957-353 or 957-354 or cons inst.

957-454 Advanced Textile Arts Workshop 1 cr.
Intensive one week summer workshops concentrating on one technical area. See 957-254. The advanced student is required to design and produce a series of related pieces that exhibit both stylistic and conceptual consistency. Course may be repeated up to 3 credits as long as content varies.

957-463 Advanced Art Metals: Jewelry 3 cr.
Study of advanced techniques in jewelry; creative research and investigation of metals and jewelry media. Emphasis is upon technical competency of art metals media; designing; aesthetic development of a personal style; plus the creation of qualitative and expressive art jewelry pieces. May be repeated for a maximum of 9 credits. P: 957-363 and 957-364 or cons inst.

957-471 Advanced Relief Printing: Additive 3 cr.
Advances the student's knowledge and experience of the medium. Through experimentation with the printing surfaces students discover new means of creating imagery and textural effects. Students build upon previous expertise by combining the mechanics of cutting and removing surface with construction and addition of materials to achieve desired effects. Students are expected to have a solid foundation in the more traditional and academic techniques, before enrolling. P: 957-371.

957-473 Advanced Intaglio 3 cr.
Advanced studio work in intaglio printing. Color techniques and development of a personal concept are stressed. May be repeated for a maximum of 9 credits. P: 957-373.

957-475 Advanced Screen Printing 3 cr.
Provides an advanced studio experience building upon the introductory course, 957-375, including printing on vacuum formed plastic, on glass, metal, and fabrics. Can be repeated for a maximum of 9 credits. P: 957-375.

957-477 Advanced Lithography 3 cr.
Provides further investigation of specific problems relevant to students' personal artistic development. Emphases on developing individual competency, both technically and conceptually through assigned projects. May be repeated for a maximum of 9 credits. P: 957-377.

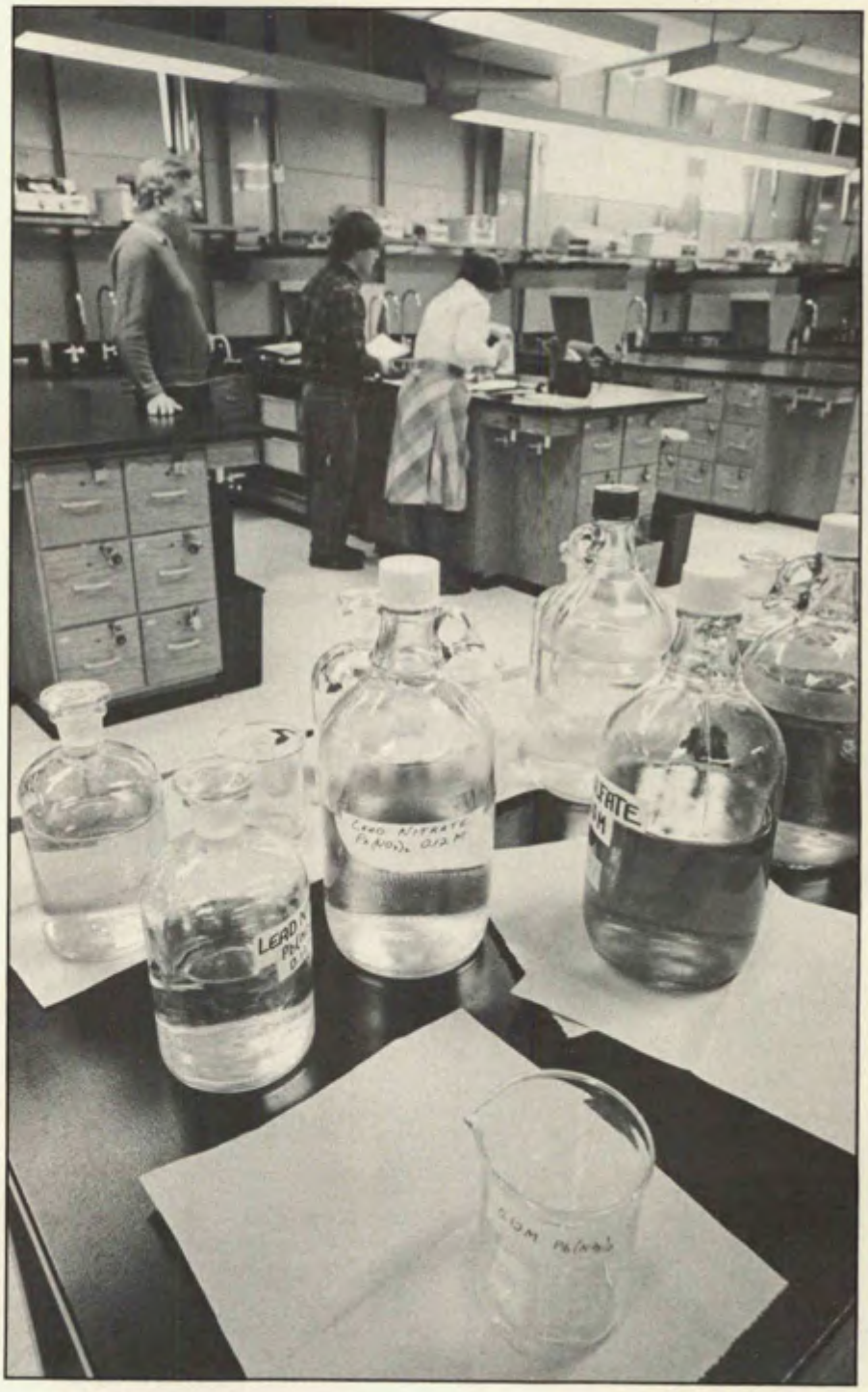
957-483X Selected Topics 1-4 cr.
See page 76.

957-490 Contemporary Art: Post 1945 3 cr.
Analyzes the art movements from abstract expressionism to post-modernism. It explores, critically, artists' grapplings with such issues as meaning and standards (or the lack thereof) in art today, pluralism, commercialization and popularization of art, morality in art, and the merging of life and art (the Zen viewpoint) P: 242-103.

957-497 Gallery Practicum 1 cr.
Students completing the course in Exhibition Design and Development receive practical experience in the University gallery program. Eacy student is responsible for coordinating all aspects of an exhibition and oversees its installation. Students may take this course twice and may acquire additional credit via petition. P: 957-395, minimum grade B.

957-498 Independent Study 1-4 cr.
See page 77.

Special Learning Opportunities



This section presents an overview of special learning opportunities offered at the University. More details on many of the programs are available in the *Student Handbook*. Complete information can be obtained from the appropriate campus offices: on academic support, Academic Support Programs; on competency-based major, national student exchange, and personal major, Individualized Learning Programs; on international student exchange, Vice Chancellor for Academic Affairs; on independent studies, internships, senior honors, student-initiated and student-led courses, Academic Advising; on noncredit study, Outreach; on credit by examination, Educational Testing Center; on credit for prior learning, Individualized Learning Programs; on advanced placement credit, Registrar; on travel related to the academic program, Vice Chancellor for Academic Affairs. Each office may be contacted in care of the University of Wisconsin-Green Bay, 2420 Nicolet Dr., Green Bay, WI 54301-7001. Telephone numbers are listed inside the front cover of the catalog.

Academic Support Program

The Academic Support Program offers nondegree credit courses in reading, composition, and basic mathematics. Students enrolled in these courses are either referred on the basis of their entrance exams, or they elect the courses to strengthen their basic academic skills. The Academic Support Program also offers one-credit workshops in college study skills, spelling, sentence structure, grammar, efficient reading, the research paper, and journal writing, which students are encouraged to take if they are aware of needs in these areas.

In addition, individual and small-group tutoring is available in all the areas mentioned, as well as in most courses offered at UWGB. Tutoring is scheduled on the initiative and at the convenience of the student. Questions about course work proficiencies in basic academic skills can be answered at the Academic Support Program Office. Specific courses offered in the program are listed in numerical sequence and described in the Course Descriptions section, under instructional unit numbers 553 and 601.

Exchange Programs

Exchange programs give students the opportunity to incorporate into their undergraduate education a semester or a year of study at another university.

The advantages of exchange and the reasons that students exchange are many and varied. Some do it to experience another geographic location while continuing their education. Others are motivated by specific needs: the opportunity for an earth science student to spend a semester in a place that is geologically different from Wisconsin, for example, or to study with particular faculty members at another university, or to take advantage of special courses or programs. Students from other universities come to UWGB for similar reasons.

National Student Exchange

The University of Wisconsin-Green Bay is one of only two schools in the UW System participating in the National Student Exchange, under which regularly enrolled students may apply for exchange to one of 62 colleges and universities in 36 states and the Virgin Islands. Exchange students from UWGB have recently been enrolled at institutions including the University of South Carolina, University of Idaho, University of Massachusetts-Boston, University of Montana, New Mexico State, California State at Bakersfield, and Oregon State. Men and women from Ft. Hays State in Kansas, the University of Maine, Montana State, State University of New York College at Potsdam, University of Idaho, University of Maryland, and Georgia State are among exchange students who have recently attended UWGB.

To participate in an exchange program, a student should be a sophomore or junior in good academic standing, and have a cumulative grade point average of at least 2.5. An exchange student pays normal fees at the home campus and is responsible for transmitting transcripts back to the home campus at the end of the exchange. In general, exchange students continue to receive any financial aids for which they are eligible from their home institutions.

International Exchange

The University's first international exchange agreement was concluded in 1980 with Linköping University in Sweden. Programs initiated since then provide for exchange of both students and faculty members with two additional institutions: Aalborg University in Denmark, and the University of Kassel, West Germany.

In general, students who participate in an international exchange pay UWGB tuition and continue to receive any financial aid for which they are eligible. They pay for their own travel, room and board, and personal expenses.

Individualized Learning

Competency-Based Major (Extended Degree)
The bachelor of arts in general studies degree is a liberal arts program which incorporates the elements of problem solving and lifelong learning. It is an upper-division, competency-based curriculum designed specifically for the adult who is unable to complete a degree in a campus-based academic program. Entry into the Extended Degree program requires 62 credits of lower division coursework, either earned or accepted at UWGB.

Independent Studies, Internships, Practica
Independent study permits a student to get credit for a special project or research. To arrange for independent study, a student prepares a proposal that includes a statement of objectives and a list of readings and/or projects that will help to meet these objectives. Then the student must find an instructor who will agree to supervise the study. Once the instructor and the instructional unit head approve the proposal, the student may register for independent study. An internship for academic credit may be arranged on campus or with an enterprise in the community. It must offer instruction, guidance, experience and evaluation in an appropriate professional context, in keeping with an internship agreement which replaces a syllabus and acts as a job description. Typical on-campus internships have included work in personnel, news writing, graphic design, museum anthropology, and art gallery management. Off campus, interns have worked in settings of wide diversity: in social services units of hospitals and mental health centers, at daily newspapers and commercial radio and television stations, and in private and public agencies concerned with recreation, fitness and leisure programs. Interns in public administration have found places in city and county government offices and in nonprofit organizations such as the Red Cross and United Way; internships completed recently by business students—in marketing research, personnel management, general management and accounting—have been carried out in local firms including a utility company, information systems manufacturer, printing establishment, and food processing firms. In some academic programs, a placement which offers the opportunity for work and/or observation in an appropriate professional setting is called a "practicum" or "field experience."

Personal Major
A personal major is a self-designed program for students who find that their educational objectives and interests do not fit into any of the existing majors. It is an alternative which may be planned around any theme consistent with the University's commitment to an education based upon the interrelatedness of knowledge and which focuses on human beings and their various environments.

In planning a personal major, the student determines a learning goal and how the educational opportunities at UWGB can help attain it; designs a personal program directed toward that goal; then formulates a proposal. This plan may consist of a combination of regular courses, experimental courses, independent study, internships, off-campus projects, credit for verified off-campus learning, and special programs, as long as the combination is a coherent program centered around an individual theme and contains a minimum of 30 credits at the junior-senior level. Essentially, the personal major can be organized in any way that makes sense and meets graduation requirements. The planning process usually begins at the end of the sophomore year or at the beginning of the junior year, and the final proposal must be approved by a personal concentration committee of faculty.

Research
Students have frequent opportunities to take part in research—opportunities that can enhance their qualifications for graduate or professional school. Many gain such experience by working with faculty members who are engaged in research. Recent or ongoing projects involving student workers include studies of water quality, marsh ecology, human responses to cold, approach-avoidance conflicts in spatial behavior, PCBs and lactation in rats, thermal and economic evaluation of solar heating systems, the ethno-history of Indian removal, and development of a training program for child day care.

The student who is interested in research may also enroll in research-oriented courses or engage in research through independent study or a senior honors project.

Senior Honors
Eligible students can individualize their academic experiences by choosing an in-depth, significant, senior honors project that can serve as the culmination of an educational program. A senior honors project is one of the requirements for graduation summa cum laude.

Senior honors projects can be as varied as the imagination, energy, and expertise of the students who complete them. Students of the arts can work for honors by giving music recitals, theater performances, or preparing individual shows in the visual arts. Students in other areas can engage in projects that result in written papers and other documentation and in oral or electronic media presentations.

Graduating with honors is explained in more detail in the General Academic Information section of the catalog.

Student-Initiated Courses
The student who wishes to initiate a course must first determine that the topic is not covered in any existing UWGB course. Then the student writes a description of the course, locates a faculty member who is willing to teach it, and determines whether enough students are interested in taking such a course to justify adding it to the course list for a given semester or January interim.

If the course is approved, it will be offered as an experimental course. Such courses are offered once; after that they are subject to review and may become part of the permanent curriculum.

More information on student-initiated courses can be found in the description of courses with variable content in the Course Descriptions section of this catalog.

Student-Led Courses
Students have the opportunity to develop and lead courses, under sponsorship of an academic unit and with the guidance of a faculty adviser. Such courses are generally on topics of contemporary concern not covered in regular courses.

