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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 among 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 4,000 undergraduates and 425 graduate students (1983-84). Of the total, 80 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 60 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 Goerin Memorial Arboretum, underdevelopment around the campus perimeter as a resource for instruction and recreation, offers tour 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 pedestrain 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 campus.
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—stage and costume shop, 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 Lauton 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 papemaking 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 the 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.
Sherwood 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 Sherwood 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 interstate 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 15 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: practice—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), 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; descriptions 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:

242-333 Language and Human Conflict AND
483-375 Cultural Conflict

Social Sciences

Example 1:

265-102 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
344-231 Values in Black and White America II
Example 3:
478-205 Biotechnology and Human Values

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 553-090, Fundamentals of Writing, which is a non-credit 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
  Managerial 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 Dankoehler, environmental design, drawing, graphics, sculpture; Jerry Dell, photography, graphics, electronic media; Lowell Ivie, jazz, arranging, trumpet; Wayne Jaeckel, jazz, music theory, woodwinds; Donald Lamouth, 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 Gaboia, technical theater, costume design; Curtis Heuer, ceramics, drawing and design, aesthetic awareness; Elizabeth Jones, art history; Evelyn Tekari, graphic communication; Susan Matthews, voice, vocal ensembles; Karen 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 24 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 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 advisor.

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 an 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 linguistics, anthropology, 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
242-190 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 242-190.

**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
242-475 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:

242-570 Modern American Culture
242-452 Internship in Graphic Communication
249-346 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:

- 220-111, 112 Principles of Chemistry I, II
- 600-206 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)

249-231 Introduction to Graphic Communication
962-102 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
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 major 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
245-102 Introduction to Mass Communication
246-133 Fundamentals of Public Address
246-200 Introduction to Communication Processes
245-243 Introduction to Photography
452-103 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

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

Geology and Earth Science
290-202 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
246-365 Elements of Electronic Media
246-366 Radio Broadcast Practice
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
608-770 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
862-490 Resource Management Strategy
862-466 Vegetation Management
608-724 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 Microbial Physiology
204-405 Microbial Physiology
225-311 Analytical Chemistry
682-320 The Soil Environment
682-330 Quantitative Hydrology
682-342 Environmental Geology
682-423 Water Chemistry

To summarize, students in the science communication program complete an interdisciplinary major in Communication and the Arts comprised of 37-38 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 scientific communication and journalism. Students also have the opportunity to complete the program as a part of a larger interdisciplinary concentration, designing an individualized course of study based on the student's interests.

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 (8-12 credits minimum)**
- 375-241 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
- 242-253 Foundations of Aesthetic Experience
- 246-102 Introduction to Mass Communication

**Upper Level (15 credits minimum)**
- 242-177 Women as Creative Agents (required)
- 242-345 Women in Cross-Cultural Perspective (required)
- 242-355 Women in American Perspective (required)
- 242-356 Images of Woman in Contemporary Arts
- 242-357 Women as Worker
- 242-358 Women, Myth, and Identity
- 242-340 Women and the Law
- 144-440 Women in Religion

**Advanced Courses (12 credits minimum)**
- 242-381 Increasing Aesthetic Awareness
- 242-354 Aesthetic Awareness through Artistic Creation
- 242-372 The Phenomenon of Style: Traditional Styles
- 242-374 The Phenomenon of Style: Avant-Garde Styles
- 242-395 Images of Woman in Contemporary Arts
- 242-403 Processes and Systems of Aesthetic Evaluation

**Humanistic Studies**

**Professors:** James Clifton, cultural anthropology; ethnic history; North American Indians; personality and culture, religion, myth, and folklore; Eimer 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 Sonenfeld, 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 Withrow, French language, literature, and culture.

**Associate Professors:** Paul Edmonds, United States history; diplomatic, 20th century, economic; Thomas Churchill, creative writing, fiction, literature; Ovilia Clark, philosophy of art, aesthetics, American Indian art; Kenneth Fleury, French language, literature, and culture, French Canadian studies, comparative literature; David Galazy, history of science and technology, epistemology, African science, social services; Norbert Gaworew, 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 Noll, history of philosophy, philosophy of the sciences, phenomenology, existentialism; Jerrold Radesch, American history, intellectual and cultural history, history of Wisconsin, the arts and social thought; Peter Sambler, 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; 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, prelibrarianship and other professional 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 inci-
visualized programs for students with special needs or interests; all majors in Humanities 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 advisor for details.

**Foreign Language Requirement:** 11 credits (or the equivalent in high school units). Humanities 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 advisor'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 493-351/363/365 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 advisor for details.

**Humanities Background Requirement:** 12 credits of courses which together provide an introduction to the humanities and an overview 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 (8 cr.)
- 493-201 Introduction to Humanities Studies I (3 cr.)
- 493-202 Introduction to Humanities 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, Humanities Studies, fine arts.

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

Students who combine Humanistic Studies with a disciplinary program must take 493-480 Seminar in Humanities 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 Humanities 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**
- 493-304 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 American: 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 Criticisms of the Visual Arts
- 493-310 Criticisms of the Performing Arts
- 493-315 Theories of Creativity
- 493-332 Art and Social Thought
- 493-371 American Indian Art and Artists

The concentration advisor 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 advisor as early as possible.

**Art**

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

**Assistant Professors:** Curtis Heuer, ceramics, drawing, aesthetic awareness; Evelyn Telkari, graphic communication; Karen Witzlacz (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 studies 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 chose programs in Communication and the Arts or...
Sample Programs

LOWER LEVEL REQUIREMENTS

The following 30 credits of freshman-sophomore level courses are required of all visual arts majors 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 majors 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
957-310 19th and 20th Century Art
957-493 Contemporary Art (1445 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
957-384 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
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 Practice
957-497 Internship (with a museum, art center or arts organization)

Electives (6 credits minimum)
Communication Skills:
552-105 Introduction to Expository Writing
OR
552-334 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 advisor.

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 Maller, perceptual and cognitive psychology, aesthetic perception; Dean O'Brien, journalism.

Assistant Professors: Phillip Clappitt, 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
249-200 Communication Processes: An introduction (required)
245-201 Human Information Processing (proposed)
245-203 Newswriting Laboratory
240-243 Introduction to Photography
245-253 Practicum in Print Journalism I
552-105 Introduction to Expository Writing

All communication processes students are strongly encouraged to enroll in 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, broadcast media 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 I
246-353 Practicum in Print Journalism II
246-390 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 in 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:
242-330 Communication: Extensions of Consciousness
242-333 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 I
246-344 Photography II
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 broadcast field 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 diversity. 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 interests. 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 personal development positions in business and industry, private consulting firms, non-profit 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:

- 246-325 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 (3-12 credits):

- Mass Media (e.g., 246-305 Elements of Electronic Media, 246-308 Telecommunication 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., 735-324 Contemporary Philosophical 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 businesses 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 anthropology, 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 quality 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:

- 155-301 Peoples and Cultures of a Selected Region
- 156-310 Culture and Personality
- 481-431 Cognitive Development
- 481-496 Language Acquisition in Childhood
- 470-313 Brain Functions in Human Behavior
- 478-413 Neuropsychology
- 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 consisting of courses like the following:

242-XXX Construction of Public Images (proposed)

242-301 Communication and the Arts Projects in the Community: Oenida 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, ethnography; Martin H. Greenberg, international affairs, middle east, international security.

Associate Professors: Paul Abrahams, U.S. economic, diplomatic, and political history; David Gately, history of science and technology; Anthony Gail, 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 Rodeau, 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 Shanttown 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 Schaefer 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 advisor 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

439-101 Foundations of Western Culture I

439-102 Foundations of Western Culture II

439-250 European Economy and Society

439-251 Business and American Life

439-274 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 advisor.

During the junior-senior years students may choose the required 24 upper-level credits from three area tracks (European-Western Civilization, United States: Third World) and two thematic tracks (socio-political and cultural-ideological). 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 (448-485).

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 experience.
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 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: Eimer Havens, American literature, English prose fiction; Raquel Kersten, Spanish literature and language, Latin American studies; Werner Prange, German language and literature; E. Michael Thron, English literature, Shakespeare; Louise Withrow, 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 Fleuran, 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 communication 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
552-514 Major English Poetry
552-315 English Novel, 1700-1860
552-316 English Novel, 1860-present
552-530 Major American Drama
552-331 Major American Prose Fiction
552-332 Major American Poetry
552-353 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 Spanish languages and cultures. It also offers a program for those who would like to combine 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 business, 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
554/6/8-102 Introduction to French/German/Spanish
554/6/8-201 Intermediate French/German/Spanish
554/6/8-202 Intermediate French/German/Spanish
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 minor 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. 554/6/8-328 Representative French/German/Spanish Authors
   c. 3-4 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
554/6/8-436/78 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.

Conjurers 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 interims, 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
Music

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

Associate Professors: Jerome Abraham, music theory, history; Trinkel Chavez, director of choral activities, voice, vocal ensembles, conducting, music education; Loved Lives, jazz, arranging, trumpet; Wayne Jaekel (chairperson), woodwinds, jazz, music theory; Terence O'Grody, music theory/history.

Assistant Professors: Mark Ponder, assistant director of bands, low brass; Susan Matthews, voice; Margaret Chamon, piano.

Lecturers: Michael Arendt, French horn; Robert Johank, bassoon; Julia Steinbach, piano; Jean Ranck, piano, organ; Michael Nerad, trumpet; Ralph Holter, strings; John Kolar, guitar; Sandra Pahl, flute; Nancy Stever, voice; Marylee 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 Ensemble, as well as woodwind, brass, percussion, string and vocal ensembles. College Music, 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 accurately identifying scales, intervals, and chords, and keyboard proficiency. Students who do not demonstrate the necessary prerequisite skills are advised to take T05-101, 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 advisors. 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
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<tbody>
<tr>
<td>242-141</td>
<td>Introduction to the Performing Arts: Theater and Music</td>
</tr>
<tr>
<td>242-142</td>
<td>Performing Arts Perspectives: Experience and Evaluation</td>
</tr>
<tr>
<td>242-221</td>
<td>Popular Music Since 1955</td>
</tr>
<tr>
<td>242-261</td>
<td>Foundations of Aesthetic Experience</td>
</tr>
<tr>
<td></td>
<td>(Course work equivalent to two years' college level study in French or German may be used to meet part of the tool subject requirement.)</td>
</tr>
<tr>
<td>242-310</td>
<td>Advanced courses (12 credits minimum):</td>
</tr>
<tr>
<td>242-329</td>
<td>Criticism of the Performing Arts</td>
</tr>
<tr>
<td>242-329</td>
<td>Cross Cultural Communication I: Jazz History</td>
</tr>
<tr>
<td>242-329</td>
<td>Cross Cultural Communication II: American Show Music</td>
</tr>
<tr>
<td>242-329</td>
<td>Cross Cultural Communication III: Ethnomusicology</td>
</tr>
<tr>
<td>240-561</td>
<td>Composition</td>
</tr>
<tr>
<td>242-370</td>
<td>Modern American Culture</td>
</tr>
<tr>
<td>242-372</td>
<td>The Phenomenon of Style: Traditional Styles</td>
</tr>
<tr>
<td>242-373</td>
<td>The Phenomenon of Style: Avant-garde Styles</td>
</tr>
<tr>
<td>240-331</td>
<td>Music Theory/History (22 credits minimum)</td>
</tr>
<tr>
<td>705-151</td>
<td>Materials and Values in Music I</td>
</tr>
<tr>
<td>705-152</td>
<td>Materials and Values in Music II</td>
</tr>
<tr>
<td>705-251</td>
<td>Literature and Styles in Music I</td>
</tr>
<tr>
<td>705-252</td>
<td>Literature and Styles in Music II</td>
</tr>
<tr>
<td>705-351</td>
<td>Literature and Styles in Music III</td>
</tr>
<tr>
<td>705-352</td>
<td>Literature and Styles in Music IV</td>
</tr>
<tr>
<td></td>
<td>Ear Training and Sight Singing (2 credits minimum concurrently with 705-151, 705-152)</td>
</tr>
<tr>
<td>705-115</td>
<td>Ear Training and Sight Singing</td>
</tr>
<tr>
<td>705-116</td>
<td>Ear Training and Sight Singing</td>
</tr>
<tr>
<td></td>
<td>Major Applied Instrument (20 credits minimum; 4 years)</td>
</tr>
<tr>
<td></td>
<td>2 credits per semester in first and second year</td>
</tr>
<tr>
<td></td>
<td>3 credits per semester in third year; half recital required</td>
</tr>
<tr>
<td></td>
<td>3 credits per semester in fourth year, full individual recital required</td>
</tr>
<tr>
<td></td>
<td>Minor Applied Instrument</td>
</tr>
<tr>
<td></td>
<td>If major instrument is percussion, wind, strings, guitar, or voice, elementary proficiency in piano (707-042) is required.</td>
</tr>
<tr>
<td></td>
<td>Conducting (3 credits minimum)</td>
</tr>
<tr>
<td>705-331</td>
<td>Choral Conducting</td>
</tr>
<tr>
<td>705-332</td>
<td>Instrumental Conducting</td>
</tr>
<tr>
<td></td>
<td>Music Elective (6 credits minimum)</td>
</tr>
<tr>
<td>705-316</td>
<td>Instrumental Arranging</td>
</tr>
<tr>
<td>705-411</td>
<td>Composition</td>
</tr>
<tr>
<td>705-412</td>
<td>Jazz Arranging</td>
</tr>
<tr>
<td></td>
<td>Directed Study:</td>
</tr>
<tr>
<td></td>
<td>Countertop Pedagogy</td>
</tr>
<tr>
<td></td>
<td>Performance Practice of Major Applied Medium</td>
</tr>
<tr>
<td></td>
<td>History of Major Applied Medium</td>
</tr>
<tr>
<td></td>
<td>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).</td>
</tr>
<tr>
<td></td>
<td>Major ensemble performance (6 credits minimum required; 6 semesters):</td>
</tr>
<tr>
<td>707-151</td>
<td>351 Orchestra</td>
</tr>
<tr>
<td>707-182</td>
<td>382 Oratorio Choir</td>
</tr>
<tr>
<td>707-241</td>
<td>441 Concert Band, Wind Ensemble</td>
</tr>
<tr>
<td>707-242</td>
<td>442 Marching Band</td>
</tr>
<tr>
<td>707-251</td>
<td>461 Concert Choir</td>
</tr>
<tr>
<td></td>
<td>Minor ensemble performance (2 credits minimum recommended):</td>
</tr>
<tr>
<td>707-143</td>
<td>343 Jazz Ensemble</td>
</tr>
<tr>
<td>707-144</td>
<td>344 Woodwind Ensemble</td>
</tr>
<tr>
<td>707-145</td>
<td>345 Brass Ensemble</td>
</tr>
<tr>
<td>707-146</td>
<td>346 Percussion Ensemble</td>
</tr>
<tr>
<td>707-148</td>
<td>348 Collegium Musicum</td>
</tr>
<tr>
<td>707-150</td>
<td>350 New Music Ensemble</td>
</tr>
<tr>
<td>707-153</td>
<td>353 String Ensemble</td>
</tr>
<tr>
<td>707-163</td>
<td>353 Vocal Ensemble</td>
</tr>
<tr>
<td>707-164</td>
<td>354 University Singers</td>
</tr>
<tr>
<td>240-301</td>
<td>Electives in Music (705) and/or Applied Music (707) (7 to 10 credits)</td>
</tr>
<tr>
<td></td>
<td>Students following the above pattern of enrollment will earn about 70-73 credits in music and 16 credits in broad-field course work in aesthetic and expressive traditions. In addition, all students complete all-University requirements.</td>
</tr>
<tr>
<td></td>
<td>This total includes 11-12 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.</td>
</tr>
<tr>
<td>240-302</td>
<td>Philosophy</td>
</tr>
<tr>
<td></td>
<td>Professor: Frederick Kersten, phenomenology, ontology, value theory, aesthetics, foundational problems in the social and natural sciences, the philosophy of Husserl.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Gilbert Null (chairperson), history of western philosophy, logic, ontology, epistemology, Husserlian phenomenology, philosophy of science and mathematics.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Program of Study</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Philosophy is excellent preparation for many professional fields, including teaching, law, fine arts, physical and social sciences, diplomatic service, and the field of publications.</td>
</tr>
<tr>
<td></td>
<td>These courses are required for a philosophy disciplinary program:</td>
</tr>
<tr>
<td>736-302</td>
<td>History of Philosophy I</td>
</tr>
<tr>
<td>736-314</td>
<td>History of Philosophy II</td>
</tr>
<tr>
<td>736-324</td>
<td>Contemporary Philosophical Movements</td>
</tr>
<tr>
<td>736-404</td>
<td>Major Philosophical Figures</td>
</tr>
<tr>
<td></td>
<td>Students should take at least one of these courses:</td>
</tr>
<tr>
<td>736-405</td>
<td>Major Philosophical Issues</td>
</tr>
<tr>
<td>736-406</td>
<td>Philosophical Problems in the Sciences</td>
</tr>
<tr>
<td></td>
<td>Other courses are chosen with the help of the advisor.</td>
</tr>
</tbody>
</table>
Theatre