Student-led courses are listed in the *Timetable* along with regular UWGB courses. More information can be found in the description of courses with variable content in the Course Descriptions section of this catalog.

Noncredit Study

Noncredit courses, workshops, conferences and seminars, planned by the Office of Outreach and University of Wisconsin-Extension, are scheduled around the year on campus and in several locations in the community. Offerings in a typical semester range from dance and exercise classes to the visual arts, philosophy, computer science, financial planning, birdwatching and foreign languages. Courses are usually planned for one to six sessions, meeting weekly in daytime or evening hours. Outreach also sponsors an annual series of dinner-lectures highlighting the cuisine and cultures of other lands.

Conferences and workshops organized by the Office of Business Outreach are oriented to the needs of regional business and industry, but are also open to students. Topics of the short courses include management techniques, labor relations, business law, finance, and communication skills.

Noncredit programs and enrollment procedures are described in a *Lifelong Learning* catalog published in fall, spring and summer by the Office of Outreach.

Retroactive Credit

Credit by Examination
Students may be interested in credit by examination if they have studied at nonaccredited institutions, pursued special interests independently, or gained experience in the community, in the armed forces, or in paid or unpaid employment that has helped to achieve learning equivalent to that which would be gained in a college course.

The University uses Advanced Placement Program (APP) exams; College Level Examination Program (CLEP) general exams in humanities, natural sciences, and social sciences; most CLEP subject exams; and most of the ACT Proficiency Examination Program (PEP) exams. The University also accepts credentials earned through certain other standardized exams, including those of the International Baccalaureate (IB) program, as a basis for granting credit when scores are at an acceptable level. In addition, challenge exams are available for certain courses given at UWGB.

Only matriculated students may receive credit for any examination at UWGB, although once a student is accepted and enrolled as a degree candidate, he or she may pursue many of the credits-by-exam options even during a period of nonenrollment.

Credit for Prior Learning
Learning based on experiences such as employment, volunteer activities, participation in workshops and seminars, hobbies and interests, travel, and publications may be used as the basis for seeking credit, if such experiences are related to courses, disciplines, or programs at UWGB. Students must be prepared to describe the experience in detail, to articulate in writing the skills or learning acquired, and to submit acceptable documentation or verification.

Students who wish to apply for credit for prior learning complete a workshop to learn procedures for preparing a prior learning portfolio and pay a fee for the assessment process. The fee is applied toward payment of the final fee for credits.

Advanced Placement Credit
Students who enter the University with advanced level preparation in calculus, Spanish, French, or German may receive credit for that preparation by passing an advanced level course with a grade of "C" or better. In mathematics, a student may receive four credits for Mathematics 202 by earning a "C" or better in Mathematics 203. In the language courses, appropriate amounts of credit may be awarded for passing any course above the 101 level with a "C" grade or better.

Travel

Students at UWGB can travel abroad or to other parts of the United States with faculty and other students as part of the educational experience. Through study trips, usually offered during the January interim, students may fulfill part of the all-University requirements or earn credits in other academic areas. In recent years students have traveled in organized trips to locations including England, Germany, Mexico, the American Southwest, and Chicago. When taken as part of an all-University requirements sequence, a trip usually makes up the second half of one of the required two-course sequences and offers a way to apply or investigate in the field what has been learned in the first course. Other opportunities for travel are offered by international exchange programs under which students may spend a semester or a year at a university in another country.

Resources and Services

This section briefly describes some major University resources and services related to the academic program and to student life outside the classroom. More detailed information can be found in the *Student Handbook* and in brochures and fliers describing specific resources, services and programs. A list of such publications is printed inside the front cover of this catalog. All are available on request from the Office of Admissions at UWGB.

Academic

Academic Support
The Academic Support Program assists students who need to improve reading, composition, mathematics or study skills. Information is provided in the catalog sections on Programs of Study and Special Learning Opportunities, and courses are listed in the Course Descriptions section.

Adult Services
Through free evening seminars on campus and programs presented in the community, the Adult Services Center provides information about UWGB course offerings and services to prospective adult students. The office helps the older student to enroll in a college program and provides support and encouragement through a variety of services including a weekly on-campus forum for all adult students. Adult women who enter the University can get advice, support, and help in overcoming personal or academic obstacles at the Office of Women's Educational Programs. The office also provides staff assistance and noncredit programs related to the Women's Studies academic unit.

Veterans of military service and dependents of deceased or disabled veterans can get information on regulations and eligibility as well as help in obtaining benefits from the veterans' coordinator in the Office of the Registrar.

Advising
Helping a student to plan a program and select courses in keeping with personal goals and University requirements is a major service of the Academic Advising Office. Academic advisers also provide the student with help in decisions on selecting academic majors and minors and make referrals to faculty advisers in the student's area of interest.

American Intercultural Programs
Art exhibits, lectures, films, performances of music and drama, "awareness" programs, and academic programs, such as American Indian studies, are among the activities coordinated through the American Intercultural Programs Office, which serves the special interests of American Indian, black, and Hispanic students. Public events are planned around the year to bring together members of the University community and townspeople of different backgrounds. Such programs help to foster understanding and appreciation of the traditions represented in the three student organizations receiving support through American Intercultural Programs: the American Indian Council, Black Student Union, and Hispanic Student Organization.

Bookstore
The University-operated Phoenix Book Shop, located in the Instructional Services Building, sells books and supplies for the classroom, clothing, magazines, trade books, gifts, greeting cards, and other items. Special orders may be placed for books which are not ordinarily stocked. The shop is normally open mornings and afternoons, Monday through Friday, while classes are in session. Hours are extended into the evening during the first full week of classes in the fall and spring semesters and the first two days of the summer session.

Computer Center
Computer Center terminals are open to all registered students, whether or not they are enrolled in a computer science course. Student accounts are free, and students are encouraged to use the facilities for their research work. During daytime hours, Monday through Friday, consultants are available to help with difficult problems. The Center is also open evenings and Saturdays for student use.

The computer system consists of a multiprocessed Telfile T-85 and Xerox SIGMA-6 with two million bytes of memory. The system has two tridensity tape drives, two line printers, a card reader, and 1.5 billion bytes of disk storage. Most of the activity on the system comes from the 75 terminals on campus, of which 25 are located in a workroom adjacent to the Computer Center. Also available in the workroom are 24 microcomputers. Software capabilities include an Extended Data Management System (EDMS), graphics, and a variety of computing languages such as BASIC, FORTRAN, COBOL, PASCAL, LISP, Assembly and others. Statistical analysis programs available are BMDP, MINITAB, and SPSS.

Educational Opportunity Program
The Educational Opportunity Program admits and assists a limited number of students who do not meet the normal requirements for admission to UWGB (see section on Admission).

Applicants who qualify for the Educational Opportunity Program are identified through the normal application procedure and are asked to come in for a comprehensive assessment of their academic potential. Students who are accepted receive assistance during the freshman year that is geared toward improving their basic skills and preparing them for successful sophomore, junior and senior years. This assistance includes a complete orientation, prescribed placement in courses, including coursework in basic writing, reading and study skills, and meetings with a counselor. This is done to assure that the

academic efforts of the students are as fruitful as possible, and that they are aware of all the resources and academic alternatives available at the University. Students are asked to sign a contract agreeing to the terms of their admission to UWGB through this program. When students in the Educational Opportunity Program have completed 30 credits with a 2.00 grade point average ("C") they are allowed to continue as regular University students with sophomore standing.

Handicap Resource Center
Equipment in the library's Handicap Resource Center includes talking calculators, a braille writer, automatic page turner, typewriter, slow-speed cassette recorders, and an extensive tape library. Among services to visually handicapped students are the reading and recording of articles and textbooks, note taking, reading of tests, and assistance in research. A coordinator in the Academic Advising Office arranges for help, when necessary, and contacts professors about the special needs of handicapped students enrolled in their classes.

Library
The Library Learning Center offers resources for students, faculty and community residents. The library is a regional depository for U.S. Government publications and the location of an Area Research Center, part of a network established by the State Historical Society to make municipal and county manuscript records more accessible to people of the area. Present collections include about 262,000 books and bound periodicals, 3,815 different periodical and serial titles, 3,915 linear feet of archival and Area Research Center collections, 332,000 government documents, 44,000 maps, and some 455,000 items in microformat. Among the media holdings are 30,500 slides, sound recordings, films, video and audio tapes. Over 750 user stations are available, including reading carrels, listening carrels, study tables, small private and group study rooms. Equipment for playback and projection of instructional media may be used on the premises or checked out by students and faculty. Through interlibrary loan, materials not available in the library may be obtained from other libraries in Northeastern Wisconsin or through the Wisconsin Interlibrary Loan Services (WILS) in Madison. A microfilm copy of the UW-Madison catalog and a copy of the State of Wisconsin Data Base are available for use.

Radio-Television Media
Faculty and students may obtain professional media production services and consultation at the Educational Communications Office, which houses the Center for Television Production and campus radio station WGBW (FM), a 3,000-watt stereo voice to the community which offers students practical experience in broadcasting skills. Students working on academic projects have access to such instructional resources as visual design services, still photography equipment, audio production facilities, and resources which may be combined to produce slide-tape presentations and other relatively complex media projects. Professional specialists staff these facilities. The Center for Television Production is an award-winning facility which produces public affairs programs, documentaries, performing arts presentations, and instructional series for classroom screening and other uses. College credit television courses produced for UWGB have been used by students nationwide.

Student Life

Children's Center

The Children's Center, located on campus, offers a preschool and day care service for University students and faculty members at low cost. The Center is open Monday through Friday, under the supervision of licensed nursery-kindergarten teachers. Care is provided during the academic year for children aged two through six and during the summer session for children two through 10.

Counseling and Student Development
The Counseling and Student Development Center can provide individual counseling, family and couples counseling, growth group and workshop experiences, and consultation to student groups, faculty, and administrative units toward better use of human resources. Through counseling in a confidential setting, students can explore personal concerns and receive help in making decisions affecting educational, vocational, or personal-social development and adjustment. Students who require long-term counseling or those with severe emotional problems are helped to find appropriate community services. Short-term growth groups focus on the improvement of self-awareness, communication, relationship skills and career/life planning.

Dean of Students
The major function of the Dean of Students Office is that of concerned listening to students and finding ways to help them. Whether the student seeks to achieve a personal goal or to solve a problem, the dean and his staff can provide information, counsel, referral, and support. An "open door" exists to those with concerns related to any aspect of the learning environment. However, students are encouraged to use their own resources and the help of various student services offices, most of which report to the dean. Staff members in the Dean's Office act as resource persons for academic student disciplinary procedures as well as investigating officers for nonacademic disciplinary matters. They also coordinate a legal service, through which a free consultation can be arranged with a Green Bay law firm.

Ecumenical Center
Personal counseling, support groups, growth experiences, social activities, music and drama performances, and worship opportunities in Roman Catholic and Protestant traditions are among the services provided by the Ecumenical Center campus ministry. The two campus ministers—one Catholic, one Protestant—can also supervise independent studies and other individualized learning agreements, particularly those in the

fields of religion or environmental ethics. Services, programs, and facilities of the Ecumenical Center are open to persons of all faiths or of no religious affiliation. Ecumenical Center support comes from 12 Protestant denominations, the Green Bay Catholic Diocese, the Greek Orthodox Church, and Cnesses Israel Synagogue.

Employment
The Student Employment Office provides information about jobs on and off campus in two categories: college work-study and regular employment. Information on eligibility and conditions of employment appears in the section on Admissions, Costs, and Financial Aids. Notices of part-time jobs appear in local newspapers.

Handicapped Services
University buildings have been designed with barrier-free accessibility for students in wheelchairs. Facilities include reserved parking spaces near buildings, automatic door openers, elevators in all multi-story buildings, nonslip floor tiles and handrails in sloped corridors, some lowered telephones and drinking fountains, and adaptations for wheelchairs in washrooms and in two science laboratories. The Phoenix Sports Center has special shower and dressing room facilities, and the pool has a lift for disabled persons. Visually handicapped students can get raised maps of the campus concourse system and outdoor routes to buildings with accompanying keys, printed in braille or recorded on a cassette. Raised print and braille letters identify washrooms and appear on elevator controls. Textured floor tiles draw attention to wall signs, printed in braille and raised letters, which locate buildings in accordance with the concourse system map. A telephone with special equipment is available for the hearing impaired.

Resources and services related to the academic program are described in this section of the catalog under the heading Handicap Resource Center.

Health Services
The Health Services Office provides treatment for minor illnesses and injuries, physical assistance to handicapped or temporarily disabled students, information and counseling on health topics, and information on student health insurance. The staff includes two registered nurses, one working full time and one half time, and two part-time physicians. The nurses' services are available during daytime hours, Monday through Friday, by appointment or on a walk-in basis to students who have validated IDs and health forms on file. Costs are covered by student fees. Extra fees are charged for physician and laboratory services.

Information Center
Daytimes and evenings, seven days a week, the Information Center can provide answers to questions about campus events, faculty class schedules, city bus service, and a host of other topics. The center has maps of the city and campus, and brochures about University and community services, available on request. Bus tickets and stamps are for sale at the counter, and a collection slot is provided for outgoing mail. The University switchboard is located in the Information Center, which is just inside the main entrance to the library on the concourse level.

International Student Center
Students on campus from countries of Central and South America, Asia, Africa and Europe share their cultures with each other and with Americans through International Student Center activities which include the publication of a newsletter. The Center coordinator is available to answer questions, handle problems, and help to organize special events, and the Center's lounge is open during the day for relaxation, conversation, and reading. A small library of foreign language periodicals is maintained.

Placement and Career Development
Staff members of the Placement and Career Development Office can help in clarifying career goals and directing students to information on employment trends. A staff of counselors is available to assist students in making choices about careers as well as in assisting them as they pursue career opportunities or further graduate and professional training. In an extensive career resource library maintained by the Placement Office, students can find information on graduate and professional schools as well as on the job market. Other services include help in writing resumes and in preparing for interviews, distributing job vacancy bulletins, scheduling interviews with prospective employers, and maintaining files of graduates' credentials and placement histories.

Security and Safety
Officers are on duty 24 hours a day to provide for the safety and security of people and property on the campus. They are equipped with mobile communication units and are trained to respond quickly to emergencies of any kind. The Security Office also supervises on-campus parking and enforces safety regulations.

University Life

This section summarizes information which can be useful in preparing for life as a student on the campus and in the Green Bay community. More details on most of the topics are included in the *Student Handbook*. Complete information can be obtained from the appropriate campus offices, as follows: on housing, Director of Housing or Dean of Students; on food service, recreation and entertainment, student activities and organizations, Student Life Programs; on student governance, Student Association.

Living Arrangements

Housing
Students who are not commuters can live in the University Village apartments on campus or in an apartment or house off campus. Most University Village units are designed for four students and include a living room, kitchen, and dining area, two bedrooms and bathroom. A few two-person and one-person units are also available. Housing is assigned on a first-come, first-served basis, with applications for the fall semester accepted after October 1 of the preceding year and applications for the spring semester after November 15 of the preceding year. University Village is usually filled to capacity well before the beginning of each semester.

Resident assistants live in each apartment building. Selected and trained by the University's housing staff and staff of the Counseling and Student Development Center, they are familiar with campus and community resources and Red Cross first aid procedures. Resident assistants are available to answer questions, to help resolve on-campus housing problems, and to coordinate group activities. A Housing Council, elected by University Village residents, serves as a governing, advising and programming body for students who live on campus.

Students who choose to live off campus in private housing can usually find furnished or unfurnished accommodations at reasonable rents. Updated lists of apartments, houses, and facilities to share may be requested from the Housing Office or Dean of Students Office.

Food
During the fall and spring semesters, the University Commons cafeteria provides full food service from 8 a.m. to 1:30 p.m., Monday through Friday. Hours vary during the January interim and summer session. The Rathskeller, also in the Commons, serves a grill menu afternoons, evenings and weekends when the Cafeteria is closed. Delicatessen items can be purchased at the Garden Cafe in the library; sandwiches, snacks and beverages are available at all times from vending machines in four campus locations.

Transportation
Students who drive to the University purchase parking permits for use in any of five campus parking lots. City buses reach and depart from the campus every half hour until 6:15 p.m., Monday through Friday, and once an hour thereafter to 10:15 p.m. Hourly service is provided on Saturday until early evening. City buses do not operate on Sunday. Student-rate bus tickets are on sale at the campus Information Center. Rideshare information is also available at the Information Center.

Recreation and Entertainment
Recreation and entertainment opportunities for every taste are available throughout the year.

Depending on the season, outdoor recreation enthusiasts can hike along arboretum trails, play golf on a nine-hole course, sail on the waters of Green Bay, or go cross-country skiing—all without leaving the campus. For excursions to nearby state parks, or other outdoor recreation areas, students, faculty and staff may rent camping gear from an equipment rental center in the Rathskeller. The Phoenix Sports Center offers a 60 by 96 foot pool, gymnasium, racquetball courts, and weight rooms. Outdoors nearby are tennis courts, softball diamonds and all-purpose playing fields. Intramural sports and recreation programs are organized in response to student interests. These activities usually include basketball, volleyball, racquetball, and softball.

Men's basketball and soccer and women's basketball and diving are major intercollegiate sports at UWGB. Phoenix men's teams compete in Division I of the NCAA through the recently organized Association of Mid-Continent Universities. Tennis, golf, cross country, wrestling, swimming, and diving are other varsity sports for men, and sailing is open to both men and women. Intercollegiate sailing competition is also at the Division I level of the NCAA. Women compete through the NAIA in basketball, tennis, swimming and diving, cross country, softball, and volleyball.

Entertainment events and social activities are planned by the Good Times Programming Board, a student group which operates through a number of committees representing different areas of student interests. Each semester, Good Times books a full schedule of lectures, popular and international films, coffeehouse entertainment from across the country, and bands playing contemporary music for dancing and listening. Fall homecoming, Spring Week, an annual folk music festival, winter ski trips, and "getaway" excursions to Florida during spring break are among other activities organized with the help of the Office of Student Life Programs.

The Office of Arts and Performances coordinates a Visiting Artists series and performances by campus theater, music and dance ensembles. Student and faculty music recitals, poetry readings, and monthly art shows in the campus gallery are other events on the academic year calendar of entertainment and cultural programs.

Shopping and Services
In downtown Green Bay, three department stores "anchor" an indoor shopping mall which houses numerous specialty shops and eating places. Other shops and banks, the central public library and public museum are located within or near the compact business district. Most retail stores in outlying shopping centers can be reached by city bus.

On-campus services include the Phoenix Book Shop, which stocks clothing, magazines, gifts and greeting cards along with books and other supplies; the University of Wisconsin Credit Union, offering a wide range of financial services to the University community; and the Second Gear resale shop, where students can find clothing and housekeeping equipment at bargain prices. Some postal services are available at the Information Center, where outgoing mail may be deposited for pick-up.

Student Activities

Art, Music, Theater
Participation in courses and programs in the visual and performing arts is open to all qualified students, regardless of academic major. Choices range from membership in the Art Agency, a group promoting interest in contemporary visual arts, to singing, acting or dancing in the annual campus musical theater production. Auditions and enrollment in a credit course are required for most music groups—including the Concert Choir, Concert Band, Jazz Ensemble, Wind Ensemble, and Collegium Musicum. Students with appropriate musical skills can audition for the Green Bay Community Chorus, the Green Bay Symphony Orchestra, or the Communiversity Band, and have the experience of performing with musicians of all ages from the wider community.

In the credit theater program, auditions are open for roles in most mainstage productions, and volunteers are welcomed for backstage work. The Alternate Theatre gives students the chance to act, direct, design, or become involved in technical aspects of theater production. Four productions are staged each year. Auditions for parts are open to all, and interested students are invited to participate in set construction, scene painting, lighting, costume design, publicity and other tasks.

Media
The Fourth Estate, a weekly campus newspaper, keeps students informed of events and issues that affect them and provides experience in practical journalism for members of the staff. Students are responsible for almost every aspect of publication—writing, editing, photography, artwork, layout, and advertising sales. Staff members can earn academic credit for work on the paper.

Student poems, short stories, essays, photographs and other examples of visual art may be submitted for publication in the *Sheepshead Review,* a literary magazine published twice a year. Student editors, with the help of faculty advisers, select material for each issue on the basis of quality and balanced content.

The University's 3,000-watt FM station, WGBW, presents classical and popular music, news, features, and play-by-play coverage of UWGB soccer and women's basketball in its schedule of "alternative" programming. Students hold all positions except that of station manager.

Organizations
In a typical academic year, about a hundred student clubs and other organizations are active on the campus, representing a wide variety of interests and backgrounds. Organizations linked to academic, cultural and professional interests include the Accounting Club, History Club, Earth Science Club, Philosophy Forum, and the campus chapter of the Music Educators National Conference. The Ecumenical Center and Inter-Varsity Christian Fellowship are two of five groups organized around religious interests. The American Indian Council, Black Student Union and Hispanic Student Organization serve students with common ethnic backgrounds. The Chess Club and Film Guild are examples of groups whose members share a leisure-time interest.

Student Governance
Students share in University governance through the Student Association and its four component groups, whose activities are coordinated by the Association's executive board.

The Student Senate comprises elected representatives of all academic majors. The Senate appoints members to all-University committees dealing with such concerns as services to the handicapped, health services, academic actions, intercollegiate athletics, parking regulations, awards and recognitions. The Senate helps to make and review policies concerning student life, and participates with other students in advocating student interests on the local, state and national level.

Another elected group, the 15-member Segregated University Fee Allocation Committee (SUFAC), manages the allocation and expenditure of student fees in support of student organizations, programs, athletics, and other activities.

The Housing Council serves students who live in the University Village on campus, and the Good Times Programming Board plans all-campus entertainment, recreational and social events.

Admission, Costs, and Financial Aids

Admission

Although UWGB has basic admission requirements, it is guided by a philosophy of "personalized admission," which means that each application is evaluated on an individual basis. Experiences through and since high school, special circumstances, and socio-economic background are considered. For these reasons, students who do not meet UWGB's basic requirements but feel they meet the spirit of this admission philosophy are encouraged to apply.

Degree-Seeking Students

Freshman Admission Requirements

A high school graduate who wishes to qualify for admission as a degree candidate should normally fulfill the following requirements:

1. Be a graduate of a recognized high school or equivalent (as defined in UW System Policy).

2. Rank in the upper half of the graduating class.

3. Present 12 units of college preparatory or academic coursework, plus 4 units of nonacademic work. Unit distribution must be:

English	minimum of 3 units
Mathematics (algebra or above)	minimum of 1 unit
Science	minimum of 1 unit
Social Studies	minimum of 1 unit
Academic Electives	minimum of 6 units
From the area of: English, Speech, Foreign Language, Social Studies and History, Sciences, Mathematics	
Academic subtotal	12 high school units
Non-academic electives	minimum of 4 units
Academic and non-academic total	16 high school units

Students who do not meet requirements 2 or 3 above may apply and will be considered. Entrance examination (ACT or SAT) scores are not required for admission, but all students are encouraged to submit this information. Both admissions counselors and academic advisers will use this information in order to assist students in their educational planning.

Students not meeting admission requirements are especially urged to submit test scores and may be required to take the College Qualification Test on campus.

Students who hold General Educational Development (GED) diplomas must have an official score report for the GED and a partial transcript from any regular high school attended sent directly to UWGB by the agency or school.

Transfer Admission Requirements

Students who have attended college after high school graduation should fulfill the following requirements:

1. Transfer and advanced standing students should have a 2.0 grade point average (4.0 scale) on at least 15 credits of transferable coursework. (See definition of transferable coursework in section on Information for Transfer Students.) A maximum of four semester credits in physical education may be used in the calculation of the grade point average for determining admissibility.

2. Students with less than a 2.0 grade point average on transferable coursework may be considered for admission if they would have met UWGB freshman admission requirements, and they would not have attained a "drop" action had they earned the same academic record at UWGB.

Application Procedures for Degree-Seeking Students

1. Degree seeking students applying to UWGB should submit the University of Wisconsin Undergraduate Application. This application is available through counseling offices of Wisconsin high schools, from the Office of Admissions at UWGB, or any of the UW-System campuses.

2. Transcripts:

A. A new freshman must request that a copy of the high school transcript be sent directly to the Office of Admissions at UWGB. Many students are admitted to the University on the basis of grades earned through the junior year in high school, plus a listing of subjects carried in the senior year, and therefore may receive a permit to register before high school graduation. Others may be asked to provide grades through the senior year to assist the Admissions Review Committee in making the best possible evaluation of their potential for achievement.

B. A transfer student must request that official transcripts be sent directly to UWGB from all schools attended since high school. Transfer students with fewer than 15 transferable credits or less than a 2.0 grade point average must also have a high school transcript sent directly to UWGB.

C. All students who have attended nursing, business, and vocational and technical schools must submit those transcripts as well. Transcripts from training schools attended as part of military service are not required. Students must submit the records whether or not the work was completed and regardless of their desire to request UWGB credit for the courses. Credits earned in a noncollege parallel program at a vocational-technical institute are not transferable to UWGB. Students who took general education and/or liberal arts courses from such institutions are encouraged to seek credit through examination at UWGB.

3. Applications dates for admission to UWGB are:
Fall Semester:
October 1 through August 10
January Interim:
October 1 through December 15
Spring Semester:
October 1 through January 10
Summer Session:
October 1 through May 30

4. A non-refundable $10 application fee is required of anyone applying for admission as a new freshman or as an advanced student transferring from an institution outside the University of Wisconsin System. Applicants who were previously enrolled at a University of Wisconsin System school as nondegree-seeking students must also pay the application fee.

Information for Transfer Students

UWGB is flexible in regard to the transfer of credits from other accredited colleges and universities. An official credit evaluation will show a prospective transfer student what courses and credits can be accepted to fulfill UWGB requirements. The accreditation status of the previous institution or institutions and the quality of a student's achievement are determining factors for course and credit transferability.

A credit evaluation will be started after all transcripts have arrived at UWGB and the student has been admitted. If a student is currently enrolled at another college when accepted, a tentative evaluation will be completed and transmitted; a final evaluation will be held until a final transcript showing grades from the last term is received. The evaluation will then be completed and mailed directly to the student.

A student who has taken independent study courses must supply titles and descriptions for these courses when applying so that these can be evaluated.

A student who transfers to UWGB must satisfy all-University requirements by:

—completing one three-credit course in the senior seminar program;

—meeting the liberal education and distribution requirements of nine credits each in the humanities and fine arts, natural sciences and mathematics, and social sciences. This must include fulfilling at least one six-credit sequence. Courses appropriate to these three domains of knowledge will be identified on both the tentative and final evaluations.

Transfer students will be informed in writing by the Registrar's Office of their exact standing with respect to fulfilling all-University requirements as soon as an evaluation of their completed credits is concluded. Prospective transfer students should read the description of all-University requirements in the section of this catalog on General Academic Information.

Students coming to UWGB from two year institutions may transfer up to 72 credits of lower division (freshman and sophomore level) coursework only. In order to be credited as transferable coursework these criteria must be met:

1. The course must be compatible with the curriculum offerings at UWGB. For example, courses such as typing and shorthand may be appropriate at a university which prepares teachers for high school business programs, but courses such as this do not fall within the scope of the UWGB curriculum.

2. The course must be successfully completed at a regionally accredited college or university.

3. Each course must have a "D" grade or better if the student is transferring within the UW System; all such courses will be granted degree credit.

4. Courses taken at colleges outside of the UW System will be accepted as *course* credit if a grade of "D" or better has been earned; *degree* credits will be calculated by the number of transferable credits which would be covered by a "C" average.