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

Associate Professor: Patricla 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 greats 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**
- 700-131, 700-132 Beginning Acting I, II
- 700-231, 700-232 Intermediate Acting I, II
- 700-331, 700-332 Advanced Acting I, II
- 700-351, 700-352 Directing I, II
- 700-235, 700-355 Theatre Performance in the Community: Acting or Directing

**Design/Technical Theatre**
- 700-221, 700-222 Theatre Production Techniques I, II
- 700-321 Scene Design
- 700-322 Costume Design
- 700-323 Lighting Design
- 700-325 Three-Dimensional Stage Make-Up
- 700-423 Advanced Stage Lighting
- 700-424 Advanced Technical Practices
- 700-235, 700-355 Theatre Performance in the Community: Technical Theatre

**Theatre History, Literature, Criticism**
- 700-309, 700-310 Theatre History I, II

**Dramatic Literature courses in other disciplines by arrangement with adviser.**

**Dance and Movement**
- 4 credits minimum: 700-141 Movement for Theatre
- 700-128 Elementary Jazz Dance
- 700-137 Elementary Ballet
- 700-145 Elementary Modern Dance
- 700-220 Intermediate Jazz Dance
- 700-245 Intermediate Modern Dance
- 700-328 Advanced Jazz Dance
- 700-345 Advanced Modern Dance
- 700-235, 700-355 Theatre Performance in the Community: Dance

**General**
- 242-241, 242 Introduction to Theatre I, II
- 700-233, 700-234 Voice and Speech for the Actor I, II
- 700-403, 700-404 Seminar in Theatre Arts
- 700-405 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 support ing course work in aesthetics and expressive traditions through the concentration in Communication and the Arts.

A minimum of 9 credits of freshman sophomore level course work 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, 242-201 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:
- 242-242, 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
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. Ibreke, genetics, plant breeding and agricultural genetics, cellular biology; Elaine 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, ethnology; 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 professional 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 common major 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 common major 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 (common) 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 common for students interested in health services administration, anthropology, psychology or chemistry.
With the help of an advisor, 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 Introductionary Statistics

One course in speech or literature or foreign language.

Core:
Genetics
264-203 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
479-364 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 interrelationships 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 is also 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
Evolution
478-310 Human Genetics
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

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
478-332 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

*Recommended
Nutrition
479-300 Nutritional Significance of Food

Focus:
478-380 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 a faculty advisor. 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
225-106 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
900-101 Intermediate Algebra
800-280 Introductory Statistics
900-202 Introduction to Sociology

Core:
Genetics
204-203 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
479-495 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
296-202 Macroeconomic Analysis
478-203 Anatomy and Physiology I
478-204 Anatomy and Physiology II
478-212 Food Preparation
552-105 Introduction to Expository Writing
600-101 Intermediate Algebra
600-200 Statistics
820-102 Introduction to Psychology
900-202 Introduction to Sociology

Core:
Genetics
204-203 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 Quality 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

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 advisors 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. Dey, hydrology, water resource management; Hallett J. Harris, animal and wetland ecology. David Jowett, biometrics, biomathematics, ecosystem 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. Goldberg, microbiology; Robert W. Lang, 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. Petropoulos, applied mathematics, theoretical physics; Charles R. Rhynner, solid waste management, microcomputer based instrumentation, Ronald H. Starkey, organic chemistry and air chemistry; Ronald D. Stiegitz, sedimentary geology, land use and ground water resources; Thomas E. Van Kevering, 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 Blocksmith, 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 competence is gained through 37 credits of course work in introductory science and mathematics; biology (8 credits), chemistry (8 credits), earth science (4 credits), mathematics (5 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.

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 illustrated. Students should seek the advice of faculty advisors in developing programs to meet individual interests and needs.

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
600-203 FORTRAN: A Scientific Programming Language

Sophomore Year
225-311 Analytical Chemistry
298-202 Earth’s Physical Environment
600-260 Elementary Statistics
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II
862-302 Principles of Ecology
862-339 Qualitative Hydrology

Junior Year
204-302 Microbiology
204-341 Ichthyology
225-300 301 Bio-Orgnic Chemistry with Laboratory
600-364 Biometrics
862-322 Ecosystems Analysis I
862-325 Ecosystems Analysis II
862-382 River Basins in Transition

Senior Year
225-415 Instrumental Analysis
862-230 Qualitative Hydrology
862-434 Water Chemistry
862-460 Resource Management Strategy
962-403 Limnology

Science Communications (With an emphasis in Aquatic Studies)

Freshman Year
204-202 Principles of Biology I
204-203 Principles of Biology II
225-135 Fundamentals of Public Address
246-102 Introduction to Mass Communications
296-202 Earth’s Physical Environment
582-105 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
246-306 Elements of Electronic Media
600-206 Introduction to Computer Science I
600-257 Introduction to Computer Science II

Junior Year
242-331 Graphic Communication Studio I
248-390 Scientific and Technical Communication
600-260 Statistics
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II
862-302 Principles of Ecology
862-339 Qualitative Hydrology

Senior Year
204-341 Ichthyology
246-308 Cable and Satellite Telecommunication
248-380 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, economic, 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
204-230 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
862-325 Ecosystems Analysis II
862-307 Ecology of Fire

Senior Year
834-336 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 governmental 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
600-202 Calculus and Analytical Geometry I
600-203 Calculus and Analytical Geometry II
### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Earth’s Physical Environment</td>
<td>4</td>
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<tr>
<td>Principles of Physics I</td>
<td>4</td>
</tr>
<tr>
<td>Principles of Physics II</td>
<td>4</td>
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<tr>
<td>Principles of Engineering Language</td>
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### Junior Year

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<th>Course</th>
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<tr>
<td>Thermodynamics and Kinetics with Laboratory</td>
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<tr>
<td>Nuclear Physics and Radiochemistry with Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>Natural Resource Economic Policy</td>
<td>4</td>
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<td>Solar and Alternate Energy Systems</td>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Principles of Ecology</td>
<td>4</td>
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<tr>
<td>The Soil Environment with Laboratory</td>
<td>4</td>
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<tr>
<td>Solid Waste Management</td>
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<td>Environmental Geology</td>
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### Senior Year

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<th>Course</th>
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<tr>
<td>Urban Technological Design</td>
<td>4</td>
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<tr>
<td>Conventional Energy Technology</td>
<td>4</td>
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<tr>
<td>Resource Management Strategy</td>
<td>4</td>
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<tr>
<td>Geology of Energy Resources</td>
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### 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.

### 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

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<tr>
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<tr>
<td>Principles of Biology I</td>
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<td>Principles of Biology II</td>
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<tr>
<td>Principles of Chemistry I</td>
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<td>Principles of Chemistry II</td>
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<tr>
<td>Calculus and Analytical Geometry I</td>
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### Sophomore Year

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<th>Course</th>
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<tr>
<td>Analytical Chemistry</td>
<td>4</td>
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<tr>
<td>Earth’s Physical Environment</td>
<td>4</td>
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<tr>
<td>FORTRAN: A Scientific Programming Language</td>
<td>4</td>
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<tr>
<td>Fundamentals of Physics I</td>
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<tr>
<td>Fundamentals of Physics II</td>
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### Junior Year

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<td>The Soil Environment with Laboratory</td>
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<td>Solid Waste Management</td>
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<tr>
<td>Environmental Geology</td>
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### Senior Year

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<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Industrial Pollution Control Techniques with Field Trips</td>
<td>4</td>
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<tr>
<td>Quantitative Hydrology</td>
<td>4</td>
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<tr>
<td>Water and Waste-Water Treatment</td>
<td>4</td>
</tr>
<tr>
<td>Water Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Resource Management Strategy</td>
<td>4</td>
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</table>

### 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 Goldby, microbiology, parasitology; Charles Ihrke, genetics; Elaine McIntosh, nutrition, community health; Michael Morgan, plant ecology; plant physiology; Dorotha Sager, reproductive biology, embryology; Richard Stevens, human neurophysiology.
Assistant Professor: Richard Stehl, 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, inorganic and organic chemistry laboratories, microclimatomogical equipment, boats and other aquatic study 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
- 478-401 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 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 Ecolnology
- 204-402 Advanced Microbiology

**Additional Courses**
- 204-302 Principles of Microbiology
- 204-305 Biological Microtechnique
- 204-345 Animal Behavior
- 478-412 Principles of Parasitology
- 862-303 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 Koverling, 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 spectrometers, X-ray diffraction spectrometers, liquid scintillation counter, high pressure liquid chromatographs, gas chromatographs, X-ray fluorescence spectrometers, automatic analyzer, polarigraph, 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 cr. more courses from:

- 225-330 Biochemistry, 3 cr.
- 225-402 Advanced Organic Chemistry, 3 cr.
- 226-410 Inorganic Chemistry, 3 cr.
- 226-413 Instrumental Analysis, 4 cr.
- 226-417 Nuclear Physics and Radiocchemistry, 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 Radiocchemistry 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.
- 882-422 Environmental Biogeochemistry, 3 cr.
- 882-434 Water Chemistry, 4 cr.
- 882-450 Air Pollution Chemistry and Meteorology, 3 cr.

The following mathematics courses are required as tool subjects:

- 690-202 Calculus and Analytic Geometry I, 4 cr.
- 690-203 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
- 690-203 Calculus and Analytic Geometry II
- 690-255 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 Lab
- 226-312 Structure of Matter
- 226-323 Structure of Matter Lab

One cr. more courses from:

- 225-330 Biochemistry
- 226-402 Advanced Organic Chemistry
- 226-410 Inorganic Chemistry
- 226-413 Instrumental Analysis
- 226-417 Nuclear Physics and Radiocchemistry

Senior Year

- 225-402 Advanced Organic Chemistry Lab
- 226-413 Instrumental Analysis
- 226-417 Nuclear Physics and Radiocchemistry
- 882-434 Water Chemistry
Chemistry-Physics

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

Associate Professors: James W. Busch, secondary education; Dawson Deese, biochemistry; Fritz Fischer, biophysics, environmental health; Robert Lanz, engineering, physics, energy, technologies; Anjali K. Mehra, solid state physics, solar energy; Jack C. Norman, nuclear physics and radiochemistry; Charles C. Rhyan, radiological physics, electronics; Ronald Starkey (chairperson), organic chemistry and air chemistry; Thomas Van Keevering, chemical education; James W. Wuama, 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 course 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:
  - 254-201 Principles of Physics I
  - 254-202 Principles of Physics II

Upper division courses must include:

- 226-230 Thermodynamics and Kinetics
- 226-321 Structure of Matter
- 226-417 Nuclear Physics and Radiochemistry
- 266-313 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
- 223-303 Organic Chemistry II
- 223-311 Analytical Chemistry
- 223-410 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
- 862-456 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, pro-Cambrian geology, tectonics; Ronald D. Siegel, (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 meteorology/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 the 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 with 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 courses 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 (296-203) 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 advisor 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
- 296-356 Structural Geology
- 296-380 Geomorphic Processes
- 296-402 Stratigraphy and Sedimentation
- 296-411 Mineralogy
- 296-442 Petrology
- 296-470 Glacial Environment and Chronology
- 862-342 Environmental Geology
- 862-346 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
- 862-294 Husbandry of the Land
- 862-330 Soils Laboratory
- 862-331 Soil Environment Laboratory
- 862-421 Soils of Wisconsin Field Trip
- 862-454 Remote Sensing by Satellite
- 862-490 Resource Management Strategy
- 862-482 Land Use Tour of Wisconsin
- 887-771 Global Environmental Monitoring
- 887-773 Soil-Plant Relationships
- 894-71 Land Use, Institutions and Policy

**Hydrology**
- 862-330 Descriptive Hydrology
- 862-331 Oceanography
- 862-335 Water and Waste Water Treatment
- 862-342 River Basins in Transition
- 862-383 River Basins in Other Regions
- 862-403 Limnology
- 862-430 Quantitative Hydrology
- 862-434 Water Chemistry
- 887-759 Coastal Zone Management

**Meteorology/Climatology**
- 296-222 The Ocean of Air; An Introduction to Weather and Climate
- 463-352 Regional Climatology
- 652-350 Meteorology
- 862-351 Synoptic Meteorology Laboratory
- 862-450 Air Pollution Chemistry and Meteorology
- 862-774 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. Loemer (emeritus), algebra, analysis, history, geometry; Bruce Mielke, computer science, algebra; Nikitas L. Petroupolous, 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'Connell, complex analysis, functional analysis; Kathleen C. Stoel, 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 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 are encouraged to gain some experience with applications that inspire the development of the disciplines.