5. UWGB policies which apply to currently enrolled students shall also be applied to transfer students. For example, up to four credits of physical education are held in escrow until graduation and are not directly applied to grade point calculations and class standing.

6. Academic status at the time of admission will be assigned using normal UWGB academic standards applied to the transfer record.

Transfer students begin with a new grade point average at UWGB.

Transfer students must meet residence requirements described in the section of this book on academic programs and the current *Timetable*.

Specific questions on transfer credit evaluation may be directed to the Registrar's Office. Incoming transfer students are encouraged to meet with a general adviser in the office of Academic Advising to have their questions answered about general requirements for a degree. The office can refer students to faculty advisers in their areas of academic interest.

The academic plan form is a student's graduation contract at UWGB. Completing this form as soon as possible is essential for all junior and senior transfer students. The completed form specifies courses to be taken to satisfy graduation requirements at UWGB. The form is available from the Academic Advising Office.

Nondegree-Seeking Students (Special Students)

Students who want to take selected courses for credit but do not have the immediate intention of earning a degree at UWGB may enroll as special students. A special student is considered to be a nonmatriculated student but may earn regular credit which will be recorded on a permanent record card for possible future use. Special students should be prudent in their course selections and the number of credits accumulated because an excessive number of electives may not apply to degree requirements if they seek matriculated status in the future. Certain opportunities, such as financial aids, for which degree-seeking students may be eligible, are available only on a very limited basis to special students. Special students are subject to all normal academic regulations and Regent's policies.

Special student categories include:

Special (SPL): Students who have graduated from high school or earned a General Educational Development (GED) diploma at least two years prior to the term they wish to enroll at UWGB.

Post Baccalaureate (PBS) or Graduate (GSP) Special: Students who have already earned a baccalaureate degree (or higher) and are enrolled in undergraduate-level (PBS) or graduate-level (GSP) coursework but are not pursuing a degree at UWGB.

High School (HSO, HSP, HSS) Special: Superior high school students may enroll for UWGB coursework while attending high school or during the summer. High school specials must normally be seniors or juniors in high school and must rank in the upper half of their respective classes. Enrollment in UWGB courses requires the approval of the high school. Credits earned by students before graduation from high school will be held in escrow.

Summer Session Only (SSO): Students enrolled at another college or university and current year high school graduates who have been admitted to another college or university for the fall session may apply for Summer Session Only admission. Such admission carries no commitment for permission to register for the regular UWGB academic year. Students from other colleges or universities must be eligible to continue work at their respective institutions and are responsible for determining if these institutions will accept credits earned at UWGB.

Application Procedures for Special Students

1. Nondegree-seeking students applying for admission should submit a Special Student Application, available from the Office of Admissions at UWGB.

2. High School Special students must submit the following materials in addition to the application:

A. an official high school transcript.

B. the high school special student statement form, and

C. the principal/counselor recommendation form.
(Forms "B" and "C" are available from the Office of Admissions.)

3. Summer Session Only students must submit an official high school transcript *if they are current year high school graduates.*

4. No application fee is required of special students.

Other Admission Possibilities

Adult Students and Veterans

UWGB provides many opportunities for adults who have never pursued higher education and for those who interrupted their education to work, raise a family, or fulfill a military obligation. These opportunities can sometimes be provided for adults who do not meet all of the standard admission requirements. Prospective adult students are urged to write or call the UWGB Admissions Office or the Adult Services Office.

Educational Opportunity Program

A limited number of students who do not meet normal entrance requirements may be admitted to the University under the Educational Opportunity Program (EPO). Such students must show good potential for academic success.

A primary goal of EOP is to assure that students admitted under the program as freshmen will be able to complete their sophomore, junior and senior years. EOP is described in more detail in the section of this catalog on Resources and Services.

Non-Native English Speakers

All applicants whose native language is not English must submit proof of their English language proficiency; this normally consists, of a TOEFL (Test of English as a Foreign Language) score. Although the University prefers the student submit the TOEFL score, Michigan Test of English Language proficiency scores will be accepted with prior approval of the international student services coordinator. Admitted students must also take the University's English as a second language proficiency test prior to their registration and abide by the placement results. Information about these tests can be obtained from the coordinator of International Student Services.

International Student Admission

UWGB enrolls students from more than 30 countries and actively seeks the cultural diversification that international students contribute to the campus.

Admission for international students is based upon scholastic achievement, ability to use the English language, and ability to finance an education.

An international student must have a recognized certificate of completion from a good secondary school and proof of being a very good student. Since all UWGB coursework is conducted in English, an applicant from abroad must take the Test of English as a Foreign Language (TOEFL), administered by the Educational Testing Service, Princeton, New Jersey. The test is given several times each year in many major cities of the world. Information about it is usually available at American embassies and consulates, offices of the U.S. Information Service, at U.S. educational commissions and foundations abroad, and other locations.

International students must be prepared to finance their educations. Only a limited number of partial tuition remission scholarships exist. In addition, it is difficult to gain permission from the U.S. Immigration and Naturalization Service to work off campus, so international students should not anticipate financing an education by income from employment.

UWGB has an office for international student services which notifies international applicants when they have been accepted and issues the necessary Certificate of Eligibility (U.S. Department of Justice, Immigration and Naturalization Service, Form I-20) to admitted students.

Further information on international student admission is available in the brochure, *Information for International Students.*

Graduate Program Admission

The basic policy of personalized admission applies to the graduate as well as the undergraduate program. The applicant's total experience is always considered. Entry as a provisional student is possible for those not meeting the minimum requirements. Evidence of success as a provisional student will gain admission to degree candidate status. Minimum requirements for entry into the degree program are:

1. A baccalaureate degree.

2. A 3.0 grade point in the major field of study, measured on a four point scale.

Candidates for entry must submit:

1. A completed application form, including a statement of the student's intended area of study and educational objectives.

2. A transcript of grades for all previous undergraduate and graduate work.

3. Three letters of recommendation.

4. An application fee of $20.

5. Scores from a recent Graduate Record Examination: General Test.

6. Non-native English speakers must submit a TOEFL score.

7. International applicants must submit proof of financial support.

The graduate program is explained in more detail in the section of this catalog on academic programs. A separate catalog describing the program is available.

Costs

Semester Fees and Tuition

Legal residents of Wisconsin as defined in state statute 36.27, with certain exceptions, are charged fees only. Nonresidents are charged a combination of fees and tuition. A reciprocal fee remission agreement between the states of Wisconsin and Minnesota permits legal Minnesota residents to attend UWGB at special rates. (Application to the Minnesota Higher Education Coordinating Committee must be made in order to receive this special rate.) The following tentative fee and tuition schedule is subject to change by the University of Wisconsin Board of Regents and the Wisconsin Legislature. Up-to-date fee information can be found in the *Timetable* or a fee information sheet for the current semester.

Fees for UWGB students are determined by an undergraduate and graduate level fee schedule and by state residency classification as determined by the Office of the Registrar. A part-time undergraduate student registers for 11 credits or fewer on a per credit basis. A part-time graduate student registers for 8 credits or fewer on a per credit basis. In 1983-84, Wisconsin undergraduate students paid $45.50 and graduate level

students paid $77.00 per credit. Nonresident undergraduate students paid $145.25 and graduate level students paid $221.50 per credit for part-time enrollment. Minnesota undergraduate students paid $52.25 per credit and graduate level students paid $71.25 per credit. The actual costs for each academic year are announced in advance and are available on request from the Office of the Registrar.

1983-84 Semester Fees for Full-Time Students

Level	Wis Res	Non Res	Minn Res
Undergraduate	$536.50	$1735.00	$619.00
Graduate	$683.00	$1982.50	$631.50

All fees and tuition are due at the time of registration and for regular semesters must be paid on or before the Friday of the first week of classes to avoid late payment penalties. Information about fees, including late payment penalties and the refund schedule for official withdrawal or reduction of credits, is contained in the *Timetable*.

Summer Session Fees

Fees for summer session are based on the number of credits elected and are subject to change without notice by the University of Wisconsin Board of Regents. Summer fee schedules are announced in the *Timetable* or a fee information sheet.

Financial Aids

The primary objective of the Student Financial Aids Office is to assure that no academically qualified student is denied an education for lack of financial resources. Financial assistance in a variety of forms is available to those students who have financial need. By completing the necessary applications, a student is automatically considered for scholarships, grants, loans, or work-study for which he/she may qualify. The Financial Aids Office can provide detailed information for certain aid programs and scholarships.

A Typical Budget

A single student who attends UWGB for the full academic year—covering the fall and spring semesters and the January Interim period—can expect approximately the following expenses in addition to the fees or tuition listed previously.

Expenses for Academic Year

	Commuter Student Living at Home	Resident Student Living off Campus	Resident Student Living on Campus
Books & Supplies	$ 280	$ 280	$ 280
Room & Board	1188	2205	2205
Travel, Personal, & Misc.	1116	1089	1089
Total costs to be added to tuition	2584	3574	3574

The "living at home" budget shows the actual costs of supporting a student in college, including the cost of food, miscellaneous expenses, and travel. Commuters and their parents should keep in mind that they are already paying these items. The only additional costs are for fees and books, a total of about $1360. Transportation costs depend on whether the student lives in Green Bay or commutes from a more distant residence.

Financial Aid Application Procedures

Forms. The aid application process basically requires the completion of two forms: the application for admission to UWGB and the Financial Aid Form.

1. For new, transfer or re-entry students an application for financial aid is initiated by completing the Financial Aid section on the UW Admissions Application which is available from most state high school guidance offices or from the UWGB Admissions Office.

2. The financial need analysis document is the Financial Aid Form (FAF), processed by College Scholarship Service. All aid applicants are asked to complete and submit this form as part of the aid process. The information from the FAF is used to determine eligibility for the Wisconsin Higher Education Grant, the federal Pell Grant and for aid administered by the University Financial Aid Office.

Students who file the FAF and request Pell Grant consideration will receive a Student Aid Report (SAR) from the Pell Grant processor which must be sent by the student to the University in order to receive the grant.

Additional forms may be requested of certain students such as transfer or re-entry applicants. The necessary forms will be sent to students.

Students who submit applications are considered for all types of financial aid for which they are eligible. An application for aid may be filed before the University issues a permit to register, but a student must have a permit before UWGB can make an offer of aid.

Deadlines. The application priority date for all financial aid is March 15. Students who file by the priority date are generally notified between May 1 and June 15 of their aid award or denial.

The University cannot guarantee grant, loan, or job assistance to those applying after the priority date. Late applications will be accepted and awards will be made as long as funds are available and if there is reasonable time before the end of the school term. Students applying after the priority date will be notified of their awards as soon as they can be processed.

Determination of Financial Need. To help judge student need and award aid fairly, the University asks self-supporting students and parents of dependent students to fill out a confidential statement called the Financial Aid Form (FAF). The FAF is first analyzed by the College Scholarship Service and then reviewed by a counselor in the Financial Aid Office. On the basis of this financial statement, the University can determine the difference between what the parent and student can provide and what the cost of education will be.

As part of the determination of financial need, students are expected to commit a substantial amount of their own resources toward their education expenses. Also, students are expected to earn and save some funds ($700 to $900) from summer employment which can help meet academic year costs.

Aid Awards. Rarely can students meet all their expenses through one type of financial aid. Also, very few loan or grant programs for undergraduate students can pay the total educational bill. This means that assistance generally must come from a combination of sources. A student may be selected to receive a loan and grant, a scholarship and a loan, a loan and a job, or other combination. A student need not accept the whole package to receive part of it.

Awards are based on the total cost of supporting a student for an academic year. Assistance given beyond costs for fees and books should go toward meeting board and miscellaneous expenses.

Eligibility. In addition to demonstrated financial need, the student must meet certain other eligibility requirements to qualify for various types of financial aid. In most cases the student must be a citizen or permanent resident of the United States, must be enrolled at least half time, and must maintain satisfactory academic progress. To be eligible for Wisconsin loans and grants, the student must also be a resident of Wisconsin. Also, a student must not be in default on any education loan, owe a refund, or show unwillingness to repay any educational loan.

Students desiring further information about financial aid policies and student responsibilities may request a copy of the booklet, *Financial Aid Award Information Guide and Instructions*.

Withdrawal and Refund Requirement. Students who withdraw from school are expected to return the unused portion of any grant or scholarship money which they have been awarded. The amount is set by the Financial Aids Office at the time of withdrawal. Also, if students withdraw during the first semester, the second semester portion of their award will be cancelled automatically unless they provide a written appeal for committee review.

Any refund due the student from UWGB will first be credited toward any financial aid award already received. A student who withdraws during the first four weeks of the semester will be expected to return the following percentages of the total financial aid received:

First week	100%
Second week	80%
Third Week	60%
Fourth week	40%

Students may receive future assistance only if they do not owe a refund for previously received grants, or if they are not in default on any previous loan repayments. (Refer to Public Law 94-482; Section 132 amended).

Types of Financial Aid. In general, financial aid can be divided into three main categories: scholarships and grants, student loans, and employment.

Scholarships

Leadership and Academic Excellence Scholarship. This $500 to $800 scholarship, awarded on a competitive basis to students new to UWGB, is based only on academic excellence and leadership qualities. It does not consider financial need. A separate application is required for this scholarship.

To be considered for a UWGB merit scholarship, a prospective new freshman must meet these criteria: rank in the top fourth of the high school graduating class; provide evidence of substantial leadership involvement in high school extracurricular and community service activities; obtain letters of recommendation from a high school counselor and one other person of his or her choice. Comparable criteria apply to new students enrolling above the freshman level.

Other departmental scholarships are also available for applicants who meet the above criteria and who also have shown exceptional talent in science and mathematics, music, art, drama, dance, or business. Information brochures are available from the office of Student Financial Aid.

Completed applications must be received by March 15 of the year in which the applicant plans to enroll at UWGB. The selection committee announces names of successful applicants by April 15.

Funding for these scholarships comes from a variety of private donors such as: The Frankenthal Family Foundation of Green Bay, in memory of the late S. W. Frankenthal; the late Mrs. Walter G. Schert of Green Bay in memory of herself and her husband; Mr. and Mrs. Oliver C. Trampe of Milwaukee; the Lucy Peckham Gloerer estate; the UWGB Founders Association; and academic departments.

UWGB Nonresident Fee Remission Scholarship. This award provides partial or total remission of the nonresident portion of fees at the University. The recipient's nonresident tuition charge is reduced by the value of this award. Eligibility is determined by scholastic ability and financial need. The number of such scholarships is limited by legislation. Students must apply for financial aid to be considered.

UWGB International Student Fee Remission Scholarship. Partial or total remission of the nonresident portion of fees. Awarded to international students selected on the basis of academic excellence and financial need.

UWGB Private Scholarships. Awards vary according to need. The funds are made available through private donations and awarded on the basis of scholastic ability and financial need. Some of these scholarships are available to students in certain fields such as business, science and mathematics, music, and theater.

Grants

Grants, like scholarships, consist of gift aid, which is not repaid. The main criteria for grants is financial need.

Pell Grant (PELL). Federally funded grants to needy students range from $200 to $1,800 (determined by a federal schedule). Students who wish to apply for any financial aid are required to apply for these grants by checking a section of the FAF application.

Supplemental Educational Opportunity Grants (SEOG). Federally funded grants to students who have exceptional financial need. SEOG awards may not exceed $2,000 in one year or a total of $6,000 for undergraduate education.

Wisconsin Higher Education Grants. State appropriated grants awarded by the Higher Education Aids Board. Awards range from $200 to $1,800 and do not have to be repaid or matched by other aid.

Wisconsin Indian Student Assistance Grant. Grants of up to $1,800 per year awarded to students of at least one-fourth Native American descent who are residents of Wisconsin. Amount of the grant is based upon financial need. Additional funds on a matching basis are available to most Indian students from the U.S. Bureau of Indian Affairs or individual tribes. The grant may be received for up to five years of study.

Wisconsin Talent Incentive Grants. A limited number of need-based awards determined by the Wisconsin Education Opportunity Center may be used for up to two years by students who are considered nontraditional or disadvantaged. Students must be clients of the Wisconsin Education Opportunity Center.

Minnesota-Wisconsin Compact Fee Remission. Nonresident fee remission for any Minnesota resident attending a Wisconsin public university. Students from Minnesota need pay only a special fee amount. Students must apply directly to the Minnesota Higher Education Coordinating Commission, Suite 901, Capitol Square, 500 Cedar Street, St. Paul, MN 55101.

Viet Nam Era Veterans Grant. Made available to eligible Wisconsin veterans who served in the armed forces between August 5, 1964 and July 1, 1975. The yearly grant of up to $200 for single and $400 for married veterans is determined by a special application form.

Vocational Rehabilitation Grant. This aid covering tuition and books is provided to students with some disability as determined by the Department of Vocational Rehabilitation. The amount is generally included with other financial aid. Students with disabilities should contact their regional Department of Vocational Rehabilitation.

Loans

In order to meet the full financial need, students may wish to borrow funds for their educational expenses and repay these loans with future earnings. In general, student loans are interest-free while the student is enrolled at least half time. Repayment of the loan and interest begin six months after the student ceases to be enrolled at least half time A promissory note containing specific information must be signed when the loan is received.

National Direct Student Loan Program (NDSL). Loans are made up to $3,000 for the first two years with a $6,000 cumulative undergraduate maximum. Interest is currently five percent and both interest and payments are deferred until six months after the student leaves school.

A borrower has up to 10 years and nine months after he or she ceases to be at least a half-time student to repay the loan.

Cancellation of all or a portion of the principal borrowed is available under certain circumstances. Cancellation is limited to combat veterans, teachers of the handicapped and mentally retarded, teachers employed in schools in low-income areas, and preschool teachers in Head Start programs. Deferments of up to three years may be obtained while serving as a Peace Corps/Vista volunteer or on active duty in the Armed Forces of the United States. NDSL program regulations may be changed by Congress.

Wisconsin State Student Loans. Wisconsin residents with financial need may be eligible to borrow from this program. Wisconsin residents who have previously borrowed from the Wisconsin State Loan Program may continue to do so. However, at this time, the state is not accepting any new applicants into the state program. Transfer students, who have had a Wisconsin State Loan from another school, must provide a letter of denial before a Wisconsin State Loan can be processed through UWGB.

Undergraduates may borrow up to $2,500 per fiscal year with a maximum accumulation of $12,500. For freshmen the amount cannot exceed one-half of the cost of education. There is no interest as long as the student is in school on at least a half-time basis. Six months after the student ceases to attend school, repayment and eight percent interest begin.

The student has up to 10 years from this date to repay the loan depending upon the total amount outstanding. The state bills on a monthly basis and requires a minimum yearly repayment of $600 plus interest. Deferments of up to three years may be obtained for active duty service with the Armed Forces or as a Peace Corps/Vista volunteer.

Guaranteed Student Loan Programs. Students may borrow under this program from participating private lending institutions, such as banks, savings and loan associations, and credit unions. The program is administered jointly by the private lending institutions, the student's home state higher education agency and the University.

Depending upon the total amount borrowed, the student has up to 10 years to repay the loan at a present rate of nine percent interest, after he/she has permanently left school. The undergraduate may borrow up to $2,500 per fiscal year with a maximum accumulation of $12,500.

University Short-Term Loans. Loans from funds established by gifts to the University are generally granted in amounts up to $250 per academic year. Repayment usually is expected within the same semester that the loan is acquired. The loans are generally interest free and are made only for emergency situations. Students must have a definite source of repayment.

Emergency loan funds are provided from the following memorials and donations: Ben J. Rosenberg Student Loan Fund, Robert P. Brebner Memorial Student Loan Fund, L. G. Wood Memorial Student Loan Fund, The Honorable William J. Duffy Student Loan Fund, UWGB Alumni Association Student Loan Fund, UWGB Faculty-Staff Student Loan Fund, UWGB University League-Thelma DuChaine Student Loan Fund.

Plus Loans. Plus loans are meant to provide additional funds for education expenses. Parents and independent students may borrow through this program administered by private lenders. Interest of 12 percent and repayment begins within 60 days. Parents may borrow up to $3,000 per year and independent students may borrow up to $2,500. Students should contact a lender for application forms.

Student Employment

Enrolled students may use the employment services of the office of Student Financial Aids. Students may apply any time during the year but they cannot be referred to job openings until they arrive on campus. Student employment openings are generally categorized under two programs: college work/study and regular employment.

College Work-Study. As a part of the financial aid award, work-study is based upon financial need. Wages are paid partly by the employer and partly by the federal government. Total earnings are limited to the amount of financial need. Once the student earns the allowable amount, employment must cease or be switched to regular part-time employment.

Regular Employment. Students may apply and be employed on campus as jobs are available. However, students whose financial need has been met by aid programs may not earn additional funds on campus without an adjustment to their financial aid award. Off-campus jobs are listed on the bulletin board outside the Financial Aids Office.

The rate of pay for student jobs on and off campus generally ranges from $3.35 to $6 an hour. The exact rate depends on the complexity of the job. The chart below shows possible expected earnings (before taxes and other deductions) in a school year of about 34 weeks:

Hours worked weekly at $3.35/hour:	
10 hours	$1139
12 hours	$1366
15 hours	$1708

Veterans Educational Assistance Program. The primary source of information for programs administered by the Veterans Administration or the Wisconsin Department of Veterans' Affairs is the veterans' service officer of the county from which the veteran departed for service, or where he/she now claims residence. The veteran may also seek assistance from the veterans' officer on campus.

Veterans should submit the Certificate of Eligibility to the Office of the Registrar for enrollment certification and transmittal to the Veterans Administration regional office. A special section on the final registration form must be completed to be certified for benefits for the ensuing term.

War Orphans Educational Assistance. The War Orphans Educational Assistance Act provides educational benefits for children of permanently disabled or deceased veterans. The veteran must have died or become disabled as a result of service in the Armed Forces during the Spanish-American War, World War I, or since September 15, 1950.

Financial Aid for Graduate Students. Financial aid in the form of teaching assistantships, which carry an stipend of about $4,800 and provide eligibility for waiver of out-of-state tuition, are available to graduate students by applying directly to the Office of Graduate Studies. Work-study, regular employment and student loans are also available to graduate students by means of the regular financial aid application process.

Advanced Opportunity Grant. The Advanced Opportunity Grant is available to graduate minority or disadvantaged students who have financial need. The amount of the grant varies.

Financial Aid Counseling. Counseling is available before and after admission to students applying for financial assistance. Students who have special problems or questions concerning financial aids are encouraged to make use of this service. Call 414/465-2075 for an appointment.

Calendar

Academic Year Calendar

Fall Semester	**1984-85**	**1985-86**	**1986-87**
Registration and new student period (or register by mail earlier)	Aug. 27-31	Aug. 26-30	Aug.25-29
Classes begin	Sept. 4	Sept. 3	Sept. 2
Thanksgiving recess begins	Nov. 22	Nov. 28	Nov. 27
Classes resume	Nov. 26	Dec. 2	Dec. 1
Classes end	Dec. 12	Dec. 11	Dec. 10
Study and advising days	Dec. 13-14	Dec. 12-13	Dec. 11-12
Examinations begin	Dec. 17	Dec. 16	Dec. 15
Commencement (Sunday)	Dec. 23	Dec. 22	Dec. 21
Examinations end	Dec. 23	Dec. 21	Dec. 20
January Interim Period			
Classes begin	Jan. 7	Jan. 6	Jan. 5
Spring registration (or register by mail earlier)	Jan. 29-31	Jan. 28-30	Jan. 27-29
Last day of classes	Feb. 1	Jan. 31	Jan.30
Winter recess	Feb. 2-10	Feb. 1-9	Jan. 31-Feb. 8
Spring Semester			
Classes begin	Feb. 11	Feb. 10	Feb. 9
Spring recess	April 6	April 5	April 4
Classes resume	April 15	April 14	April 13
Memorial Day recess	May 26-27	May 25-26	May 24-25
Examinations begin	May 25	May 24	May 23
Examinations end	June 1	May 31	May 30
Commencement (Saturday)	June 1	May 31	May 30
Summer Session (8 Week Session)			
Registration	June 13-14	June 12-13	June 11-12
First day of classes	June 17	June 16	June 15
Last day of classes	Aug. 9	Aug. 8	Aug. 7

Please note: These dates may be subject to change. Consult the most recent *Timetable* to double check dates.

Map

Map Key

1. Studio Arts (SA)
2. Creative Communication (CC)
3. Student Services (SS)
4. University Commons
5. Library Learning Center (LL)
6. Instructional Services (IS)
7. Environmental Services (ES)
8. Laboratory Sciences (LS)
9. Community Sciences (CS)
10. Socio-Ecology (SE)
11. *Circle Entrance*
12. Welcoming Booth
13. Visitor Parking
14. Student Apartments
15. Phoenix Sports Center
16. Physical Plant Center
17. Utility Control Center
18. Children's Center
19. Ecumenical Center
20. Arboretum Center
21. Outing Center
22. Shorewood Clubs
23. Pro Shop
24. Golf Course
25. Tennis Courts
26. Playing Fields
27. Soccer Field
28. Upahki Pond
29. Amphitheater
30. Communiversity Park
31. Parking
32. Weather Station

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Appendix

Undergraduate Academic Rules and Regulations

Definitions

Credit - a quantitative unit of measurement of effort devoted to reading, discussion, lecture, and other activities associated with the learning process. Usually a credit requires a minimum of 15 hours of classroom time and an additional 30 hours of out-of-classroom effort.

Credit Load - the number of credits a student is carrying as a program at a given time in a term, e.g., at registration or at the end of the semester. All credits, regardless of grading status, count toward the credit load for certain purposes.

Maximum Credit Load - is a specific limitation of the number of credits that a student is allowed to carry at any time during a term. For a student in good standing the maximum credit load for a semester is 18 credits and for a student on probation this maximum is reduced to 15 credits; for shorter terms lower pro rata limitations are specified.

Minimum Credit Load - is a specific number of credits that must be carried to be eligible for a variety of programs and benefits, e.g., athletics and financial aids.

Grade Point Credits - the number of credits which are taken for a grade that will affect the grade point average. Some attempted credits may not count as degree credits, e.g., some physical education courses do not result in degree credit and do not affect the gpa either.

Degree Credits - those credits which will count toward the 124 credits required for a bachelor's degree. Certain courses in physical education and all Academic Support Program courses do not result in degree credits even though they may have a credit value assigned for certain load measurement purposes.

Completed Credits - is the number of credits, excluding audited credits, for which a final grade, other than a temporary grade of I or N has been received. P-NC credits passed, degree credits, and attempted credits are included.

Audited Credits - are credits associated with courses in which the student has elected to enroll as an auditor. While these credits are subject to consideration for maximum credit load and fee assessment purposes, they are of no significance for any other purpose. Enrollment on an auditor basis is subject to special conditions.

P-NC Credits - are credits taken under a special grading option; these credits do not have any effect on the grade point average but, if passed, may add to the degree credits earned.

Grade Point Average (GPA) - is a numerical value derived from dividing the number of grade points earned by the number of credits attempted on a regular grade basis. P-NC, incomplete, and audit grades and credits have no effect on the grade point average. Only those courses attempted at UWGB are included in the gpa.

Example for a semester:

Philosophy 204	A	3 cr.	12 gp
Math 104	B	4 cr.	12 gp
German 102	C	4 cr.	08 gp
ASP English 093	P	3 cr.	00 gp

attempted credits: 11
grade points: 32

32 divided by 11 equals 2.9 gpa

Cumulative Grade Point Average - is a gpa for all terms at UWGB and is calculated by dividing the cumulative total grade points earned by the cumulative total attempted credits.