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 Telefis T-65 central processor unit (CPU) and is multiprocessed with the Xerox Sigma-6 CPU. This dual processed system is capable of supporting 60 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, 38
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 Hummanistic 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, and 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 603-104, 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 600-202, 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
600-326 Introduction to Algebraic Structures
600-355 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
908-764 Mathematics of Operations Research and Management Science

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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
900-350 Numerical Analysis
900-355 Applied Mathematical Optimization
900-400 Theory of Algorithms

Interfacing and Hardware Applications
900-352 Computer Graphics (pending)
900-455 Microprocessors and Microcomputer Systems
900-456 Advanced Topics in Microcomputing

Language Design
900-352 Computer Graphics (pending)
900-454 Artificial Intelligence
900-457 Compiler Theory

Business Applications
900-352 Computer Graphics (pending)
900-455 Applied Mathematical Optimization
900-450 Theory of Algorithms
900-451 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:
600-299 Multivariate Calculus
600-321 Linear Algebra II
600-350 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:
908-704 Discrete Multivariate Statistical Analysis
908-757 Statistical Design and Analysis of Experiments
908-788 Multivariate Statistical Analysis

Students in the statistics program ordinarily begin their study with 600-260, Introductory Statistics, and 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 program 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
600-292 Analytic Geometry and Calculus I
600-293 Analytic Geometry and Calculus II
600-256 Introduction to Computer Science I
600-257 Introduction to Computer Science II

Sophomore Year
600-299 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:
908-704 Discrete Multivariate Statistical Analysis
908-764 Mathematics of Operations Research and Management Science
908-767 Statistical Design and Analysis of Experiments
908-768 Multivariate Statistical Analysis

Physics

Professors: George T. O'Hearn, second year; Nancy J. Soll, solid state physics and industrial pollution control.

Associate Professors: James W. Busch, secondary education; Fritz A. Fleischhack, biophysics, environmental health; Robert W. Lanz, engineering physics, energy technologies; Anjali 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 systematization 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 Telelile 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>225-111</td>
<td>Principles of Chemistry I, 4 cr.</td>
</tr>
<tr>
<td>225-112</td>
<td>Principles of Chemistry II, 4 cr.</td>
</tr>
<tr>
<td>225-113</td>
<td>Principles of Chemistry III, 2 cr.</td>
</tr>
<tr>
<td>754-201</td>
<td>Principles of Physics I, 5 cr.</td>
</tr>
<tr>
<td>754-202</td>
<td>Principles of Physics II, 5 cr.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>226-321</td>
<td>Thermodynamics and Kinetics</td>
</tr>
<tr>
<td>226-322</td>
<td>Thermodynamics and Kinetics Laboratory</td>
</tr>
<tr>
<td>754-315</td>
<td>Mechanics III, 3 cr.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>754-317</td>
<td>Electromagnetic Radiation, 3 cr.</td>
</tr>
<tr>
<td>754-404</td>
<td>Electricity and Magnetism, 3 cr.</td>
</tr>
</tbody>
</table>

The remainder of the credits are selected from the following list:

- 226-320 Thermodynamics and Kinetics, 3 cr.
- 226-321 Thermodynamics and Kinetics Laboratory, 1 cr.
- 226-323 Structure of Matter Laboratory, 1 cr.
- 226-324 Advanced Physical Laboratory, 1 or 2 cr.
- 226-418 Nuclear Physics and Radiophysics Laboratory, 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.
- 862-419 Solar and Alternate Energy Systems, 3 cr.

At least 15 credits in mathematics which must include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>600-202</td>
<td>Calculus and Analytic Geometry I, 4 cr.</td>
</tr>
<tr>
<td>600-303</td>
<td>Calculus and Analytic Geometry II, 4 cr.</td>
</tr>
<tr>
<td>600-305</td>
<td>Ordinary Differential Equations, 3 cr.</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>225-111</td>
<td>Principles of Chemistry I</td>
</tr>
<tr>
<td>225-112</td>
<td>Principles of Chemistry II</td>
</tr>
<tr>
<td>225-113</td>
<td>Principles of Chemistry III</td>
</tr>
<tr>
<td>600-202</td>
<td>Calculus and Analytic Geometry I</td>
</tr>
<tr>
<td>600-203</td>
<td>Calculus and Analytic Geometry II</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>600-209</td>
<td>Multivariate Calculus</td>
</tr>
<tr>
<td>600-320</td>
<td>Linear Algebra I</td>
</tr>
<tr>
<td>600-255</td>
<td>FORTRAN: A Scientific Programming Language</td>
</tr>
<tr>
<td>754-201</td>
<td>Principles of Physics I</td>
</tr>
<tr>
<td>754-202</td>
<td>Principles of Physics II</td>
</tr>
</tbody>
</table>

**Junior Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>226-320</td>
<td>Thermodynamics and Kinetics</td>
</tr>
<tr>
<td>226-321</td>
<td>323 Structure of Matter and Laboratory</td>
</tr>
<tr>
<td>226-322</td>
<td>Thermodynamics and Kinetics Laboratory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>226-417</td>
<td>418 Nuclear Physics and Radiophysics</td>
</tr>
<tr>
<td>600-305</td>
<td>Ordinary Differential Equations</td>
</tr>
<tr>
<td>600-309</td>
<td>Systems of Ordinary Differential Equations</td>
</tr>
<tr>
<td>754-315</td>
<td>Mechanics III</td>
</tr>
<tr>
<td>754-317</td>
<td>Electromagnetic Radiation</td>
</tr>
<tr>
<td>862-306</td>
<td>Biophysics</td>
</tr>
</tbody>
</table>

**Senior Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>226-324</td>
<td>Advanced Physical Laboratory</td>
</tr>
<tr>
<td>754-404</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>754-405</td>
<td>Electronics for Scientists</td>
</tr>
<tr>
<td>862-350</td>
<td>Meteorology</td>
</tr>
<tr>
<td>862-414</td>
<td>Conventional Energy Technology</td>
</tr>
</tbody>
</table>

**Courses**

Physics course descriptions are listed under Physics (754), Chemistry-Physics (226) and Science and Environmental Change (602). Students who wish to pursue a program in physics will find the following courses relevant:

<table>
<thead>
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<th>Course Code</th>
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<tbody>
<tr>
<td>225-111</td>
<td>Principles of Chemistry I, 4 cr.</td>
</tr>
<tr>
<td>225-112</td>
<td>Principles of Chemistry II, 4 cr.</td>
</tr>
<tr>
<td>225-113</td>
<td>Principles of Chemistry III, 2 cr.</td>
</tr>
<tr>
<td>225-320</td>
<td>322 Thermodynamics and Kinetics (with lab), 3-4 cr.</td>
</tr>
<tr>
<td>226-321</td>
<td>323 Structure of Matter (with lab), 3-4 cr.</td>
</tr>
<tr>
<td>226-324</td>
<td>Advanced Physical Laboratory, 1 or 2 cr.</td>
</tr>
<tr>
<td>226-417</td>
<td>418 Nuclear Physics and Radiophysics (with lab), 3-4 cr.</td>
</tr>
<tr>
<td>600-455</td>
<td>Microprocessors and Microcomputer Systems, 3 cr.</td>
</tr>
<tr>
<td>754-201</td>
<td>Principles of Physics I, 5 cr.</td>
</tr>
<tr>
<td>754-202</td>
<td>Principles of Physics II, 5 cr.</td>
</tr>
<tr>
<td>754-315</td>
<td>Mechanics III, 3 cr.</td>
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<td>754-317</td>
<td>Electromagnetic Radiation, 3 cr.</td>
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<tr>
<td>754-404</td>
<td>Electricity and Magnetism, 3 cr.</td>
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<td>754-405</td>
<td>Electronics for Scientists, 4 cr.</td>
</tr>
<tr>
<td>862-306</td>
<td>Biophysics, 3 cr.</td>
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<tr>
<td>862-313</td>
<td>314 Mechanics I, II, 3 cr. each</td>
</tr>
<tr>
<td>862-341</td>
<td>Intermediate Astronomy, 3 cr.</td>
</tr>
<tr>
<td>862-350</td>
<td>Meteorology, 3 cr.</td>
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<tr>
<td>862-414</td>
<td>Conventional Energy Technology, 3 cr.</td>
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<tr>
<td>862-415</td>
<td>Solar and Alternate Energy Systems, 3 cr.</td>
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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. Koppe, cognitive styles, creative thought, formal operations, life-span human development; Dean Rodenheaver, 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 subject that, 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
830-306 Psychology of Perception
OR
820-417 Cognitive Psychology

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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 Impact on Human Development
461-429 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 advisor), 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
481-338 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
481-457 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 advisor) plus course 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:** Kumer Kangayappan, economic development, economic theory, comparative economic systems; William Kuepper (vice chancellor), regional geography (Africa), climatology, settlements; William Laatsch (chairperson), cultural geography, northern lands, settlements; Ismail Sharif, 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 24 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 and 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
834-229 The Ocean of Air: An Introduction to Weather and Climate
834-235 Wisconsin Landscapes and Regions

Core Courses (6 courses required):
634-320 Introduction to Regional Analysis
634-322 Regional Planning
634-325 Behavior in Designed Environments
634-362 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
446-206 History of the United States from 1865 to the Present
862-286 Forest Vegetation of Wisconsin

Core courses (5 courses required):
634-320 Introduction to Regional Analysis
634-330 Transportation Systems in the United States
634-372 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
634-222 The Ocean of Air: An Introduction to Weather and Climate
852-286 Husbandry of the Land

Core courses (required):
634-320 Introduction to Regional Analysis
634-322 Regional Planning
634-372 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; Julia E. Brickley, mythology, women's studies, social change; Anthony H. Gall, social anthropology, social change, Mediterranean society; Harvey G. 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. Polis (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 American, 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 analyses 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:

- 675-333 Social Change in a Selected Region
- 675-350 Models of Social Change
- 675-361 Historical Perspectives on Social Change
- 675-410 Seminar in Social Change and Development

The 675-333 course content changes depending on the faculty member teaching it. The 675-410 course is oriented toward applications and allows for individual projects around a theme. Majors must also complete a topic 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:
- 575-205 Law and the Individual
- 735-100 Ethics
- 735-111 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 Revolutionary
- 448-396 History of America
- 448-368 History of Latin America
- 875-245 Women in Cross-Cultural Perspective
- 875-265 Human Resources and Economic Growth
- 875-371 Motivation and Social Change
- 875-450 Schooling, Education and Social Change

Women's Studies

Lower division courses:
- 433-206 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
- 675-340 Woman as Worker

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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. Johnson, psychology, environment and behavior, social and behavioral consequences of design, human spatial behavior, privacy and territoriality; Peter Kellogg, urban life and history, ethnicity in the U.S., modern U.S. history, civil rights; David M. Little, 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 J. Gildersleeve, urban sociology, public policy, housing, community politics, research methods, urban planning; Gerrit Knaep, urban politics, 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 political-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 creativity. 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 expertise in consultation with a faculty advisor. Thus, the student develops an interdisciplinary view of the urban place and then 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

944-304 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, ethnology.

**Associate Professors:** Anthony Gail (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
156-364 Human Variability

146-322 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 approaches 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 study 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, Macroeconomic Analysis, and 203, Microeconomic 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 Macroeconomic Analysis
298-203 Microeconomic Analysis
600-101 Intermediate Algebra
OR
600-104 Elementary Functions: Algebra and Trigonometry

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

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. Sandre, 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. Loatsch (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. Weiden (chancellor), problem-oriented higher education, development administration.

Associate Professors: Daniel J. Altes, 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 18 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 (350-302), 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 (675-204) or Political Behavior (778-218). Other lower-division courses suitable for beginning students are Political Behavior (238) and Understanding Presidential Elections (215).

These courses are acceptable for political science credit.

Upper-Division Courses (by subfield)
350-410 Administration of Local Government
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
844-335 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

Comparative Government and Politics
444-352 History of Modern China
444-354 History of Modern Southeast Asia
778-551 Comparative Political Systems
778-553 Politics of Developing Systems
875-385 Dynamics of Revolutionary Change

Political Theory
778-340 Political Theory

International Politics
415-378 Geography of Conflict Areas
775-360 International Politics
775-36S Geopolitics of World Regions
775-460 American Foreign and Defense Policies
775-498 Independent Study (available for each of the above fields)

Psychology

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

Associate Professors: Beia Baker, cognition, motivation, impact of change; Fergus Hughes, developmental psychology and aging; Per Johnson, social, environmental, community, and architectural psychology; Charles Matter, cognitive processes, perception, aesthetic perception, behavioral toxicology; Robert Mendelsohn, community, clinical, social, and cognitive psychology.
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 or 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:
  820-210 Introduction to Human Development
  820-192 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 Learning
  820-417 Psychology of Cognitive Processes
  820-450 Psychological Stress and Adaptation
- 3 credits in social behavior, chosen from:
  820-355 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:
  481-311 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 Psychobiology
  302-405 Evaluation and Testing in Education
  478-313 Brain Functions in Human Behavior
  478-413 Neurophysiology
  481-358 Sex Role Development in Contemporary Society
  481-431 Cognitive Development
  481-432 Cultural Impact 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
  736-408 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 (499) on approval of adviser.

Sociology

Associate Professors: Harvey J. Kaye (chairperson); political economy and inequality; historical and comparative sociology; sociology of culture; Carol Polis, sociology of sexuality, families and intimate relationships, education, social change and societal development, theory.

Assistant Professors: John Gliderboom, 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 professional program in prelaw, city planning, or community development.

Program of Study

Requirements for a major 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 major 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

Upper Division Requirements (24 credits)

255-301 Foundations of Social Research
255-307 Social Theory
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 minimum of 9 credits from the following sociology courses:

156-303 Cultural Ecology
156-304 Family, Kin and Community
320-337 Social Behavior Dynamics
320-438 Group Dynamics
573-360 Models and Social Change
573-376 Drug and Alcohol Use in Society
344-503 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 advantage 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 Professor: William Conley, quantitative methods and computer sciences; John Harris, management and organization behavior; Robert Oberberger, general marketing, promotion, and marketing for nonprofit organizations; Michael Troyer, chairperson, management of service operations, nonprofit organization management and finance, and economics; Karl Zahnse, 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 Shallow, corporate finance, investments, risk and insurance.

Lecturers: Laurey Berk, corporate finance, investments, personal finance, Richard Fille, finance and investments; Larry Franko, managerial accounting; Larry Kostraski, management, director of Small Business Development Center; Lee Larsen, managerial accounting, cost accounting, and budgeting; Marilyn Segrist, 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 specialization, 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: 268-202, 298-203, 552-105 (or 575-101), 600-150, 600-152, 600-260, and 575-309. 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 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/marketing 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 core 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 (29-30 credit hours)
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis
246-133 Fundamentals of Public Address
OR
Equivalent course in speech delivery

552-106 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 950-150, 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 575-382, 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
575-316 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
259-330 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 advisor to achieve 124 degree credits.

Business Administration Major (38 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 specialty (excluding nonprofit organizational management). Thus a specialty 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 advisor.

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 advisor 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 advisors 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 the Management 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.

573-300 Introductory Accounting
573-305 Business Law I
575-343 Corporation Finance
573-322 Basic Marketing
573-382 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 Management 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 Pressnell, environmental education; Philip Thompson, English, language arts and aesthetic education, Thomas Van Koeving, science education and environmental education.