Probation - is a status assigned to a student for lack of academic progress as measured by completed credits for inadequate performance as measured by the grade point average, and should be considered as an advisory warning that improved performance is necessary to continue as a student.

Academic Drop -is a status assigned when the record of academic progress and/or achievement is unacceptable to the extent that the student is not permitted to continue to enroll at the University.

Good Standing - is a status assigned when a student is making adequate academic progress and his/her cumulative gpa is 2.0 or better.

Grading System and Grade Points

Grade point averages (GPA) indicate academic and class standing and are a means of measuring the quality of the student's academic work. Grade point averages are computed on a 4.0 basis. Point values for letter grades are:

Letter Grade	Grade Points Per Credit
A (Excellent)	4.0
B (Good)	3.0
C (Fair)	2.0
D (Poor)	1.0
F (Unacceptable)	0.0
WF (Unofficial Withdrawal)	0.0

P (Pass-any passing letter grade of "C" or better)	No effect (undergrad only)
NC (No Credit-letter grade of "D" "F", or "WF")	No effect (undergrad only)
U (Unsatisfactory audit)	No effect (undergrad only)
S (Satisfactory audit)	No effect (undergrad only)
N (No acceptable report from instructor - temporary grade)	No effect until an acceptable grade is submitted
I (Incomplete)	No effect until removed or lapsed into the tentative grade assigned if the requisite work is not completed prior to the deadline established by the instructor, or the last day of classes for the following semester, whichever comes first.

A student may elect courses on a pass-no credit basis with certain restrictions; see the special section on P-NC grading.

Since grading standards differ from institution to institution, grades received from other institutions outside of the University of Wisconsin-Green Bay are not used in computing the grade point averages.

Academic Standing

Every student is expected to maintain certain standards of academic achievement in all work carried at the University. The University has established these standards in terms of the quality of the work, as measured by the semester and cumulative grade point averages, and the quantity of work satisfactorily completed, as measured by the proportion of the credit load completed each semester.

Certain exceptions are allowed for part-time students, but unless otherwise stated part-time students are expected to meet the same standards of academic achievement as any other student.

Academic standings are reviewed at the end of each term and a revised standing will be reported to every student on the final grade report which is issued after each academic term.

Probation and Drop Status

The University is concerned about students whose academic achievements seem to indicate that they are not able to meet the expectations of their instructors or are experiencing other problems that may be interfering with their studies. A probation action is an advisory warning that a student should take appropriate actions to improve his/her achievement. A drop action is taken when the University feels that the student's academic achievement record to date indicates a need to interrupt enrolled status to reassess and reevaluate goals and plans. A student who has been placed on probation or drop status should give careful consideration to the factors that may be involved. The University encourages such students to seek assistance from counselors, advisers and course instructors, and provides various testing services and study skills development programs such as the Academic Support Program.

Every student is expected to maintain at least a C average (2.0 cumulative gpa) on all work carried, whether passed or not. Failure to achieve this minimum C average (2.0 gpa) in any term will result in a probation, continued probation or drop action at the end of that term, as shown below. Drop actions are taken at the end of each term, however, if a student was not enrolled for the fall semester, a drop action will not be taken solely on the basis of inadequate achievement in the January interim.

Every student is expected to complete a certain portion of the credits for which he/she orginally enrolled. Failure to meet this second standard in each semester will result in a status of probation, continued probation, or drop, as shown below. Completion means that a grade of A, B, C, D, F, WF, P, or NC was earned, exclusive of previously passed courses which are being retaken voluntarily.

A student on probation may return to good standing if he/she fulfills certain requirements, as shown below.

1. Student in Good Standing (a and b)

a. Grade Point Requirement and Action:

1.0 to 1.99 end of semester or term cumulative gpa will result in probation status.

0.999 or less end of semester cumulative gpa will result in a drop status.

action on a part-time student will be withheld until at least 12 credits have been attempted at UWGB.

b. Credit Completion Requirements and Actions:

ORIGINAL* CREDIT LOAD	CREDITS COMPLETED	END OF SEMESTER STATUS
12 or more	8 or less	Probation
9 - 11	5 or less	Probation
6 - 8	2 or less	Probation

*Calculated at the end of the course add period.

Students who enroll for an original credit load of less than 6 credits are exempt from completion requirements. A student may drop at least one course from his/her original credit load* without incurring a drop or probation action. (EXAMPLE - a student enrolled for an original credit load* of 12 credits could drop one 5 credit course without incurring an action of probation or drop for lack of progress.)

2. Student on Probation (a and b)

a. Grade Point Requirements and Actions:

1.50 to 1.999 end of semester or term cumulative gpa will result in continued probation status for one term.

1.49 or less end of semester cumulative gpa will result in a drop status.

2.0 or better end of semester or term gpa and a 2.0 cumulative gpa will result in a return to good standing.

b. Credit Completion Requirements and Actions:

ORIGINAL* CREDIT LOAD	CREDIT COMPLETED	END OF SEMESTER STATUS
12 or more	8 or less	
9 - 11	5 or less	Drop
6 - 8	2 or less	
12 or more	9 - 11	Continued
9 - 11	6 - 8	Probation
6 - 8	3 - 5	
12 or more	12 or more	If cumulative
9 - 11	9 or more	gpa is 2.0 or better,
6 - 8	6 or more	return to good standing.

ORIGINAL* CREDIT LOAD	CREDITS COMPLETED	END OF SEMESTER STATUS
12 or more	6 or less	Probation
9 - 11	5 or less	Probation
6 - 9	2 or less	Probation

*Calculated at the end of the course add period

Students who enroll for an original credit load of less than 6 credits are exempt from completion requirements. A student may drop at least one course from his/her original credit load without incurring a drop or probation action. (EXAMPLE - a student enrolled for an original credit load of 12 credits could drop one 5 credit course without incurring an action of probation or drop for lack of progress.)

3. Student on Probation (a and b)

a. Grade Point Requirements and Actions:

Less than 2.0 cumulative gpa will result in a drop status.

2.0 or better end of semester or term gpa and a 2.0 cumulative gpa will result in return to good standing.

b. Credit Completion Requirements and Actions:

Same as for probation standing.

Drop status is assigned for a period of one semester for the first drop earned. If a student is dropped for a second time the drop status will be for a period of two semesters. A student who is dropped at the end of the fall semester may enroll in the January Interim with the understanding that he/she is not eligible to continue for the spring semester unless his/her achievements during the January Interim would result in a return to good standing or continued probation. A student who is dropped at the end of the spring semester may enroll in the summer session with the understanding that he/she is not eligible to continue for the fall semester unless his/her achievements during the summer session would result in a return to good standing or continued probation.

Conditional matriculants must meet special contractual requirements specified at the time of admission. When a CM student is removed from CM status he/she must then meet all normal requirements. While enrolled as a conditional matriculant classification, the determination for drop action or continued conditional matriculant status will be made by the Admission Review Committee.

Appeals

Academic probation is a non-punitive warning and is not subject to an appeal. Academic drop status may be appealed by means of a special academic appeal to the vice chancellor for Academic Affairs or his designated representative. The vice chancellor may seek advice from the Academic Actions Committee. Any appeal should be filed within two weeks after the end of the semester. A student who is allowed to continue will be on probation and will be subject to any other special conditions that may be designated. An academic drop period provides time for a student to give careful thought to the situation that resulted in the drop action, to seek appropriate non-credit remedial preparation or assistance, and to reassess goals and aspirations in the context of the academic achievement record that has been compiled. Any appeal must include a clear explanation of the problems that resulted in the inadequate achievement and how the student proposes to resolve those problems.

In the event that an appeal is contemplated, the following items should be considered:

1. Are the **relevant** facts clearly stated and documented?
2. Are the **extenuating** circumstances cited of an unforeseeable nature?
3. Are the **relevant recommendations** from the instructor included, if this was appropriate?
4. Are needs and wants distinguishable on the basis of the statements?

Readmission

Readmission after an academic drop is not an automatic process. The Office of Admissions may decide to deny readmission or to grant readmission subject to specific requirements or conditions. A student who is readmitted after an academic drop is always readmitted on probation and subject to the normal standards of progress and achievement. An application for readmission should be submitted to the director of admissions at least 30 days in advance of the desired term of admission to allow for the full review process that may be required.

Withdrawal From the University

A student who desires to withdraw from all academic course work at any time after completing the study list request form or final registration must see a counselor in the Student Development Center, an adviser in the Office of Academic Advising, or the dean of students. A complete withdrawal without failure may be requested at any time before 4:30 p.m. on the afternoon of the last day of regularly scheduled classes during the twelfth week of a semester, the sixth week of an eight week summer session or the second week of a January Interim Period. If a student has not attended classes or taken the final examination in a course, a grade of WF will be given unless official withdrawal procedures have been followed.

A decision to withdraw should be given careful consideration in terms of academic retention policy, veteran's benefits, Social Security benefits, financial aids and other situations that have specific prohibitions against withdrawals. **Any student who withdraws from two consecutive semesters will not be eligible to enroll without seeking readmission.**

All students should be aware of the fact that any semester in which a withdrawal is made after the end of the second week of a semester does count as a semester of enrollment for academic progress standards and will result in a probation action. If a student can provide evidence that a withdrawal is necessary due to unforeseeable extenuating circumstances he/she may be allowed to withdraw without a probation action if such evidence is provided at the time of withdrawal.

Withdrawal by a student with an original credit load of less than 6 credits shall not result in a probation and drop status.

Course Drops

The course drop deadline has been established to allow the student ample opportunity to decide what content a course will cover, the type of readings and projects to be assigned, the instructor's teaching style and the methods of evaluation to be utilized. In some courses response from a formal evaluation process may not be available before the drop deadline. In such cases it is the student's responsibility to contact the instructor **before** the drop deadline to obtain information useful in making the drop decision. Therefore, response in the form of grades on papers or examinations is not an acceptable circumstance that would justify a late drop.

The drop deadline is intended to stimulate a student to weigh carefully all of the important considerations and to do this as early as possible. If a student decides that a course does not fulfill expectations, a reasonably early drop means that the student can then devote a greater portion of available study time and effort to remaining courses, and the instructor will be able to devote more time and effort to the students participating in the course. The 8 week deadline for 14 week semester courses should provide an adequate opportunity to become acquainted with a course and make a decision as to whether it fits into one's program of study.

The two phases of the drop policy are described below:

1. First 8 weeks of a 14 week semester
   Student can drop any course without the instructor's signature.
   No record of action on transcript.
2. 9th - 14th weeks
   No official drops allowed. WF or F appears on transcript.

For terms or classes of a shorter duration than 14 weeks, pro rata deadlines shall be established as follows:

Course Session in Weeks	Drop Deadline-End of Course Session Week
1	Wednesday, Week 1
2	Friday, Week 1
3	Wednesday, Week 2
4	Friday, Week 2
5	Wednesday, Week 3
6	Friday, Week 3
7	Wednesday, Week 4
8	Friday, Week 4
9	Wednesday, Week 5
10	Friday, Week 5
11	Wednesday, Week 6
12	Friday, Week 6
13	Wednesday, Week 7
14 or more.... (normal semester course)	Friday, Week 8

A course session week always ends on a Friday. All courses that begin or end on non-standard session weeks will have a non-standard drop deadline, e.g., if 742-122-9, Sec 1 meets September 9 through November 10 (9 weeks), the drop deadline would be Wednesday, October 7.

Course Adds

After final registration a student may add other courses to his/her program if such an addition does not exceed the maximum credit load limitation and is completed before a specific deadline for additions. During a normal semester the add period is limited to the first two weeks of classes; for shorter terms an earlier deadline will be in effect. A student may petition for an exception if unforeseeable extenuating circumstances prevented compliance with the deadline.

Late Program Changes and Withdrawals

A student may be granted permission to drop a course or courses after the eight week deadline, or make a complete withdrawal after the normal twelfth week deadline, if one of these specific criteria can be verified:

1. If the student has serious mental or physical health problems as verified by a physician's or professional counselor's statement.
2. If there is a death or prolonged serious illness in the immediate family as verified by the family physician.

Under any of these circumstances, a counselor in the Student Development Center or an adviser in the Office of Academic Advising is authorized to grant permission for a late drop or withdrawal. If a student has any other reason for requesting a late drop or withdrawal he/she should direct a written appeal, stating the circumstances, to the vice chancellor for Academic Affairs or his/her designee for consideration.

Class Attendance

A student is expected to attend all class sessions. If, for any reason, a student is unable to attend classes during the first week of classes, he/she is responsible for notifying the instructor(s), in writing, of the reason for nonattendance and intentions to complete the course. Registered students are obligated to pay all fees and penalties as listed on the fee schedule; **nonattendance does not alter these obligations in any way.**

Maximum and Minimum Credit Loads

A student in good academic standing may register for any number of credits up to a maximum of 18 credits per semester. A student will not be allowed to register for credits in excess of 18 if he/she does not have **prior written permission** to carry an overload from the vice chancellor of Academic Affairs or his/her designee (coordinator of Academic Advising). Likewise, any course adds that would have the effect of exceeding the maximum will not be processed if prior permission for an overload has not been granted.

A student may register for or reduce a program below 12 credits in a semester with the understanding that for certain purposes he/she will then be considered a part-time student. A student who reduces the credit load below 12 credits must check with the proper offices concerning implications for financial aids, government benefits, and other programs with credit load eligibility stipulations, including the standards of progress for probation and drop status purposes.

Maximum Credit Load Probationary Students

Maximum semester credit load is 15 credits for students on probation.

Grade and Grade Appeals

Each student will receive a grade from the instructor in charge of a course at the end of the respective semester or session. Grades must be in the Office of the Registrar no later than 96 hours after the final examination. Accompanying the grade rosters received from the registrar each semester will be information on current grading policies.