Lecturers: Robert Danula, 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 non-certification 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. Non-certification 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 (392.451).

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 advisor 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 40 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 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 part-time graduate students, 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 time 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 two 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.

55
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:
461-331 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 in 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 chord 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 Musicanship.

—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
600-160 BASIC: A Programming Language
600-152 An Overview of Computer Concepts
600-256 Introduction to Computer Science
600-260 Introductory Statistics
355-260 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

682-102 Introduction to Environmental Sciences
682-303 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 each area 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
834/418-235 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

302-033 Introduction to Environmental Education in the Schools
302-331 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 1-6) 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.)
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.

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 Corps (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. Janoscroft, 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)
   - 8 credits of communication skills (course work or equivalent in written and oral communication)
   - A cumulative grade point average of 2.25 (4.0 scale) on the above prerequisite courses for which credit was received
5. Health record on file in the Health Services Office.

After completing 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, and space availability. Students awaiting State Board of Nurses 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 assure 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.
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 option 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 Micro Economic Analysis
298-203 Macro 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
515-217 Quantitative Methods in Administration
660-260 Elementary Statistics
680-101 Intermediate Algebra
680-104 Elementary Functions: Algebra and Trigonometry
680-201 An Overview of Calculus Techniques
680-202 Calculus and Analytic Geometry I

One course from this group (3-4 credits):
660-150 BASIC: A Programming Language
690-151 Introduction to COBOL: A Business Data Processing Language
690-152 An Overview of Computing Concepts
690-256 Introduction to Computer Science

One course from this group (3 credits):
248-133 Fundamentals of Public Address
248-333 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 advisor.

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
830-415 Organizational Psychology
882-355 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
600-250 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; Rolle 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 dysfunctional 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 advisors 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 competence 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
- 900-302 Introduction to Sociology (or equivalent)
- 900-208 Marriage and Family in American Society

Tool Subject Requirements (12 credits):
- 255-205 Social Science Statistics
- 502-105 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
- 892-408 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. Alesh (chairperson), Public and Environmental Administration; Bruce Clay, Public and Environmental Administration; Ronald Baba, Urban Studies; Harvey Kaye, Social Change and Development; David Litig, Urban Studies; William Laatsch, Regional Analysis; Halillett Harris, Science and Environmental Change; Robert Wengen, 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


298-306: 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 875-396: 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.


One of the following three courses:
298-302 Intermediate Macro Economic Theory
298-303 Intermediate Micro Economic Theory
875-265 Human Resources and Economic Growth

Two of the following four courses:
359-410 Planning and Management of Public Systems
834-420 Regional Planning
875-483X Planning for Social Change and Development
944-441 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 Melko, computer science, programming languages, data structures; Gilbert Null, philosophy, logic; Charles Rayner, 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 Telechie T-85 central processor units connected in an asynchronous multiprocessing mode. This system is capable of supporting 60 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 tri-density 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 MNC 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, BMOP, 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, TADLOS digitizer, CALCOMP incremental plotter, two Tektronix graphic terminals, and a Printronix 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.
242-180 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.
620-343 Discrete Mathematics, 3 cr.
620-256 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.

246-432 Modern Linguistics, 3 cr.
246-436 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:
246-306 Elements of Electronic Media, 3 cr.
245-306 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.
867-454 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
246-433X 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
416-433 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
246-433X Publications Management

Students must complete all-University requirements in addition to their requirements in Information and Computing Science. However, this will still permit at least 23 credits of elective course work, which will 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
236-111 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.
246-230 Communication Processes: An Introduction, 3 cr.
246-201 Human Information Processing, 3 cr.
246-233X 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 Computer 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 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
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 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:

—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 areas?
—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 Rodeish in Humanistic Studies, and Harvey Keye 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 focus 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.
Environmental Health Sciences

Coordinating Associate Professor: Alice Godfrey, 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 waste management.

Students who complete the program develop experience in both analytical skills and management 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 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 prerequisites 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

A 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 minor in international business is being developed for students in Management Studies. 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 446-100, 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: 448-376, 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 is a unique field that explores the experiences and contributions of women. This program examines the common denominators affecting women's lives, focusing on the cultural, racial, and economic diversity of their experiences. It aims to challenge traditional gender roles and expectations. The program is designed to provide a comprehensive understanding of women's issues through interdisciplinary study.

Program of Study

Women's Studies courses are available to students who have completed 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 may select from a variety of specialized courses, including courses in advanced research, feminist studies, and creative arts and humanities. These courses provide opportunities for in-depth exploration and critical analysis. The courses are designed to foster critical thinking, research, and creative expression in the field of Women's Studies.

Lower Division Courses

- 875-241 Women and Changing Values (core) 5 credits
- Concentration topics related to women's studies

Upper Division Courses

- 242-395 Images of Women in Contemporary Arts (elective)
- 242-477 Women as Creative Agents (core)
- 242-488 Directed Study (for example, an internship with a women artists' cooperative)

Other experimental courses may be substituted for one of the courses at the discretion of the Women's Studies advisor.

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 program 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 the 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 premedic student is Human Adaptability. The benefits of UWGB's program for premed 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 premedical courses may be obtained from the UWGB premedical advisor.

**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 require 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 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 these 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-
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 “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 (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 advisor 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 who 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 advisor 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 advisor 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 Projects supervisor; Evalyn Roczak, lab supervisor; Mathematics: Robert Davies; Reading: Ann Deprey; Writing: Monroe Lerner, Michael Marinetti, Mary Quinn; Applied Study Skills: Julie Cole, Marjorie Herrschler, 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 302B). 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 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;

—an 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 305, (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 periodic 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:

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<thead>
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<th>Abbreviation</th>
<th>Description</th>
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<td>cr</td>
<td>credits</td>
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<td>pr</td>
<td>prerequisite(s)</td>
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<td>freshman</td>
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<td>spn</td>
<td>sophomore</td>
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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 is also 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:

158 Anthropology  
204 Biology  
225 Chemistry  
226 Chemistry-Physics  
242 Communication and the Arts  
246 Communication Processes  
255 Community Sciences  
296 Earth Science  
298 Economics  
350 Education  
350 Public and Environmental Administration  
416 Geography  
448 History  
478 Human Adaptability major of Human Biology  
479 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  
603 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  
854 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 or 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 and 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
156-200 Myth, Ritual and Religion 2 cr.
Critical survey and analysis of mythological, ritual, and religious and magical aspects of diverse cultures of the world. Emphasis is placed on how religious and magical systems integrate within family, political and economic institutions. P: 380-1 or 385-102.

156-290 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, academia, protest, language, work and leisure, domesticity, and political behavior. The lecture/discussion format is supplemented by a collaborative study of specific ethnographic examples in the cultural settings of North American Indians. P: 156-200 or 210 or 500-202.

156-2833 Selected Topics I-4 cr.
See page 76.

156-289 Independent Study I-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 relationships to significant social issues. Areas include Africa, South Asia, Southeast Asia, Oceania, Northeast Great Lakes Region, and the cultures of American Indians, Afro-American, and Latin American mestizos. Course may be taken for credit each time a different region is presented. See Timetables for specific offerings. P: Jr or Sr.

156-303 Cultural Ecology 3 cr.
How people, nature, and culture interrelate. The approaches include environmental studies and the impact of the physical environment on the human environment. P: 3rd year.

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, tribal groups, and political groups. P: Jr or Sr.

156-310 Culture and Personality 3 cr.
A critical analysis of the role of culture and personality of the principal concepts and methods used in studying the relationship of the individual to his/her culture. P: Jr or Sr.

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 coreq.

156-335 Aesthetics Anthropology 3 cr.
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 contexts of human culture in general and in particular cultures. The generalizations developed in the course are applied to contemporary themes such as the problems of minority cultures within the United States and elsewhere. P.

156-340 Sickness and Health: The Perspectives of Medical Anthropology 3 cr.
The relationship between cultural patterns, human history, and disease and health care throughout the world. The course focuses upon the effects of disease and its prevalence in many diseases in spite of existing technological means for their eradication or alleviation. Special attention is given to the interrelationship between variables cultural patterns and biological properties. Examination of processes by which disease influences human adaptation and modifies basic features of societies, and how cultural features predict disease susceptibility in disease factors. P: Jr or Sr.

342 Human Evolution 3 cr.
See 476-332.

364 Human Variability 3 cr.
See 476-364.

159-402 Comparative Social Structure 3 cr.
In-depth analysis of major social systems: kinship, marriage, and descent, and the role of kinship, marriage, and descent in social organization. Students are required to take an introductory course in anthropology or consent of instructor.

158-405 Anthropology of a Selected Institution 3 cr.
In-depth study of an institution in human society. Institutions may include political systems, economic systems, law and warfare, religion and kinesiology. Course may be taken to satisfy each time a different institution is studied. See Timetables for offerings. P: Jr or Sr and course in anthropology or cons. enr.

158-483 Selected Topics I-4 cr.
See page 76.

158-497 Internship in Museum Anthropology 1-4 cr.
Cooperative venture with the Natural Public Museum. Students will negotiate a specific anthropologically related task to be carried out at the museum under the direction of a museum supervisor and receive 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: 158-100, 210 or 215 and 290 or 390.

158-498 Independent Study I-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 of the organism to the environment and the environment to the organism. Includes laboratory.

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 and the environment to the organism. Includes laboratory.

204-205 Organisms Diversity 2 cr.
Classroom and laboratory instruction in diversity of plants and animals, their taxonomy, phylogeny and structural adaptations. Each major group of multicellular organisms will be presented. P: 204-202.

204-206 Plants and Civilization 2 cr.
The economic importance of plants in the development of civilization and in modern agriculture and industry. Emphasis is given to historical and modern cultural aspects.

204-2833 Selected Topics I-4 cr.
See page 76.

204-298 Independent Study I-4 cr.
See page 77.

204-302 Principles of Microbiology 4 cr.
A study of microorganisms and their environment. Included is their form, structure, reproductive physiology, metabolism, and identification; their distribution in nature and relationship to each other and to other living systems. P: 204-305 or 226-108 or 112.

204-333 Genetics 3 cr.
Mechanisms of heredity and variation; the cytological basis and implications in biology. P: 204-209.

204-343 Genetics Laboratory 1 cr.
Optional laboratory course to accompany 204-303; basic techniques of genetics. Investigation, analysis of animal, plant and bacterial patterns of inheritance. P: 204-303 or consent of instructor.

204-355 Biological Microtechnique 3 cr.
Practical laboratory practice in the biological technique of preparing permanent microscopic slides of plant and animal tissues with emphasis on fixation, staining, and sectioning of materials. Preparation of permanent microscopic slides for study of cell division, gene technique formation and chromosome behavior. P: 204-203.

204-310 Plant Taxonomy 3 cr.
A laboratory and field course in identification of the major groups of plants. Focuses on the flora of Wisconsin. P: 204-303.
204-311 Plant Physiology 4 cr.
General physiology of vascular plants within the context of a plant life cycle. Seed dormancy and germination, malnutrition, transport systems, mineral nutrition, patterns of plant growth and development, growth regulation, reproduction, and senescence. P: 204-263, 225-112.

204-312 Mycology 3 cr.
Morphology and taxonomy of lower and higher fungi. Funghi in medicine and industry; laboratory techniques involved in collection, identification, culture, and identification; field methods. Minor literature. P: 204-202.

204-313 Botany of Lower Green Plants 3 cr.
A survey of the phycologist; non-vascular plants including the algae, fungi, and bryophyta. Emphasis will be placed on morphological study of these groups, and will also include field collections and laboratory identification. P: 204-203. Ta or cons list.

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 northeaster Wisconsin. P: 224-203.

204-320 Comparative Anatomy of Vertebrates 4 cr.
Lectures compare organ systems of vertebrates and emphasize anatomy relating to human adaptations. Laboratory dissection of chick, mouse, and rat. P: 204-303.

204-341 Ichthyology 3 cr.
An introduction to 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 reproduction 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 preserved specimens and field study of local avifauna. P: 204-203.

204-333 Mammalogy 3 cr.
A comprehensive study of mammals including systematics, behavior, and ecological relationships. Laboratory includes identification and preparation of skin and skull material. 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 invertebrates and vertebrates 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 1 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: 204-202.

204-355 Principles of Entomology 3 cr.
The biology and habits of insects and their interactions 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 view to long term influence environment. A study of both free-living and pathogenic organisms and their deteriorating abilities. P: 204-302.

204-405 Medical Physiology 3 cr.
A study of microbial physiology and biochemical adaptation to temperature, oxygen, light, nutrients and other environmental factors. Primary emphasis is on the bacteria. P: 204-263, 225-000 or 225-263.

204-485X Selected Topics I-4 cr.
See page 76.

204-498 Independent Study I-4 cr.
See page 77.

204-590 Mammals 3 cr.
Additional courses that point toward a major or co-major in biology are:
- 479-310 Experimental Genetics 3 cr.
- 479-315 Evolutionary Processes 3 cr.
- 479-313 Brain Function and Human Behavior 3 cr.
- 479-318 Mammalian Reproduction 3 cr.
- 479-342 Human Evolution 3 cr.
- 479-402 Human Physiology 3 cr.
- 479-404 Animal Physiology Lab 1 cr.
- 479-414 Neuropsychopharmacology 3 cr.
- 479-410 Agricultural Genetics and World Food Production 3 cr.
- 869-303 Principles of Geology 3 cr.
- 869-307 Ecology of Fire 2 cr.
- 869-306 Ecology of Invasions 2 cr.
- 862-322, 323 Ecosystems Analysis Lab I-4 cr.
- 862-363 Plants and Forest Pathology 3 cr.
- 862-452 Limnology 3 cr.

225 CHEMISTRY

225-100 General Chemistry I 5 cr.
Designed for students who will take only one semester of general chemistry. A course survey covering basic concepts of matter and 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 225-100 and the courses in the following sequence: 225-111, 112, and 225-115 or equivalent.

225-111 Principles of Chemistry I 14 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 reactions. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-111 and 225-115 will not be awarded. P: 800-101 or equivalent.

225-112 Principles of Chemistry II 14 cr.
A continuation of the Principles of Chemistry sequence. Thermochemistry, kinetics, chemical equilibrium: acidity, acid-base reactions, oxidation-reduction, nuclear reactions. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-112 and 225-118 will not be awarded. P: 225-111.

225-113 Principles of Chemistry III 13 cr.
The descriptive nature of the Principles of Chemistry sequence; structure and reactions of inorganic and organic compounds, methods of separation, metalurgy, production and structure of polymers, industrial chemistry and consumer materials. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-115 and 225-118 will not be awarded. P: 225-111.

225-383X Selected Topics I-4 cr.
See page 76.

225-298 Independent Study I-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 biochemically related disciplines. Includes bioorganic chemistry, natural products, and important to biological systems. Credit will not be given for both 225-200 and 225-302 or 225-333. P: 225-112 or 108.

225-201 Bio-Organic Chemistry Laboratory 1 cr.
Optional laboratory course to accompany 225-300. P: concurrent enrollment registration 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.

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 synthesis in organic chemistry. P: credit or concurrent registration in 225-303.

225-311 Analytical Chemistry 4 cr.

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: 225-311.

225-412 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, electroanalytical methods, chromatographic methods, and radiometric methods. P: 225-311 and credit or concurrent registration in 225-311.

225-483X Selected Topics I-4 cr.
See page 76.

225-498 Independent Study I-4 cr.
See page 77.

226 CHEMISTRY-PHYSICS

226-293X Selected Topics I-4 cr.
See page 76.

226-296 Independent Study I-4 cr.
See page 77.

226-305 Thermodynamics and Kinetics 3 cr.

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 1, X-rays, properties of gases, liquids, and solids. P: 225-112 and either 224-302 or 194 and 225-303.

226-322 Thermodynamics and Kinetics 3 cr.
One three-hour laboratory per week. P: credit or concurrent registration in 226-321.

226-323 Structure of Matter Laboratory 1 cr.
One three-hour laboratory per week. P: credit or concurrent registration in 226-321.
242-412 Performing Arts Perspectives: Experience and Evaluation 2 cr.

Prerequisites: The historical background of 242-141. The emphasis is on understanding the elements of performance from the perspectives of the audience and critic. Emphasizes research prior to performance, attendance at performances, interviews with artists, and the writing of critiques.

240-160 Introduction to Language 1 3 cr.

Introduces study of language and linguistics, including basic principles and methods in structural linguistics, syntax, and phonological rules. Course examines key concepts, the visual whichCh aidented, and the corresponding issues they raise. It deals with the wider cultural context in which modern artistic/creative phenomena. Designed prepare both the artist and non-artist 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 "Mephisto," Eisenstein's "October," Verho's "Man With a Camera," Iran'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 film and on the cross-cultural influences which this. See 492-210.

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 from 1960 to early 1970s, 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.

Examines the art, culture, and history of a particular U.S. city. The course includes an extended fieldtrip to the city so students are able to experience museums, theater, and music there. In the past the city of Chicago has been Chicago, but other cities will be the focus in the future.

242-331 Introduction to Graphic Communication 3 cr.

Introduces program for students with vocational objectives or with interest in graphic communication. Provides basic background for entry into advanced courses. Emphasis on principles and potential of visual communication. Applicable to design concept, expression, applications of mechanics of planning, measurement, and type styles as communicative devices. Prior course in photography or design.

242-241 Native American Cultures: Film and Performance 13 cr.

A study of images of the American "indian" in motion pictures and literature. Focus is on the popular and ethnological images of Native People and their concurrent treatment in various genres and settings which attempt to present with more authenticity some of the cultural worldviews. Some introduction to creative group performance principles of the subsequent course for all University requirements.

242-242 Native American Cultures: Film and Performance 83 cr.

A continuation of the above University requirements. Emphasis is on the process of group work toward creation/ development of a performance piece on American Indian materials. It is primarily an experiential and "studio" course based upon materials from the first semester. If and when feasible, the work will be publicly performed. Previous "theater" experience is of particular interest in theater is not necessary. P: 242-242.

242-261 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 analyses of mood, line, work, shape, form structure, space, color and tone, it ends with an attempt to define these aesthetic responses.

242-271 Women in the Visual and Performing Arts 3 cr.

Survey of the history of women in the visual and performing arts and compares them with information drawn from non-academic sources. In order to clarify the kinds of knowledge we can gain from the study of the arts. Emphasis works by women in order to reveal their place in history. Emphasizes different cultures, periods and forms of art depending on the background of the instructor. P: 492-206.

242-291 Student-Led Courses 1-4 cr.

See page 10.

242-593 Selected Topics in Communication and the Arts 1-4 cr.

See page 593.

242-296 Sensing and Communication 13 cr.

Practical and philosophical background in a series of seminars and activities designed to heighten sensory awareness for the the teacher/student performer, drawing both from current sensory techniques of Ann and Hanna Yoga and from modern Sensory Awareness as taught by Charlotte Selver and Charles Brooks. Exercises include practice in brathering, sounding, silence, and movements for students in the performing arts and related areas. P: 593 or 598 cr.

242-298 Independent Study 1-4 cr.

See page 598.

242-301 Communication and the Arts Project in the Community 1-5 cr.

Projects vary, but emphasize service, creative development, and communication in the arts. Community. May be repeated for credit. P: 598 cr.

242-307 Film and the Novel 3 cr.

The film and the novel explore the differences between the two media by comparing film to the novel on which they are based. The craft of transposing 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: 242-216.

242-369 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, analyses of the work of critics, the relationship of the critic to the community, and practice in writing critical reviews. Some degree of participation in at least one of the performing arts is desired. P: 593 or 598 cr.

242-330 Communications: Extensions of Consciousness 3 cr.

Communication as an extension of human consciousness; particular focus on personal images of others, and the world, as these images affect our communicative abilities, behaviors, and uses of language.

242-333 Language and Human Conflict 3 cr.

Language as cause and consequence of racial, social, ethnic, and national conflict; problems in biased attitudes, language and nationalism, linguistic and cultural minorities, remedial communication, language, and world view.

242-338 Cultural Cross-Cultural Communication 1: Ideology and Values 3 cr.

Cultural and social/influence of ethnicity that arises when different ideologies and values systems come into contact. Course topics vary, and students should consult the Time Table for specific lists of topics each semester. Course may be repeated one time with a different focus.
242-398 The Arts: London 2 cr.
The arts in and about London are always in a lively state of action. This program attempts to blend and analyze as many forms of the arts as time, space, budget, and interest will permit. The group tries to become involved in several performing arts events as well as investigate museum collections, neighborhood art groups, and, if possible, spend time with artists working in various art forms. Students ride the ways in which the British relate the arts to all aspects of society. Students keep a journal during their London stay recording especially critical responses to events, persons, places, etc. Each student must make an advance and individual plan to be carried out in some area of the arts as they are experienced in London and Britain. P: cons inst.

356 The Individual and His Culture: The Pithecanthropus's View 2 cr.
See 495-395.

242-395 The Biological Aspects of Language 3 cr.
Studies of language as a biologic system, including language development in children, the integration of the speech organs and the nervous system, and connections between language 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-traditional alternatives. Projects will emphasize photographic illustration from concept through assignment, shooting, editing, and placement of imagery in a print design. Offered in January.

242-401 Describing the Environment 13 cr.
Faculty and students from Urban Studies, Resource Analysis, Science and Environmental Change, and Communications and the Arts investigate the environment as a prime relationship between the human organism and physical and mental context. The course is designed for all, as well as professional design and environmental activities. Major topics include philosophy and poetry of space; perception of space, physical and psychological; health and safety effects on the physical well-being of the organism; design and construction of space.

242-402 Designing the Environment 12 cr.
A detailed introduction to the study and practice of environmental design process, the mental processes involved in an environment as a prime relationship between the human organism and physical, social, and psychological context surrounding it. Students design and present independent research projects. Students also enrolled in Environmental Design Workshop II may integrate requirements of the courses 242-401 and 402 cr.

405 Urban Technological Design 3 cr.
See 800-227.

242-430 Mass Media and Society 3 cr.
Analysis of the media as persuader, modeler, informant, public opinion, and relationship, and techniques 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 to the production of student work. Projects work on university or non-profit groups from concept to final design and printing, including involvement with writing, design, printing, finishing, and mailing. Groups may be divided into subgroups to solve graphic problems for nonprofit groups. Course content emphasizes the role of the graphic communication in society at large. Emphasis on group problem solving within the context of real life situations. P: prior course work in photography and 242-310.

242-442 Senior Seminar in Aesthetic Awareness 3 cr.
A summative interactive learning experience for students enrolled in the Aesthetic Awareness program and those in Communication and the Arts who have put major emphasis in their special themes of interest in the course is offered to all students enrolled in various study projects. Students participate in selecting the theme. Possible themes are: The Humanities 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 1 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 isolate, express, and resist on the validity of his or her aesthetic values. P: 242-201 or equivalent.

242-471 Environmental Design Workshop II 3 cr.
Analysis and design of group spaces. Such as: house, 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 may select some major project of this sort in addition to independent research, reappraisal, and design analysis. Credits can be used for BIM 494-346 and 494-346 and Human Living I 242-422, Designing the Environment I. Students are strongly advised to enroll in a sequence of these parallel offerings. P: 494-461 and cons incs.

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 selected topic. Individual projects are acceptable in some instances; projects by design teams are encouraged. This "thesis" project Maris devised and evaluated by the leading staff and a faculty committee representing appropriate areas of expertise. The project must include at least: 1. A written document covering area of focus, research methodology, and rationale, design objectives, design alternatives, and design outputs. 3. Descriptive graphic presentations with emphasis on design alternative designs. 4. Selective presentation of two project drafts and at completion. P: prior workshop credits and cons incs.

242-477 Women as Creative Agents 3 cr.
Seeks to clarify the many ways women have exercised their creative capacities and to describe the internal and external factors that support creative work. Examines some of the cultural assumptions about creativity in women by comparing them with the evidence of Western 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 women. P: 242-481 or cons inst.

242-481 Student-Led Courses 1-12 cr.
See page 77.

242-482X Selected Topics in Communication and the Arts 1-12 cr.
See page 76.

242-484 Senior Honors Project 1-3 cr.
See page 77.

242-497 Internship in Graphic Communication 3 cr.
A course offering instruction and experience in a specific area of graphic communication. Internships are available for individual students or groups of students. P: for qualified students, when available, may be in any area of the field (managing, design, work, technical processes) as long as it represents working professions. Credit is given depending on the work involved but on more than three crs. may be used to meet requirements for a major. P: 242-432 and prior written cons inst.

242-498 Independent Study 1-12 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 course for small group and individualized instruction complementing 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 comprehensive in writing. P: passage of entrance exammen.
246-443 Advanced Problems in Photography 1 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 topic. Students also lead seminars in their own work and present their 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 multimedia projection, which requires the passage of time to be perceived and which enables the producer director to control the passage of time. The course includes active participation in exercises, discussions, and productions. P: 246-576: 336 and 246-576: 423.

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 currents, 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 evaluation and experience in a professional social 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: written approval.

246-488 Independent Study 1-4 cr.
See page 77.

255 COMMUNITY SCIENCES

255-102 The Social System 1 cr.
Introduction to concerns and concepts in the community sciences through an interdisciplinory focus on problems and opportunities of humans and their social environment.

255-205 Social Science Statistics 3 cr.

255-301 Foundations for Social Research 3 cr.
An introduction to the nature of science, theory, and statistics. The emphasis is on identifying and interpreting relationships between social phenomena. This is assumed by applying the conceptual tools provided in the course to specific problems. P: 206-260 or 255-295 and one course in social sciences.

296 EARTH SCIENCE

296-113 Dinosaurs: Rise to Ruin 1 cr.
Over 250 million years ago dinosaurs and other reptiles became the dominant animals on earth. For nearly 150 million years these animals dominated life on land, sea, and air. This course explores. Dinosaurs, their ascendance, rise to prominence, reasons for success, and possible reasons for their extinction.

296-200 Basic Earth Science 1 cr.
Introduction to the basic geological processes that modify the earth's surface. Includes representation of astronomic elements, weather, and climate, seas, oceanography and the geological 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 1 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. Some as 8:34-222.

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 these extreme earth forces shaped shores cliffs, now Baraboo, coastal rims elevated worn shallow seas, and glaciers buried the state with ice. At other times rich mineral deposits, such as those recently discovered near Craydon, 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.

296-289 Independent Study 1-4 cr.
See page 77.

296-290 Geologic Evolution of the Earth 3 cr.

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 Continent 3 cr.
The theory of continental drift has revolutionized many aspects of the earth sciences, and the evolution of this theory has provided an opportunity to explain many geologic phenomena, such as earth quakes and volcanoes, as well as to examine a recent example of a scientific revolution. Considerable relationship of continental drift and mineral resources, evolution, and mountain building. P: 296-310.

296-310 Paleobiology 4 cr.
Considers the preservation, morphologic evolution, interrelationships and paleoecologic significance of fossil plants and animals. Includes field and laboratory study of fossil assemblages and their environments. P: 296-302, 296-303 or 296-203 or cons inst.

296-340 Rock and Mineral Resources 3 cr.
Macroscopic identification of common rocks and minerals, bismarck andalusite of rock and mineral resources, and environmental impact of resource exploration and extraction. Field trips. P: 296-302.

296-350 Geologic Field Methods 4 cr.

296-366 Structural Geology 3 cr.

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 material 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: 296-302.

296-409 Stratigraphy and Sedimentation 9 cr.
Principles of physical, chemical, stratigraphic, and sedimentary processes. 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 in interpretation of social geology. Field trips. P: 296-202.

296-419 Soil Classification and Geography 3 cr.
Morphological properties of soils, major soils of historic horizons, principles of soil classification, taxonomic soils, land-scape relationships, genesis and global distribution of major kinds of soils: soil surveys and the interpretation for agriculture, engineering, and urban planning. Field trips. P: 296-320 or 292.

296-441 Mineralogy 4 cr.

296-450 Petrology 4 cr.

296-470 The Glacial Environment and Climatology 3 cr.
An interdisciplinary approach to an understanding of the atmosphere and environmental behavior which characterized Pleistocene time. Surveys the principles of geology and describes the impact of glaciation on the landscape. Field trips. P: 296-202.

296-483X Selected Topics 1-4 cr.
See page 76.

296-190 Independent Study 1-4 cr.
See page 77.

Other courses for upper division earth science credit include:


296 ECONOMICS

298-300 Economic 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 to respond to them rationally. This course explores a variety of contemporary economic problems including the economic systems, economic institutions, and economic growth, environmental issues, poverty, international 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, focusing on 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 allocation of economic products that will be produced, how they will be produced, and what prices specific goods and services will command. Due is a discussion of the institutional framework within which these decisions are made; for example, proprietorships, partnerships, corporations, and cooperatives.

298-382 Selected Topics 1-4 cr.
See page 76.

298-398 Independent Study 1-4 cr.
See page 77.

298-399 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 is provided as income to all citizens. Includes an analysis of social security programs; workman compensation; tax; the minimum wage; and the foreign income tax.

299-300 Intermediate Micro 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 course equivalency.

299-301 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 economics in the first 20 chapters, dealing with the production, exchange, and distribution of output. P 298-202 or course equivalency.

299-304 Contemporary Labor Markets 3 cr.
An explanation of the determination of wages and employment at the level of the firm, the industry, and the total labor market. P 298-202 and 303; or course equivalency.

299-305 Natural Resources Economic Policy 3 cr.
Acquire the student with policies leading to arrangements for the development, management, and use of natural resources. Emphasis is on the principles of allocation of resources and a general concern for the quality of the environment. P 298-202.

299-209 Public Finance and Fiscal Policy 3 cr.
Effects of government spending and taxation on commodity abstractions, incomes, savings, and expenditures. Basic analysis and philosophies of the uses and effects of fiscal policy. P 298-202 and 303, or course equivalency.