If a student is dissatisfied and wishes to appeal a particular course grade, he/she must first contact the instructor who issued the grade. If the student is still dissatisfied he/she may appeal to the concentration or professional program chairperson who must, in turn, consult with the instructor in the course. If the student wishes to appeal further he/she consults with the vice chancellor of Academic Affairs who also consults with the instructor and the appropriate chairperson. The vice chancellor or chairperson acts in an advisory capacity to the student and instructor.

Grade Changes

All final grades, with the exception of incompletes (I), will become permanent grades after the last day of classes for the next semester. Any discussions with faculty regarding grade levels or missing (N) grades must be pursued within this time period.

Incompletes

If, due to unusual yet acceptable circumstances, a student is unable to take or complete a final examination or other course work, he/she may arrange with the instructor to receive an '**incomplete**' in the course. The incomplete is filed with two tentative grades, one indicating the quality of the work to date, and a second to be assigned if no more work is completed, and a specific deadline for completing the work required for removal of the incomplete. The course instructor must file an incomplete removal form, stating the conditions for removal as well as the specific deadline for removal, before a grade of incomplete will be accepted for recording. Since the course is incomplete, grade points and degree credits remain undetermined until a permanent grade is established; however, a tentative academic action may be assigned on the basis of grades and credits received in other courses. Such an action will be reviewed after the incomplete has been converted into a permanent grade.

Incompletes for Graduating Seniors

Seniors anticipating graduation must remove all pending incompletes by the end of the sixth week of the final semester of attendance. Outstanding incompletes will be considered as "I" grades for purposes of estimating eligibility for graduation and, if applicable, honors.

Removal of Incompletes

The course instructor is responsible for informing the student, the Office of the Registrar and his/her concentration or professional program chairperson as to the specific deadline for removal of an incomplete. If no earlier deadline is specified, an incomplete (I) must be removed no later than the last day of classes for the next semester; **this is the absolute maximum allowable deadline.** If no other grade is submitted by the instructor within this deadline, incomplete (I) grades shall become a permanent grade of "F" with normal effect on the student's grade point average and earned credits.

A student may file a special petition for an exception to the removal deadline if bona fide unanticipated extenuating circumstances prevented compliance with the removal deadline, such as the following:

1. The student has serious physical or mental health problems which have been documented by a physician or professional counselor's statement.
2. The student has had a death or serious illness in the immediate family and this has been documented by a physician's statement.
3. The course instructor is on leave during the semester for removal.

If a student is a graduating senior, all "I" grades must be converted to a permanent passing or failing grade before his/her commencement date. All grades on the record shall become permanent as of that date with no possibility for removal or change.

An incomplete (I) grade is normally a temporary grade which is given when, due to **unforeseeable extenuating circumstances,** a student is unable to complete the course requirements within the normal term, e.g., illness during the final examination period.

Repeating Courses

A student may choose to repeat any course. All repeated courses will be designated with a letter "R" after the grade on the transcript. When a repeated course is completed, the original grade and entry on the transcript will remain on the transcript but the credits, grade, and grade points earned for the most recent completion shall be the only enrollment completion that will have effect on the cumulative attempted credits, grade points earned, and grade point average. Courses repeated at another institution have no effect on the grade point average at UWGB.

Repeated courses do not count toward fulfillment of standards of progress requirements, for probation and drop status purposes, unless the previous grade was NC, F, WF, S or U.

Pass-No Credit Enrollment Information

Pass-No Credit (P-NC) grading is a student elected grading option which is available if a student does not want a regular grade in a course that would affect his/her grade point average. Certain courses may not be elected on a Pass-No Credit basis if they are taken to fulfill certain requirements. These include the following:

All-University Requirements courses

Concentration or professional program (major) courses (300-400 level)

Disciplinary Program (co-major) courses (300-400 level)

Professional Program courses (300-400 level including **all** courses in the teaching majors and minors, except student teaching)

Supportive Field (cognate) courses (BUA students)

Senior Distinction (484) project

Independent Study (298-498) courses

Tool subjects and electives may be taken on a P-NC basis. Non-degree credit courses (e.g. Academic Support Program) and student teaching are offered exclusively on a P-NC basis.

If there is any doubt as to whether it is permissible to count a P-NC graded course for degree requirements, always consult the Office of the Registrar before the two week deadline for P-NC changes.

If a course is taken on pass-no credit, grades of A, B, or C are designated pass and the grade is recorded on the final grade slip and the permanent record card as a "P." These grades are not used in computing the grade point average, but the earned credits do count towards graduation.

If a student should receive a grade of "F", "WF", or "D" in the course, the grade slip will read "NC" or no credit. A "NC" does not affect the grade point average or earned credits.

For example, if a student would like to explore a completely new area of interest it may be advisable to take it on pass-no credit since it may be difficult to estimate the difficulty of the work required as well as the level of other students in the course.

However, if a student is considering applying for graduate or professional schools or transferring to another undergraduate campus, the grading system may have an adverse effect on admission. Graduate schools generally prefer letter grades, because this enables them to better judge potential for academic success.

Since instructors generally do not know which students are taking their courses on pass-no credit, they record a letter grade. The letter grade is changed to a "P" or "NC" by the computer. This letter grade will be reported **only** upon the student's written request and the written request of an academic official from the college or university, or prospective employer, to whom the grade is to be sent. Students are cautioned about taking courses on pass-no credit even though the grade can be released in this way. Prospective employers often share many of the negative feelings about pass-no credit grades that graduate schools have.

For more information check with an academic adviser before classes begin.

The decision to elect P-NC grading should be made at the time of registration and no change in P-NC status decisions will be allowed after the normal course add deadline. With the exceptions of Academic Support Program courses, student teaching, and selected Physical Education courses, no course is graded exclusively on a P-NC basis.

Audit Enrollment Information

A student may audit a course if space is available after students who have enrolled for credit have been accommodated. Special policies apply to senior citizen guest students and any other students who enroll under the special half-price fee arrangement; these policy statements are published in the Timetable for each term. Conditions and requirements for class participation are completely at the discretion of the course instructor. A student enrolled for credit may change to auditor status, for grading purposes, at any time up to the course drop deadline. Audited credits do not count in the determination of credit completion requirements or for any program or benefits eligibility status. Audit credits are subject to consideration for maximum credit load limitations. Any change from audit status to credit status, for grading purposes, must be completed within the course add period.

Program Declaration and Advisers

To ensure the best possible program planning and course selection, all students are strongly encouraged to seek out advice and information on majors, all-University requirements, tool subjects, and other programs as soon as possible. All matriculated students must select an appropriate academic adviser to assist with course selection before each registration. The adviser's approval signature must be on the study list request for each registration until the student has filed an academic plan form. A student who attains junior standing (54 or more degree credits) must declare a major before he/she will be allowed to register for another term. A student who has attained senior standing (84 or more degree credits) must file an approved academic plan before he/she will be allowed to register for another term.

Independent Study

Students interested in earning credits for research may wish to enroll for independent or directed study in one of the concentrations, disciplinary programs, or professional programs, under the course numbers of 298 for lower division work or 498 for upper division work. Enrollment may be for from 1 to 4 credits per course. To arrange for an independent study a student should prepare a statement of objectives and a list of readings and/or research projects that will lead to these objectives. This proposal may be designed by the student or prepared on the form which is available for this purpose. The written proposal, as approved by the instructor, should be placed on file in the Office of the Registrar by the end of the second week of classes. If a student does not place a copy of the proposal on file, he/she accepts full responsibility in the event that some unforeseeable circumstances prevent completion of the project with the same instructor.

If the student obtains the consent of an instructor, he/she must complete an undergraduate independent study card which must be submitted with the study list request form at the time of registration, or with an add card within the first two weeks of a semester. The approval signatures of the UWGB faculty member and his/her concentration or professional program chairperson must be on the independent study card. Only regular UWGB faculty are allowed to supervise independent studies.

Independent Study courses are subject to certain limitations:

1. Independent studies cannot be designed to duplicate a regular UWGB course; this type of study is intended to expand the curriculum.
2. A freshman or sophomore must have a minimum cumulative grade point average of 2.5 and a junior or senior must have a minimum of 2.0.
3. An independent study cannot be elected by the student on an audit or Pass-No Credit basis.
4. An independent study may be taken only with a regular member of the UWGB faculty/academic staff.

UW-Center System Course Equivalency Tables

Center System Courses	UWGB Courses
Anthropology	
ANT 100	ANT elective
ANT 102	ANT 215
ANT 105	ANT 110
ANT 106	HUA elective
ANT 200	ANT 100
ANT 204	ANT 100
ANT 222	ANT elective
ANT 291	Determined by topic
ANT 293	Determined by topic
ANT 299	Determined by topic
ANT 301	COA 160
ANT 302	ANT elective
ANT 303	HUA elective
ANT 304	HUA elective
ANT 308	ANT elective
ANT 311	ANT elective
ANT 314	ANT 301
ANT 322	ANT elective
ANT 325	ANT 301
ANT 330	Determined by topic
ANT 341	ANT elective
ANT 343	ANT elective
ANT 349	ANT elective
ANT 351	ANT elective
ANT 353	ANT 301
ANT 370	ANT elective
ANT 400	ANT elective
ANT 408	ANT elective
ANT 440	ANT 340
ANT 450	ANT elective
ANT 470	ANT 303
ANT 545	ANT 310
ANT 570	ANT elective
Art	
ART 101	ART 105
ART 102	ART elective
ART 103	ART elective
ART 111	ART 107
ART 112	ART 106
ART 113	ART elective
ART 121	ART 210
ART 131	ART 220
ART 141	ART elective
ART 151	ART elective
ART 161	ART 243
ART 171	COA elective
ART 173	ART elective
ART 181	COA 102
ART 183	COA 103
ART 185	COA elective
ART 187	COA 202
ART 188	COA elective
ART 191	ART elective
ART 192	ART elective

Center System Courses	UWGB Courses
ART 193	Determined by content
ART 201	ART 301
ART 202	ART 401
ART 211	ART elective
ART 212	ART elective
ART 219	ART elective
ART 221	ART 314
ART 222	ART 414
ART 223	ART 311
ART 224	ART 410
ART 229	ART elective
ART 231	ART 220
ART 232	ART 321
ART 239	ART elective
ART 241	ART 377
ART 243	ART 373
ART 245	ART 375
ART 247	ART 371
ART 249	ART elective
ART 251	ART elective
ART 252	ART elective
ART 253	ART 230
ART 254	ART 331
ART 259	ART elective
ART 269	ART elective
ART 279	CA elective
ART 289	ART elective
Astronomy	
AST 100	SEC 141
AST 101	SEC elective
AST 200	SEC 141
AST 291	SEC elective
Biological Sciences	
BAC 101	BIO 302
BAC 230	BIO elective
BAC 299	Determined by content
BOT 100	BIO elective
BOT 107	SEC 102
BOT 109	BIO elective
BOT 116	BIO elective
BOT 130	BIO 202 & 203 (plus CS ZOO 101)
BOT 151	BIO 202 & 203 (plus CS BOT 152)
BOT 152	BIO 202 & 203 (plus CS BOT 151)
BOT 160	BIO elective
BOT 231	BIO elective
BOT 240	BIO 240
BOT 250	SEC 302
BOT 260	BIO 303
BOT 291	Determined by topic
BOT 299	Determined by topic

Center System Courses	UWGB Courses
BOT 400	BIO 310
BOT 450	BIO elective
FOR 120	SEC elective
WIL 140	SEC 186
NAT 170	SEC elective
PHS 104	HUA 203, 204
PHS 170	HUA elective*
PHS 202	Both courses equal HUA 203,
PHS 203	204 and elective credit
PHS 235	HUA elective**
ZOO 101	BIO 202 & 203 (plus CS BOT 130)
ZOO 103	SEC 102
ZOO 105	HUA 102
ZOO 107	SEC 102
ZOO 109	BIO elective
ZOO 116	BIO elective
ZOO 140	SEC 186
ZOO 151	BIO 202 & 203 (plus CS ZOO 152)
ZOO 152	BIO 202 & 203 (plus CS ZOO 151)
ZOO 155	HUA elective*
ZOO 160	BIO elective
ZOO 170	HUA elective**
ZOO 203	HUA 206
ZOO 234	HUA elective
ZOO 235	BIO elective
ZOO 237	BIO elective
ZOO 250	SEC 302
ZOO 260	BIO 303
ZOO 277	BIO 342
ZOO 291	Determined by topic
ZOO 299	Determined by topic
ZOO 430	BIO 340
ZOO 505	BIO 350
ZOO 515	SEC 403 (plus CS ZOO 516)
ZOO 516	SEC 403 (plus CS ZOO 515)
Business and Economics	
BUS 101	BUA 202
BUS 110	BUS 102
BUS 194	General elective
BUS 201	BUA 300
BUS 202	BUA 301
BUS 204	BUA 302
BUS 210	BUA 101
BUS 242	BUA 217
BUS 243	BUA/ECO elective
BUS 297	Determined by topic
BUS 299	Determined by topic
BUS 374	BUA 217
ECO 101	ECO 102
ECO 203	ECO 202
ECO 204	ECO 203
ECO 230	ECO 330
ECO 243	BUA/ECO elective
ECO 250	ECO elective
ECO 271	ECO elective
ECO 297	Determined by topic
ECO 299	Determined by topic
Chemistry	
CHE 100	No transfer
CHE 124	SEC elective
CHE 125	CHE 108
CHE 145	CHE-PHY 111***
CHE 155	CHE-PHY 112***
CHE 203	CHE-PHY elective
CHE 211	CHE-PHY elective

Center System Courses	UWGB Courses
CHE 214	CHE-PHY elective
CHE 233	NSC elective
CHE 244	CHE 311
CHE 272	CHE-PHY elective
CHE 290	Determined by topic
CHE 299	Determined by topic
CHE 343	CHE 302
CHE 352	CHE 304, 305
CHE 363	CHE 303
Communication Arts	
COM 100	CPR elective
COM 101	CPR 166
COM 102	CPR elective
COM 103	CPR 133
COM 130	COA elective
COM 131	THE 235
COM 150	COA 210
COM 160	CPR elective
COM 201	CPR 202
COM 202	CPR elective
COM 203	CPR 203
COM 204	CPR elective
COM 206	CPR elective
COM 220	CPR elective
COM 230	CPR elective
COM 231	THE 221
COM 232	THE 131
COM 234	THE 221
COM 266	CPR elective
COM 267	CPR elective
COM 268	CPR elective
COM 298	Determined by topic
COM 299	Determined by topic
COM 348	THE elective
COM 349	THE elective
Computer Science	
CPS 100	Elective
CPS 101	General elective
CPS 110	MAT 150, 152
CPS 111	(Faculty members will review computer science transfer courses individually. Center System courses do not necessarily parallel UWGB courses.)
CPS 120	
CPS 210	
CPS 211	
CPS 213	MAT 256
CPS 231	See note above.
CPS 250	
CPS 251	
CPS 252	
CPS 253	
CPS 254	
CPS 255	
CPS 260	
CPS 270	MAT 351
CPS 291	Determined by topic
CPS 299	Determined by topic
Education	
EDU 101	EDU elective
EDU 200	EDU elective
EDU 223	EDU elective
EDU 251	Departmental review (3)
EDU 283	Departmental review (3)
EDU 300	Edu 410
Edu 330	HUD 202

* No HUA 203, 204 for full credit.