299-309 Sources of Contemporary Economic Concepts 3 cr.
The development of contemporary economic thought, drawing upon contributions from the neoclassic period to the present, emphasizing contributions of major schools of thought. P 298-202.

299-309 Business Cycles 3 cr.
Describe and present recent history of business cycles; tracing expansion of levels of employment, output, and price; savings and investments, forecasting, governmental policy. P 298-202 and 309.

299-330 Money and Banking 3 cr.

302 EDUCATION

302-142 COSMOG, The Societal Implications of the Study of the Universe 3 cr.
See 867-142.

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 environments to meet the needs of learners and to incorporate the teaching profession and helps determine whether the student wishes to become a teacher. Course content focuses on variables affecting teaching and learning as well as the ways socially affecting the schools. The teacher and learning 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.
Examine education as a life-long learning process within cultural contexts, not limited to formal schooling. Includes how media and environments educate. An exploration of social institutions of education; methods, training, time structuring, etc., value issues to be confronted within a given society. Cross-cultural comparisons offer a clear perspective of American education.

302-203 Introduction to Environmental Education in the Schools 3 cr.

302-204 Values in Conflict: The School Experience of Minority Background Children 3 cr.
Offering 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 African American, Hispanic American, and Chicano are explored and contrasted with dominant middle class-white values. Conflict is unavoidable. Emotions and social class bias is reflected in teacher expectations and instructional materials. Students examine assumptions and attitudes about minorities to reduce ethnocentrism and interest 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 in the operation of projection, recording, and duplicating equipment and in basic preparation of instructional materials. P. Core int.

302-206 Cultural Images in Books and Related Materials for Children and Adolescents 3 cr.
The student becomes aware of the various images of ethnic and racial groups, and how we made developed in textbooks, test books, 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 I-4 cr.
See page 76.

302-283 Selected Topics in Education 1-4 cr.
See page 76.

302-289 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 institutional program. P. 481-210 or 351 or 926 or 218.

302-302 Principles and Methods of Teaching Social Studies in Elementary Schools 3 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, sources and sequence, and factors 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 by 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 intellectual and social components of children’s musical needs and methods and materials to assist classroom teachers in meeting these needs. Practical experience with basic elements of music is 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.
The student will gain a foundation in the basic strategies, principles, 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 of science content and concepts of science, special education related to science activities and concerns related to sex and race bias in elementary school mathematics and science. P. 302-301; 160-201 recommended.
Principles and Methods of Teaching English as a Second Language 2cr.
Incorporates basic models of teaching ESL and the underlying theories from linguistics, psychology, and sociology. Students will develop a recognizable sequence of lessons and methods which consider the needs and varying levels of English language learners. Required for certification in English as a Second Language.

Principles and Methods of Teaching Secondary School Art 2cr.
This course is designed to provide principles of art education that are applicable to the elementary school art classroom. Emphasis is given to development of student art concepts, and techniques for teaching art in the elementary classroom.

Principles and Methods of Teaching English in the Elementary School 2cr.
Examines the principles which produce an effective children's literature program. Analyzes children's books: developing an awareness of their characteristics and content, and the need for related instructional materials.

Children's Literature: Contemporary Practices in the Elementary School 2cr. (Prerequisites: Principles of Teaching English in the Elementary School 2cr.)
Examines practices which produce an effective children's literature program. Analyzing children's books: developing an awareness of their characteristics and content, and the need for related instructional materials.

Theories and Practices of Teaching Secondary School History 2cr.
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching secondary school history. The course will focus on current issues in history education and the impact of technology on the teaching and learning of history.

Principles and Methods of Teaching Foreign Language in Secondary Schools 2cr. (Prerequisites: Principles of Teaching Foreign Languages to Students of All Ages; and English as a Second Language 2cr.)
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching secondary school foreign languages. The course will focus on current issues in foreign language education and the impact of technology on the teaching and learning of foreign languages.

Principles and Methods of Teaching Business Mathematics in Secondary Schools 2cr.
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching secondary school business mathematics. The course will focus on current issues in business mathematics education and the impact of technology on the teaching and learning of business mathematics.

Principles and Methods of Teaching In-service Education in Elementary and Secondary Schools 2cr.
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching in-service education in elementary and secondary schools. The course will focus on current issues in in-service education and the impact of technology on the teaching and learning of in-service education.

Principles and Methods of Teaching Physical Education in Secondary Schools 2cr.
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching physical education in secondary schools. The course will focus on current issues in physical education education and the impact of technology on the teaching and learning of physical education.

Principles and Methods of Teaching Secondary School English 2cr. (Prerequisites: Principles of Teaching Secondary School English 2cr.)
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching secondary school English. The course will focus on current issues in English education and the impact of technology on the teaching and learning of English.

This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching secondary school science. The course will focus on current issues in science education and the impact of technology on the teaching and learning of science.

Principles and Methods of Teaching Social Studies in Secondary Schools 2cr.
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching social studies in secondary schools. The course will focus on current issues in social studies education and the impact of technology on the teaching and learning of social studies.

Principles and Methods of Teaching Mathematics in Secondary Schools 2cr. (Prerequisites: Principles of Teaching Mathematics in Secondary Schools 2cr.)
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching mathematics in secondary schools. The course will focus on current issues in mathematics education and the impact of technology on the teaching and learning of mathematics.

Principles and Methods of Teaching Science in Secondary Schools 2cr. (Prerequisites: Principles of Teaching Science in Secondary Schools 2cr.)
This course is designed to provide the student with a solid understanding of the methods and techniques used in teaching science in secondary schools. The course will focus on current issues in science education and the impact of technology on the teaching and learning of science.
416-242 Contemporary Human Settlements 3 cr.
An examination of human settlement forms with an emphasis on geographical patterns. Topic include the evolution of early human settlements and communities, the development of the city, the arrangement of settlements in the landscape, and the relationship 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, classification, classification, analysis, and differentiating a variety of landscape components and their relationship to the resident's values, technology, and institutions. This course has been in London, England, and Green Bay.

416-250 Displays of Geographic Information 3 cr.
The purpose, value, and evaluation of maps and geographic information for information sciences.

416-283 Selected Topics 1-4 cr.
See page 79.

416-289 Independent Study 1-4 cr.
See page 77.

416-301 Landform Geography: Topics and Regions 3 cr.
Geographic methods of landform description and analysis with application to selected regions of the world. P. 236-222.

416-325 Regional Climatology 3 cr.
The elements, controls, and classification of climates, the distribution of climate types over the earth, world patterns. P. 209-220.

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 sub-systems, commercial, residential and manufacturing, functioning in space. P. 39-41.

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. 42-43.

416-353 Air Photo Interpretation 3 cr.
Techniques for the interpretation of aerial photos using human-made aerial data. Vertical, oblique, and infrared aerial photography are used in analyzing human use of the earth and its resources. P. 47-49.

416-355 Introduction to Quantitative Methods of Spatial Analysis 3 cr.
The basic systematic 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 physical and human patterns of Africa: historical aspects of geography including the impact of colonial organization on resource use and on indigenous cultures. P. 13 cr.

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 activity of the United States and Canada. The various regions of the two countries are compared and contrasted. P. 139 cr.

416-372 Analysis of the Great Lakes Region of North America 3 cr.
A systematic analysis of the regions surrounding the Great Lakes of the United States and Canada, internal and external relations, economic activities, regional change and problems. P. 101 cr.

416-377 Analysis of Northern Lands 3 cr.
A logical and regional analysis of the subarctic and circumpolar areas of North America and Eurasia; regional emphasis on Alaska, Northern Canada, and Scandinavia. P. 101 cr. 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 by offering underlying causes of existing tensions. P. 95 cr.

416-451 Computer Cartography 3 cr.
An introduction to the use of the computer in assisting cartographic production. It's advantages, disadvantages and limitations. The employment of computer cartographic display software, the development of the computer assisted mapping to geographic problems. P. 416-250 and 416S1 or cons inst.

416-453 Advanced Air Photo Interpretation 3 cr.
Remote sensing is presented as a resource of information, with particular attention to the techniques of aerial, photogrammetry, and automated classification as applied to information extraction, serves as major components of the course. P. 416-252 and (416-253 or cons inst.

382 Regional Analysis of Northwestern Europe 3 cr.
See 824-382.

416-483X Selected Topics 1-4 cr.
See page 79.

416-498 Independent Study 1-4 cr.
See page 77.

448 HISTORY

448-101 History of the Modern World 3 cr.
An introduction to the history of the world during the past four centuries, and particularly since 1500. This course examines the world, the age of commerce, the rise and fall of empires, and the development of modern society. P. 140 cr.

448-201 Ancient Civilization 3 cr.
Examinations of the evolution of early civilization from its beginnings in the Near East and Western Mediterranean to classical Greece and the decline of the Roman Empire. Attention given to the political, social and economic development of ancient Mesopotamia, Egypt, Palestine, Greece, Rome, and India.

448-202 The Middle Ages 3 cr.
Examination of Western civilization from the late Roman empire to the Renaissance and Reformation. Emphasis on the Christian Church; feudalism; the emergence of nation states and institutions; urban civilization; agriculture, trade, and technology, and cultural achievements.

448-203 History of Europe from 1000 to 1815 3 cr.
Origins and development of Western civilization from the Renaissance and Reformation to the Napoleonic era, Emergence of the nation-state in Poland, the French Revolution, the Industrial Revolution in England, appearance of the secular, and national humanism.

448-204 History of Europe from 1815 to the Present 3 cr.
Emergence of modern Europe, revolutions against the old regime; industrialization, urbanization and the origins of modern classes and institutions; the ideologies of conservatism, liberalism, socialism, communism and fascism; the impact of scientific politics; imperialism; the making of modern Europe in Europe and the world, issues of mass society, world wars and totalitarianism; reconstruction of Europe; Europe today.

448-205 History of the United States from 1600 to 1865 3 cr.
The political, social, and economic development of the United States, from Settlement to Civil War, with particular attention to the role of the North American Indian and the role of African-Americans. P. 140 cr.

448-206 History of the United States from 1865 to the Present 3 cr.
Major changes for factors, their effects on American culture, and the important role of intellectual and institutional assimilation. Attention to domestic and international effects of technological, economic development, and the influence of social and political movements.

448-207 Roots of Black America 1-3 cr.
A survey of the development of black people's experiences in America beginning with African culture and slavery and the development of Afro-American culture and institutions. The course includes cultural and historical movements in America.

448-208 The Development of Modern Science in Western Society 3 cr.
The interrelationships between modern science and Western society and the way its each has helped shape and torn the other. Emphasis will be placed on the development of modern science in the 17th century, the influence of the sciences and technology in modern times, and the development of some of the major scientific 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. This course is focused on the evolution and development of the civilizations of the region in the 10th century. This course takes the major emphasis. Among topics considered are culture and society, art, music, literature, socioeconomic, political structures, economic structures, and the religious and philosophical systems such as Buddhism, Hinduism, Confucianism, and Taoism.

448-251 Modern 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. This course is focused on the evolution and development of the civilizations of the region in the 10th century. This course takes the major emphasis. Among topics considered are culture and society, art, music, literature, socioeconomic, political structures, economic structures, and the religious and philosophical systems such as Buddhism, Hinduism, Confucianism, and Taoism.

448-283X Selected Topics 1-4 cr.
See page 76.

448-288X 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 since the European intellectual traditions; emphasis on changing American conceptions of nation, nature, humanity, society, politics, and art in the work of key American thinkers in the development of characteristic American intellectual traditions and the development of distinctive American cultural communities. P. 101 cr. or cons inst. Can be taken out of sequence.

448-304, 305 History of European Thought and Culture from the Renaissance to the Present 3, 3 cr.
Development, transmission, and influence of European philosophies, religion, science, literature, art, and social thought; significant thinkers and their institutions; major currents and forces. 304: Renaissance, Reformation, Scientific Revolution, Age of Reason. 305: romanticism, liberalism, nationalism, positivism, imperialism, socialism, idealism, existentialism. P. 101 cr. or cons inst. Can be taken out of sequence.

448-309 History of Science in Modern Times 3 cr.
Modern development of science since the 16th century as part of its cultural matrixes, discussion of important scientific concepts of the last four centuries. P. 303 cr. or cons inst.
478-302 Introduction to PopulatioN Dvsmcs / 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, population ecology and biology.

478-303 Introduction to Sports Physiology / 3 cr.
How the human body works and how fitness is related to the occurrence of sport, adventure and recreation. Lecture and laboratory demonstrations. P: 3rd cr in biology or co-req crs in biology.

478-340 Human Evolution 3 cr.
Phylogenetic history and affinities of hominoid sapiens and the evidence on which they are based. Potential effects of technology on future human evolution. P: 478-302 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 well being and maintaining physical fitness. P: 478-265/264 & 457-101.

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 among new in terms of biological and cultural factors. Stress is placed on biological differences found between subcultural populations, or races, from around the world, such as brain group, skeletal, and other adaptive systems in addition to environmental, genetic, political and living in stressful environments such as high altitude, arctic, and desert are examined. P: 478-110 or 478-102.

478-370 Scientific Writing and Discussion 3 cr.
Prerequisite: Students must have taken a writing intensive course. This course is designed to enhance the skills necessary to effectively communicate ideas and arguments in a clear, concise and logical manner. P: 478-110.

478-401 Principles of Paraecology 3 cr.
Principles of human population growth and development as they relate to the study of human ecology. P: 478-204.

478-406 Environmental Physiology 2 cr.
The physiological responses to thermal stress of the environment. Offered in January as a lecture-laboratory course in which students perform both as technicians and subject-patients. P: 478-204, 205-206, 111 or 112 and equivalent crs in mathematics.

478-420 Seminar in Topics in Human Adaptabillity 3 cr.
Interdisciplinary and interdisciplinary research with special emphasis on selected topics and problems in human adaptability. Prerequisite: open to majors and graduate students. P: 478-304, 202-204, 205-206, 111 or 112 and equivalent crs in mathematics.

478-430 Physical Anthropology 3 cr.
An introduction to the prehistory of man with special emphasis on his prehistoric cultural and biological development. P: 3rd cr in biology or co-req crs in biology.

478-433 Environmental Sociology / 3 cr.

478-434 Seminar in Topics in Human Adaptabillity 3 cr.
Principles of human population growth and development as they relate to the study of human ecology. P: 478-204.

478-435 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 well being and maintaining physical fitness. P: 478-265/264 & 457-101.

478-431 Kinesiology 3 cr.
Basic anatomical and mechanical principles as they relate to human movement. P: 478-203/204.

478-454 Human Variability 3 cr.
The study of living human populations with an emphasis on the variability found among new in terms of biological and cultural factors. Stress is placed on biological differences found between subcultural populations, or races, from around the world, such as brain group, skeletal, and other adaptive systems in addition to environmental, genetic, political and living in stressful environments such as high altitude, arctic, and desert are examined. P: 478-110 or 478-102.

478-470 Scientific Writing and Discussion 3 cr.
Prerequisite: Students must have taken a writing intensive course. This course is designed to enhance the skills necessary to effectively communicate ideas and arguments in a clear, concise and logical manner. P: 478-110.

478-401 Principles of Paraecology 3 cr.
Principles of human population growth and development as they relate to the study of human ecology. P: 478-204.

478-406 Environmental Physiology 2 cr.
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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 expose how genetic, biological, environmental, and sociocultural forces influence development from the earliest womb environment through early childhood. 4 cr.

481-210 Introduction to Human Development 1-3 cr.
An interdisciplinary approach to the study of human development from conception through death. This course surveys topics such as physical development, social and emotional development, personality development, the development of language, intellectual development, and creativity. The process of human understanding. Students receiving major 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 acquire new values influence the process of teaching them. Both cultural values (e.g., "individualism") and various theories of development are examined as values systems shaping the world of understanding people. Especially those influencing the process of deciding what is "good" for people and what people "need." Not intended for Human Development majors. 4 cr.

481-481 Student Led Course 1-4 cr.
See page 76.

481-253 Selected Topics in Human Development 1-4 cr.
See page 76.

481-296 Independent Study 1-4 cr.
See page 77.

481-333 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. Interdisciplinary approach between the biological, psychological, and sociological aspects of development are studied. Required core course. 4 cr.

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 social, cultural, economic, and physical growth factors influencing the developmental processes that characterize the "typical" 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. 4 cr.

481-333 Observation and Interpretation of Child Behavior 3 cr.
The behavior and development of young children are 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. 4 cr.

481-334 Play and Creative Activities in Childhood 3 cr.
Conceptualization of the activities 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. 4 cr.

481-335 Introduction to Experience with Young Children 1 cr.
Experiences with young children in a group situation. Recommended only for those students earning certification in early childhood education. 4 cr.

481-336 Sex Role Development in Contemporary Society 3 cr.
Developmental analysis of the biological, personality, social and cultural factors contributing to sex identity and behavior in contemporary society. 4 cr.

481-342 Cultural Impacts on Human Development 3 cr.
Covers cultural differences in perception, cognition, language and thought, child development, stress, and waxing and waning. Examines relationships between various aspects of culture (value, economy, ecology, political system) and psychological functioning within these non-Western cultures and American ethnic subcultures. 4 cr.

481-420 Tests and Measurements 3 cr.
Methods and problems in measuring human characteristics, including determination of validity, reliability and interpretive adherence for such measures. Examination of selected tests in intelligence, achievement, maturity, and personality. Typical cases of tests and methods for reviewing tests. 4 cr.

481-429 Theories of Personality 3 cr.
Major ideas and systems of statements about the organization, function, change, and development of human personality. Reviews the student with a variety of personality theories such as Freud, Adler, Jung, Sullivan, Erikson, Dollard and Miller, Skinner, and selected existentialists. 4 cr.

481-511 Cognitive Development 3 cr.
The development or cognitive functioning from infancy to adulthood. The stimulus-response, cognitive, and phylogenetic approaches to intellectual development are examined. Current issues and research are critically examined. 4 cr.

481-433 Human Development III: Adulthood and Later Maturity 3 cr.
An interdisciplinary approach to theore and empirical research concerning developmental processes across the adult life span. A course dealing with psychological, cultural, sociological, and historical factors which influence development in young adulthood, middle adulthood, and old age. Required core course. 4 cr.

481-435 Abnormal Behavior 3 cr.
Deviation from normal intellect, physical, emotional, and social development (e.g., retardation, psychopathology, emotional problems) throughout the life cycle are covered. Integration of development, delayed development, and disturbances in development. Biological and environmental origins of these are examined. 4 cr.

481-436 Counseling with Children and Adolescents 3 cr.
Introduction to theories and principles of counseling as applied to children and adolescents. Survey of influential approaches and techniques for helping children and adolescents cope with the developmental problems of the latter half of the life cycle. 4 cr.

481-437 Counseling with Adults and the Aged 3 cr.
Introduction to theories and principles of counseling as applied to adults and the aged. Survey of influential approaches and techniques for helping adults and the elderly cope with the developmental problems of the latter half of the life cycle. 4 cr.

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 changes, problems of meeting health care needs, social status, and psychological change, with emphasis upon individual differences. 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 320-441.) 4 cr.

481-442 Curriculum and Program Development in Early Childhood Education 3 cr.
A developmental approach to curriculum and program, including the specific外来 information of various disciplines in a program for young children. Program content and planning will be considered within the context of developmental levels and the variety of populations to be served. (Also listed as 320-442.) 4 cr.

481-444 Early Childhood Center Administration and Community Resource Management 3 cr.
A survey of community centers, including the role of the director and the programs and services offered by the center. Includes a study of early childhood programs in the community. 4 cr.

(See also 402-404. 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 interdependence of these three areas will be discussed as well as their relationship to social policy. 4 cr.

481-481 Student Led Course 1-4 cr.
See page 76.

481-488 Selected Topics in Human Development 1-4 cr.
See page 76.

481-495 Language Acquisition in Childhood 3 cr.
An interdisciplinary approach to language acquisition and development, including structural and transformational linguistics, lesioned and psycholinguistics, with emphasis on sociolinguistics. Language use as a social, educational, and cultural force is examined. 4 cr.

481-498 Independent Study 1-4 cr.
See page 76.

*Meets a requirement for certification in early childhood education in Wisconsin.
493 HUMANISTIC STUDIES

493-211 Introduction to Humanistic Ideas: Music and Art in Western Civilization 3 cr.

493-212 Introduction to Humanistic Ideas: Literature, Philosophy, and Modern Western Civilization 3 cr.

493-234 Humanistic Values Through Literature 3 cr.

493-236 Humanistic Values Through Literature 3 cr.

493-290 Fordham and Follies 1 cr.

493-310 Film and Society 3 cr.

493-250 European Economy and Society 5 cr.

493-251 Business and American Life 3 cr.

493-252 The Writings of the Old Testament 3 cr.

493-253 Midterm Exam in General English 3 cr.

493-254 Midterm Exam in General English 3 cr.

493-255 Midterm Exam in General English 3 cr.

493-256 Midterm Exam in General English 3 cr.

493-257 Midterm Exam in General English 3 cr.

493-258 Midterm Exam in General English 3 cr.

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493-300 Midterm Exam in General English 3 cr.

493-301 Midterm Exam in General English 3 cr.

493-302 Midterm Exam in General English 3 cr.

493-303 Midterm Exam in General English 3 cr.

493-304 Midterm Exam in General English 3 cr.
493-543 Perspectives of Human Values: Humanism to Neopatriotism 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 romantics and ending with the social, political and literary movement associated and the term "nationalism" in Europe and America. P: 492-201, 202, or cons. inst.

453-544 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. All such a skeptical attitude, 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 values of their productions and the human condition. Confusing itself swiftly in the first 50 years of this century, this course became primarily, but not exclusively, an examination of values associated with either tragic or comic perceptions lived or works of literature, philosophy, history and the fine arts. P: 492-201, 202 or cons inst.

453-504 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 la cuisine and urban life, industry and commerce, art and music, etc. P: 492-201, 202, or cons inst.

432-505 Contemporary German Culture 3 cr.

As a study of the influence of Germany and the German-speaking countries (the Federal Republic of Germany, the German Democratic Republic, Austria, and Switzerland) and its German culture in the U.S. Enphasis is on the post-WWII era, with particular focus on West Germany. P: 492-201, 202, or cons inst.

556 Latin America Today 3 cr.

Studies specific humanistic aspects of contemporary Latin American culture, including its "history, art, literature, music, and visual systems." The goal is to provide another understanding of such events as the 20th century as of 1950. P: 492-201, 202, or cons inst.

453-598 The Americas Look at Each Other 3 cr.

Through the study of Latin American writers and artists' history courses examine the way the Latin culture permeates our North American culture. The aim is to provide students with a new and increased awareness of their cultural environment as well as that of Latin America. P: 492-201, 202, or cons inst.

453-381 January Abroad: German Culture 3 cr.

Travel to the home of the German-speaking countries. German studies through on-site lectures followed by tours of interesting historical and architectural sites, visits to museums and factories, factories of the ancient and contemporary Moys. Stress on cultural analysis and critical systems. Will be completed in either Spanish or English.

364 Women and Religion 3 cr.

See 875-440.

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 10 great cities of London—its museums, galleries, palaces, cathedrals, theaters, and other places of literary and historical interest. The course will include study tours in other cities which are central to the English heritage, such as Birmingham, Cambridge, Canterbury, Oxford, Stonehenge, and Stratford upon Avon.

493-571 American Indian Art and Article 3 cr.

A study of the art and painting of native tribes. American Indian art was based on expression of religious and cultural values. The course addresses the visual aspects of the Indian art and its influence on other cultures. P: 492-201, 202, or cons inst.

493-574 Wisconsin's Indluents: Historical and Cultural Perspectives 3 cr.

Indian cultures of Wisconsin in the period 1800-1860. Basic cultural patterns and the social life of such tribes as the Winnebago, Menominees, Fox, Sauk, Kickapoo, Huron, and Pottawatomis and their historical transformation. Attention to the impact of the fur trade, missionaries, and Euro-Americans in the area. P: 492-201, 202, or cons inst.

101, 102 Introduction to the French, German, Spanish Languages B 4, 4 cr.

The first two semesters of language study seek to develop basic skills in understanding, reading, speaking and writing. Mtier language study necessary for 101. One year high school or one semester college language study prerequisite for 102. See section on intercultural credit preceding course description.

104 Introduction to Literature 3 cr.

Study of the distinctive characteristics of poetry, plays, and films, and the view of helping students understand, appreciate, the enjoy literature. Works studied range from the classical 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 grammar, punctuation, usage, and other writing fundamentals, but emphasizes effective organization and development of ideas. P: 492-100 or satisfactory entrance level 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 1.5, 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 below about retrospective credit. P: 554-100/102-104 or equivalent.

206 Women In Literature 3 cr.

The course surveys both as women as writers and women as characters in literature. It emphasizes the wisdom, experience, 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 intention of 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.

An introduction to writing and poetry. P: 492-100, 102.

213 Introduction to Creative Writing: Poetry 3 cr.

An introduction to writing and poetry. P: 492-100, 102.

214 Introduction to English Literature I 3 cr.

An introductory, chronological survey of English literature from Anglo-Saxon lines to the end of the 18th century. Among writers studied are Chaucer, Shakespeare, Donne, Milton, Pope, Swift, and others whose works comprise the major literature/genre of all English-speaking people.

215 Introduction to English Literature II 3 cr.

An introductory chronological survey of American literature from Driffield to Melville, including such writers as Melville, Hawthorne, Twain, Irving, Cooper, Poe, Emerson, Hawthorne, Thoreau, and Melville.

216 Introduction to American Literature I 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 conversation. Emphasis on developing visual and correctness of expression through directed and guided conversations, dialogues, class presentations and dramatic reading of texts. Also includes practice in expository writing and grammar review. This is an appropriate supplementary course for students with four years of high school language study at the University level. See section on intercultural credit. P: 492-100 or equivalent.

91
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 using, composing, and emphasizing ideas to the point that 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.
Examines a variety of consumer problems encountered in a modern, complex economy. The central themes of the problem are the effects of mass and global marketing and advertising. Emphasis is placed on issues that tend to shape the students' awareness of environmental issues that challenge the consumer leader.

575-202 Business and its Environment 3 cr.
The major components of business enterprises and its environment 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, financing, planning, costs, ethics, environmental impact, social responsibility, and other important concepts are emphasized. Focus is on issues that tend to shape the students' awareness of environmental issues that challenge the consumer leader.

575-301 Independent 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 stockholders' equity accounts; application of various FASB standards. 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, controlling, and forecasting. Emphasis is placed on understanding and the overall concept of capital volume limitations, budgeting, effects of inflation and price level changes in decision-making. P. 575-300.

575-312 Managerial Accounting 3 cr.
Principles and procedures utilized in the accumulation and reporting of costs and the use of cost data in decision making; emphasis is placed on the use of cost data in the several control of budgetary control. P. 575-300, 605-200 and 575-217.

Specialized financial accounting concepts; presentation 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. 575-300.

Business combinations; principles and techniques involved in the preparation of consolidated financial statements; special problems in cost allocations, intercompany transactions, and accounting for service type enterprises. P. 575-300.

575-316 Governmental and Institutional Accounting 3 cr.
Accounting theory and practice unique to governmental and institutional organizations; control of revenues and expenses through budgets and assignments; comparison with commercial accounting, including nature and purpose of state and local government funds. P. 575-300.

575-319 Income Tax Theory and Practice 3 cr.
Federal and state income tax as applied to individuals, partnerships, and corporations; tax and tax source materials; written problems; tax planning and tax determination. P. 575-300.

575-411 Financial Information Systems 3 cr.
Principles of system design with an emphasis on information management structures; internal control; flow charts and the design of information systems; setup; systems requirements regarding the procedural areas of accounting for typical services, including government management, sales, billing. P. 575-314 or cons inst.

575-412 Auditing Standards and Procedures 4 cr.
Standard auditing concepts and practices as they relate to assisting, validating, and auditing as an auditor: auditing funds as applied to the validation of the internal control, internal control and internal control as applied to the validation of the internal control. P. 575-411 or cons inst.

575-414 Advanced Managerial Accounting 3 cr.
Cost concepts for decision making which include cost-volume-profit, breakeven analysis, differential and incremental costs, capital budgeting, and cost-benefit analysis; linear programming for decision making. Use of responsibility accounting concepts in the design of an accounting system for a productive management's management, sales, billing. P. 575-314 or cons inst.

575-415 Advanced Income Tax Theory and Practice 3 cr.
A study of advanced topics in income tax by both 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 marketing activities associated with market goods, services, and institutions. Analysis of the relationships between marketing activities and economic, social, and political factors; understanding the perceptions of consumers, and marketing appropriate products, services, and positions. P. 575-315.

575-325 Principles of Public Relations 3 cr.
External relations of the business organization governmental unit,ulates and social authorities of the public and how their effects affect external relations of the unit.

575-326 Principles of Purchasing 3 cr.

575-277 Selling and Sales Management 3 cr.
Concepts and techniques of the selling process leading to a mutually profitable relationship between salesperson and customer. Emphasis is also placed on the salesperson's preparation of selling aids, sales promotion, and selling techniques. P. 575-326 or cons inst.
575-304 Logistics Systems Management 3 cr.
The management of all activities governing the flow of raw materials, manufactured goods through the stages of production to points of final consumption. Key areas considered include trans-shipment, warehousing, packaging, materials handling and the basic design of logistics systems, location theory, inventory control, the use of mathematics and techniques involving problems of logistics management, development of integrated material flow systems, as they pertain to the implementation of specific environmental programs as recycling, waste disposal, etc. P: 3 yr.