** CS ZOO 234 plys PHS 235 is equivalent to Green Bay HUA 203, 204.

*** CS CHE 145 plus CHE 155 is equivalent to Green Bay CHE-PHY 111, 112, 110.

Center System Courses	UWGB Courses
Engineering	
EGR 100	No equivalent
EGR 106	CPR elective
GRA 102	SEC 105
GRA 113	SEC elective
MEC 201	SEC 313
MEC 202	SEC 314
MEC 203	SEC 316
English and Literature	
ENG 101	ENG 100
ENG 102	ENG 105
ENG 103	ENG elective
ENG 120	COA 160
ENG 200	ENG 104
ENG 201	ENG elective
ENG 203	ENG 212 or 213
ENG 204	ENG 212 or 213
ENG 205	ENG elective
ENG 209	ENG elective
ENG 211	ENG elective
ENG 213	ENG 214
ENG 214	ENG 215
ENG 215	ENG 216
ENG 216	ENG 217
ENG 217	ENG elective
ENG 218	ENG elective
ENG 219	ENG 106
ENG 227	ENG elective
ENG 251	ENG elective
ENG 253	ENG elective
ENG 255	ENG elective
ENG 290	Determined by topic
ENG 297	Determined by topic
ENG 298	Determined by topic
ENG 299	Determined by topic
Foreign Language	
FRE 101	FRE 101
FRE 102	FRE 102
FRE 118	FRE elective
FRE 119	FRE elective
FRE 201	FRE 210
FRE 202	FRE 202
FRE 215	FRE elective
FRE 219	FRE elective
FRE 221	FRE 329
FRE 222	FRE 329
FRE 223	FRE 329
FRE 225	FRE 225
FRE 226	FRE 325
FRE 275	ENG elective
FRE 276	ENG elective
FRE 277	Determined by topic
FRE 291	Determined by topic
FRE 299	Determined by topic
GER 101	GER 101
GER 102	GER 102
GER 118	GER elective
GER 119	GER elective
GER 201	GER 201
GER 202	GER 202
GER 215	GER elective
GER 216	GER elective
GER 219	GER elective
GER 221	GER 329
GER 222	GER 329
GER 225	GER 225
GER 226	GER 325
GER 275	ENG elective
GER 276	ENG elective
GER 277	Determined by topic
GER 291	Determined by topic
GER 299	Determined by topic

Center System Courses	UWGB Courses
SPA 101	SPA 101
SPA 102	SPA 102
SPA 118	SPA elective
SPA 119	SPA elective
SPA 201	SPA 201
SPA 202	SPA 202
SPA 210	SPA elective
SPA 221	SPA 329
SPA 222	SPA 329
SPA 225	SPA 225
SPA 226	SPA 325
SPA 236	HUM elective
SPA 266	ENG elective
SPA 275	ENG elective
SPA 277	Determined by topic
SPA 291	Determined by topic
SPA 299	Determined by topic
Geography	
GEO 101	GEO 202
GEO 110	GEO 102
GEO 115	GEO 215
GEO 120	EAR elective
GEO 121	REA elective
GEO 123	REA 222
GEO 124	EAR 202
GEO 125	EAR elective
GEO 130	SEC 102
GEO 277	GEO elective
GEO 291	Determined by topic
GEO 297	Determined by topic
GEO 299	Determined by topic
GEO 300	GEO elective
GEO 324	GEO elective
GEO 341	GEO 371
GEO 342	GEO 235
GEO 347	GEO elective
GEO 348	GEO elective
GEO 349	REA 382
GEO 350	SEC 303
Geology and Meteorology	
GLG 100	EAR elective
GLG 101	EAR 202
GLG 102	EAR 302
GLG 130	EAR elective
GLG 131	GEO 250
GLG 135	EAR elective
GLG 169	EAR elective
GLG 201	EAR elective
GLG 228	SEC 331
GLG 291	EAR elective
GLG 297	Determined by topic
GLG 299	Determined by topic
GLG 301	EAR 340
GLG 302	EAR 442
GLG 306	EAR elective
GLG 314	EAR 350
GLG 316	EAR elective
GLG 350	EAR elective
GLG 409	EAR 380
GLG 414	EAR 366
GLG 443	EAR 470
MLG 100	REA 222
History	
HIS 101	HIS 250
HIS 102	HIS 206
HIS 105	HUS 101
HIS 106	HUS 102
HIS 110	HIS elective
HIS 111	HIS 201 and/or elective (plus CS HIS 112)

Center System Courses	UWGB Courses
HIS 112	HIS 201 and/or elective (plus CS HIS 111)
HIS 114	HIS elective
HIS 115	HIS 202
HIS 116	HIS elective
HIS 117	HIS elective
HIS 119	HIS 203
HIS 120	HIS 204
HIS 121	HIS 251
HIS 123	HIS elective
HIS 124	HIS elective
HIS 126	HIS elective
HIS 127	HIS elective
HIS 150	HIS elective
HIS 178	HIS elective
HIS 183	HIS elective
HIS 185	HIS elective
HIS 190	HIS elective
HIS 195	HIS elective
HIS 197	HIS elective
HIS 198	CA 210
HIS 203	HIS elective
HIS 211	HIS elective
HIS 213	HIS elective
HIS 289	HIS 310
HIS 290	HIS 311
HIS 291	HIS elective
HIS 293	HIS elective
HIS 295	HIS elective
HIS 296	HIS elective
HIS 297	HIS elective
HIS 299	Determined by topic
Interdisciplinary Studies	
INT 100	Faculty evaluation
INT 102	SEC 102
INT 105	CPR elective
INT 195	SCD elective
INT 197	ART 243
INT 250	SEC 260
INT 291	Determined by topic
INT 294	General elective
INT 295	General elective
INT 296	General elective
Learning Resources	
LEA 100	No transfer
LEA 101	No transfer
LEA 102	No transfer
LEA 104	No transfer
LEA 105	No transfer
Lecture (University) Forum	
LEC 101	Social Science elective
LEC 102	No transfer
LEC 103	No transfer
Mathematics	
MAT 081	No transfer
MAT 091	No transfer
MAT 102	MAT elective
MAT 105	MAT 101
MAT 110	MAT 104 (plus CS MAT 113)
MAT 113	MAT 104 (plus CS MAT 110)
MAT 117	MAT 260
MAT 118	MAT elective
MAT 119	MAT elective
MAT 124	MAT 104
MAT 130	MAT 281
MAT 131	MAT elective
MAT 132	MAT 282
MAT 211	MAT 201

Center System Courses	UWGB Courses
MAT 212	MAT elective
MAT 220	MAT elective
MAT 221	MAT 202
MAT 222	MAT 203
MAT 223	MAT 209, 305
MAT 232	MAT elective
MAT 240	MAT elective
MAT 262	MAT 320
MAT 271	MAT 309
MAT 299	Determined by topic
MAT 320	MAT 305, 320
Military Science	
MLS 101	MLS elective
MLS 102	MLS elective
MLS 201	MLS 221
MLS 202	MLS elective
MLS 251	MLS elective
Music	
MUS 070	Applied MUS 151
MUS 071	Applied MUS 242
MUS 072	Applied MUS 261
MUS 073	Applied MUS 164
MUS 074	Applied MUS 143
MUS 075	Applied MUS 163
MUS 076	Applied MUS 144
MUS 077	Applied MUS 145
MUS 078	Applied MUS 146
MUS 079	Applied MUS 153
MUS 107	MUS elective ****
MUS 115	MUS elective ****
MUS 121	MUS elective ****
MUS 130	MUS elective ****
MUS 131	MUS 101
MUS 132	MUS 101
MUS 136	MUS elective****
MUS 145	MUS elective****
MUS 147	MUS elective****
MUS 148	MUS elective****
MUS 154	MUS elective****
MUS 160	MUS elective****
MUS 170	MUS 101
MUS 171	MUS 115, 151
MUS 172	MUS 152, 116
MUS 173	COA 120
MUS 174	COA 121
MUS 271	MUS 251
MUS 272	MUS 252
MUS 273	COA elective
MUS 275	MUS elective
MUS 276	MUS elective
MUS 280	MUS elective
MUS 281	MUS 331 and 1 cr. 332 (plus CS MUS 280)
MUS 295	Determined by topic
MUS 299	Determined by topic
MUA 299	
Philosophy	
PHI 100	No transfer
PHI 101	PHI 101
PHI 102	PHI elective
PHI 103	PHI elective
PHI 106	PHI elective
PHI 201	PHI elective
PHI 210	PHI elective
PHI 211	PHI 111
PHI 220	PHI 208
PHI 226	PHI 207
PHI 240	PHI elective
PHI 241	PHI 102
PHI 248	HUA 205
PHI 253	PHI 211

**** Applied music course number determined by instrument and proficiency level.

Center System Courses	UWGB Courses
PHI 258	PHI elective
PHI 291	Determined by topic
PHI 299	Determined by topic
Physical Education	
PED 201	Credits earned in certain physical education courses may be counted as degree credits. See current Timetable for statement of policy.
PED 202	
PED 203	
PED 204	
PED 205	
PED 206	
PED 206	
PED 207	
PED 208	
PED 209	
PED 210	
PED 211	
PED 212	
PED 213	
PED 214	
PED 215	
PED 216	
PED 217	
PED 291	
PED 299	
Physics	
PHY 107	PHY SCI elective
PHY 110	PHY SCI elective
PHY 120	Determined by topic
PHY 141	CHE-PHY 103
PHY 142	CHE-PHY 104
PHY 201	CHE-PHY 201
PHY 202	CHE-PHY 202
PHY 205	PHY elective
PHY 211	CHE-PHY 201
PHY 212	CHE-PHY 202
PHY 213	PHY elective
PHY 291	Determined by topic
PHY 299	Determined by topic
Political Science	
POL 101	POL 100
POL 104	POL 101
POL 106	POL elective
POL 110	POL elective
POL 116	POL elective
POL 124	POL elective
POL 125	POL elective
POL 126	POL elective
POL 153	POL elective
POL 160	POL elective
POL 175	POL elective
POL 185	POL elective
POL 201	POL elective
POL 210	POL elective
POL 213	POL elective
POL 222	POL 412
POL 223	Determined by topic
POL 243	PUA 102
POL 250	PUA elective
POL 260	POL elective
POL 299	Determined by topic
Psychology	
PSY 201	PSY 102
PSY 202	PSY 102
PSY 203	PSY elective
PSY 204	PSY elective
PSY 205	PSY 205
PSY 208	PSY elective
PSY 210	CSC 205
PSY 224	General elective
PSY 225	PSY 300

Center System Courses	UWGB Courses
PSY 250	HUD 210
PSY 254	PSY elective
PSY 299	Determined by topic
PSY 411	Determined by topic
PSY 449	BIO 345
PSY 507	HUD 429
PSY 509	HUD 435
PSY 530	PSY 202
PSY 560	HUD 331
PSY 561	HUD 322
PSY 562	HUD 433
Sociology	
SOC 101	SOC 202
SOC 120	SOC 208
SOC 125	SOC elective
SOC 130	SOC elective
SOC 131	SOC elective
SOC 134	SOC 203
SOC 138	SCD 241
SOC 160	SOC 375
SOC 170	SOC elective
SOC 250	SOC elective
SOC 291	Determined by topic
SOC 293	Determined by topic
SOC 299	Determined by topic
SOC 357	SOC 301
SOC 530	PSY 202

Course Abbreviations

ANT	Anthropology
ART	Visual Arts
BIO	Biology
BOT	Botany
BUA	Business Administration
CHE	Chemistry
COA	Communication Arts
COM	Composition
CPR	Communication Processes
CSC	Community Sciences
EAR	Earth Science
ECO	Economics
EDU	Education
EAD	Environmental Administration
FRE	French
GEO	Geography
GER	German
GRD	Growth and Development
HIS	History
HCC	Humanism and Cultural Change
HUA	Human Adaptability
HUD	Human Development
HUS	Humanistic Studies
LEI	Leisure Science
LES	University Seminars
L&L	Literature and Language
MGS	Managerial Systems
MAT	Mathematics
MUS	Music
NSC	Nutritional Science
PHI	Philosophy
PHY	Physics
POL	Political Science
POP	Population Dynamics
PSY	Psychology
PUA	Public Administration
REA	Regional Analysis
SCD	Social Change and Development
SEC	Science and Environmental Change
SOC	Sociology
SSE	Social Services
SPA	Spanish
THE	Theater
URS	Urban Studies

The designations "determined by topic" and "determined by content" mean that exact equivalent will be determined after individual consultation with Registrar's Office. Credit will be accepted.

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