575-422 Principles of Retailing 3 cr.
Management practices in the operation of retail and wholesale enterprises. Nature of competing in the U.S. business requirements for successful store management; opportunities and careers; store location, building, fixtures, equipment, interior layout, organizational structure; personnel management; merchandising management; sales promotion and customer service; control, 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. Develop- ment, analysis and interpretation of marketing research gives to the student reliability and relevance of a proposed new small business in the expediency of an existing enterprise. P: 575-322 or cons inst.

575-435 Financial Strategy 3 cr.
Analysis of the environment in which business operates and its profitability; appropriate concepts from communication theory. The promotional tools which can be used to communicate to various publics about products, services, ideas and institutions are viewed from a promotion system perspective. P: 575-322 or cons inst.

575-436 Marketing Management 3 cr.
Comparative environmental issues and managerial problems faced by marketing management. Develops analytical abilities. P: Intro marketing course at some level.

575-427 International Distribution and Marketing 3 cr.
The dollar role foreign trade plays in available 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.
In-depth analysis of various theories of buyer behavior, including ultimate and industrial consumers. Implications for marketing management are stressed. P: 575-222.

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. Religion, current literature is analyzed and field experience is parallel or solving institutions' problems. P: 575-222.

FINANCE

575-313 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, reorganiza- tions. P: 575-300.

575-316 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, administration and control, location factors, real estate taxation, real estate finance, and real estate investment. The impact of taxation, marketing, and insurance and current legisla- tion affecting real estate are covered. 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 business and financial methods in making insurance and personal risks. An introduction to the insurance functions. P: 575-343.

575-347 Management of Financial Institutions 3 cr.
Explains the role that financial institutions play in the economy and managing financial 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 the management man- agement objectives and strategies. P: 575-245.

575-442 Problems of Investment 3 cr.
Principles underlying the construction and management of investment portfolios; measuring 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 pro- jection of financial data for planning, control, and for dealing effectively with financial dimensions of management deci- sions. P: 575-345.

575-444 Financial Decisions and Federal Taxes 3 cr.
Jointly at recognizing federal tax problems: facilitating planning and financial decisions, and is accustomed to utilizing financial statements of personal and institutional investors; reducing investment risks inherent in selection; inflation, depression, and money market fluctuations. P: 575-343.

575-447 International Finance 3 cr.
Theory and recent experiences in currency standards, interna- tional banking, foreign exchange fluctuations and controls, inter- national monetary cooperation and special topics. P: 298-455 or cons inst.

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 understanding and applying financial management, financial control, financial reporting, budgeting, financial analysis, and financial planning. P: 575-447.

MANAGEMENT

575-317 Computer Techniques for Business Decisions 3 cr.
A complete spectrum of quantitative decision-making problems from the fundamental sciences to the practical problems are provided for all the case problems in this course, including many classical business optimization problems that warrant ingenious solution. Fortran IV is used extensively for solving problems. Lecture and computer lab. P: 575-217 or 280-100 or cons inst.

575-362 Principles of Personnel Management 3 cr.
troduction to personnel management. Manpower planning, selection, recruitment, training, supervision, fringe benefits, salary and wage, and labor relations. P: 575.

575-396 Collective Bargaining 3 cr.
Cases of techniques and problems in dealing between organ- ized employers and their employees: industry-wide collective bargaining, consisting in the public relations administration of collective bargaining agreements. P: cons inst.

575-382 Principles of Management 3 cr.
Basic ideas and concepts of management. The roles of management in contemporary organizations with emphasis on the behavioral approach, management philosophies. The nature of managing, the knowledge required by managers; functions performed, and ad- justment to rapid changes in the future. P: inst.

575-384 Industrial Management 3 cr.
The management of physical human resources in the produc- tion and operation function for producing goods or services (manufacturing and processing enterprises). P: inst.

575-385 Management of the Nonprofit Organization 3 cr.
The operation and management of organizations that operate without a profit for purposes other than generating profits for owners or shareholders. Models such as the hospital and the university focus on the operational principles: optimizing criteria, and management control techniques. Emphasis is placed on management of such institutions. In addition to examining the areas of accounting, finance, marketing, organization, and personnel, the nonprofit organization is discussed in future years to help comprehend the political and economic conditions in which it operates. Case studies using a seminar format. P: 575-382 or equivalent experience of 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. Studies evaluation of the application of conventional management principles in specific small businesses. Phases of ownership and management at the level of simplification and responses of enterprises of limited size and staff. P: 575-382 or cons inst.

575-397 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 increasing concentration of business power and its ramifications upon the environment and resources utilization, and business relationships with consumers, employees, minority groups, other business and others. P: 575-320 or cons inst.

575-399 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.

575-452 Seminar in Personnel Management 3 cr.
Provides a foundation through discussion of personnel problems and experiences which can be shared and discussed in developing cor- porate personnel policies. Case studies related to urban, cultural, social and legal realities along with making decisions which affect the administration and development of personnel policies are inccluded. P: 575-382 or cons inst.

575-455 Labor Legislation and Administration 3 cr.
Federal and state statutory and administrative regulatory of social legislation and benefit programs, other regulations, including promote compensation for industries, agriculture, business, insurance, social security, and labor laws with respect to women and children. P: cons inst.

575-457 Fundamentals of Compensation and Benefits Plan- ning 3 cr.
An overview of the history of compensation and the design of employee benefit programs. P: cons inst.

575-459 Organization Development 3 cr.
Application of the behavioral theoretical tools of economic analysis (micro and macro) in the problems of business management, including topics on demand, production, costs, pricing, forecasting, etc. Curriculum includes the interest of the manager, such as environmental policies and regulations are discussed. P: 299- 292, 291 and inst.

575-466 Small Business Feasibility Analysis 3 cr.
Problems in small business development research related to determining the feasibility of proposed businesses regarding the feasibility of objectives and constraints. Techniques include: the economic, political, physical, ethical, and environmental con- straints of the site and the market. Determination and analysis of employee prepared small businesses relative to development costs, requiring experiences, financing arrangements, and compu- tated cash flow projections. P: 575-454 and at least one 300-level course.

575-484 Rational Decision Making in Administration 3 cr.
Through close analysis of actual cases in which business deci- sions were made, rational process analysis is developed for making administrative decisions in business and government. P: 575-382.
257-148 Problems of Business Management 3 cr.
Contemporary problems in business and government. In addition to lectures, students write and present case studies. 5-75-182 or coreq.

257-240 Nonprofit Organization Management 3 cr.
The organization 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 performance, 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: F 5-70-101 or concurrent.

257-425 Marketing Strategies for Non-Business Institutions 3 cr.
The applicability of marketing concepts, strategies, and techniques to the problems faced by nonprofit institutions in their attempts to relate to various societal needs. Relevant current literature is analyzed and field experiences is gained in solving institutional problems. P: 5-75-360.

257-448 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 a management strategy that makes it possible to make nonprofit organizations financially self-sufficient and making it possible to use this money for the purposes of the organization. P: 5-75-360.

500 Mathematics**

600-101 Intermediate Algebra 2 cr.
Preparation for 600-104. For students with a high school background of first-year algebra. Properties of the real number system; inequalities; functions and their inverses; exponential and logarithmic functions of systems of equations. P: 600-100 or concurrent.

600-104 Elementary Functions, Algebra and Trigonometry 4 cr.
For the students whose mathematical background is inadequate for 600-102. The real number system; inequalities; functions and their inverses, exponential and logarithmic functions; polynomials; rational and functional systems; equations of systems. P: 600-101 or concurrent.

600-156 Basic: A Programming Language 1 cr.
Provides students in various fields with elements of 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.

600-165 Basic: C Programming Language 1 cr.
Provides students in various fields with elements of the C language; necessary for effective use of computers in solving problems. P: 600-101 or two years of high school algebra and satisfactory placement score.

600-215 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.

Concepts and elementary features of digital computers, ladders, switches, relays, and terminals. For language is taught in the course. P: either 600-101 or two years of high school algebra and satisfactory placement score.

257-201 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 given for both 600-201 and 600-202. P: either 600-101 or concurrent.

257-202 Calculus and Analytic Geometry I 4 cr.
Differential and integral calculus of the elementary functions with associated analytic geometry. Applications. P: 600-156 or satisfactory placement score. (see note on credit in 600-100.)

257-203 Calculus and Analytic Geometry II 4 cr.

257-304 Calculus and Analytic Geometry III 4 cr.
Provides students with the additional experiences which illustrate the Theory of Calculus I. Students are supplied with programmable calculators, trained to write and execute programs, and encouraged to conduct mathematical experiments. Laboratory sessions cover material from Calculus I. Includes limits, derivatives, the integral and its applications, integration, definite integrals, improper integrals, and perhaps additional topics. P: 600-203 or concurrent registration.

257-309 Multivariable Calculus 3 cr.
Real-valued functions of several variables: tangent and normal lines; chain rule for partial derivatives; systems; least squares method; higher-order derivatives; integration, polar and cylindrical coordinates; spherical coordinates; vector fields; line integrals; physical applications. P: 600-203.

257-332 Discrete Mathematics 3 cr.
A first course in mathematical methodology with discrete mathematical structures. Fundamentals of enumerative methods; counting techniques, generating functions, recurrence relations, graph theory, and combinatorial designs. Selected special topics. P: 600-104.

257-355 FORTRAN: A Scientific Programming Language 3 cr.
A thorough introduction to FORTRAN programming and the design of elementary algorithms. Includes input, real number, and algorithmic programming language. P: 600-203 or concurrent.

257-356 Computer Science I 3 cr.
Designed to develop an understanding of basic concepts of computer science. Topics include problem solving, algorithmic processes, characteristics of high level languages, 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.

257-357 Introduction to Computer Science II 3 cr.
Continues the development of discipline in problem 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 and sort methods, simple data strucures, machine organization, and assembly language. Algorithm analysis, recursive subroutines and other techniques used in advanced programming projects are also studied. P: 600-256.

257-360 Introductory Statistics 3 cr.
Descriptive and inferential statistics; frequency distributions; graphs; correlation (linear); measures of central tendency and dispersion; probability distributions; large and small samples; estimation and inference; regression, correlation, analysis of variance (ANOVA). P: 600-101 or two years of high school algebra and satisfactory placement score.

257-381 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 mathematics. The processes of classification, symbolic representation, measurement, number combinations, and modeling are explored in all arithmetic contexts. Significant features of the discipline of mathematics will be discussed. May not be taken on a pass/fail credit basis. P: 600-101 or high school algebra and satisfactory placement score.

257-382 Conceptual Foundations of Elementary Mathematics II 3 cr.
Continuation of 257-281. Further examines non-numerical mathematical topics of elementary school, including geometry, probability, statistics, algebra, and programming concepts. May not be taken on a pass/fail credit basis. P: 600-101 or high school algebra and satisfactory placement score. P: 600-281 recommended.

500-283 Selected Topics 1-4 cr.
See page 78.

500-289 Independent Study 1-4 cr.
See page 77.

500-305 Ordinary Differential Equations 3 cr.
Solutions and applications of first and higher order linear differential equations; the meaning of existence and uniqueness; non-linear differential equations, modeling physical and biological systems. P: 600-203.

500-309 Systems of Ordinary Differential Equations 3 cr.

500-311 Advanced Calculus 3 cr.
Axiomatics of real analysis; sets and functions; topology of the real numbers; sequences and series of real numbers; limits of functions; convergence, and pointwise divergence. P: 600-203 and 320.

500-312 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; convergence, and pointwise divergence. P: 600-203 and 320.

500-325 Linear Algebra 3 cr.

500-329 Linear Algebra II 3 cr.
Applications of computer techniques in solving various mathematical and engineering related problems. Types of problems to be transferred are systems of equations, localization 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 in applying spacial techniques to a particular problem, and the unstable nature of some methods. P: 500-305, 560-320 or concurrent registration in 500-305 and 500-329.

500-336 Numerical Analysis 3 cr.
Application of computer techniques in solving various mathematical and engineering related problems. Types of problems to be transferred are: solutions of equations, localization 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 in applying spacial techniques to a particular problem, and the unstable nature of some methods. P: 500-305, 560-320 or concurrent registration in 500-305 and 500-329.

500-380 Data Structures, Storage and Retrieval 3 cr.
An introduction to data structures, storage, and retrieval. Processing of data for use in computer applications. Included are data structures such as arrays, lists, trees, queues, stacks, and networks. Note: This course may not be taken for credit, evaluation of symbolic language, and memory management. P: 600-257.
600-352 Computer Graphic Design 3 cr.
Basic techniques of computer graphics such as point and line drawing, display, display and editing are introduced and the use of graphic hardware discussed. Students use and build graphic packages. P 600-257.

600-353 Computer Organization and Programming 3 cr.
Assembly language, binary, octal, and hexadecimal number systems, and silicon representation. A study of assembly language programming, including actual programming exercises. Includes an overview of computer hardware and software components. Topics covered include assembler, loaders, nonoptimizing and optimizing compilers, object-oriented and procedural programming languages, and use of small scale microcomputers. P 600-257 or concurrent enrollment in 352.

600-357 Theory of Programming Languages 2 cr.
Several common syntax-free/high-level programming languages will be compared and contrasted in this course. The advantages and disadvantages of each and the history of compiler and interpreter development will be discussed. The design of compilers and interpreters will be studied. Other topics include data types, variables, constants, binding of variables, scope of a variable, and procedure data hiding. P 600-257.

600-260 Theory of Probability 2 cr.
Probability spaces and their properties; the expectation of random variables; the probability distributions and properties. Random variables; the probability distribution function. The maximum likelihood method; the Bayes rule. P 600-257.

600-361 Mathematical Statistics 3 cr.
Sampling theory and their distributions; similarity hypothesis; point estimation; confidence intervals; linear and nonlinear hypothesis; nonparametric methods; sequential methods. P 600-252 and 365.

600-364 Biostatistics 2 cr.
Emphasis on the science problems. Analysis of variance tests; tests for trend; regression; correlation analysis and parameter estimation; time series, stochastic processes; introduction to statistical computerization. P 600-250, 342.

600-365 Foundations of Geometry 3 cr.
Inferential and deductive introductions to Euclidean and affine, hyperbolic, spherical, elliptic and projective geometries. P 600-257.

600-395 Introduction to Applied Graph Theory and Combinatorics 2 cr.
Fundamental concepts and applications in graph theory and combinatorics. Problems related to graph coloring, design of experiments, and graph theory are introduced. P 600-257.

600-410 Complex Analysis 3 cr.
Holomorphic functions of a complex variable; analytic functions; elementary transformations; integration; Taylor and Laurent series; contour integration; residues; conformal mapping. P 600-297.

600-416 Orthogonal Functions and Partial Differential Equations 3 cr.
Fourier series, Fourier transforms, orthogonal functions; Legendre and other polynomials, Bessel functions; characteristic functions and eigenvalues. Sample functions over space, time, and more dimensions; ODE and PDE separation; various functions, and various different solutions to partial differential equations. P 600-257.

600-418 Theory of Algorithms 3 cr.
Inductive proof, constructive rules, and decision algorithms. Comparison of algorithms with average and worst case time complexity. 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 searching, task assignment, optimal tree structure, graph coloring, scheduling, searching trees, and other problems. A class of nonpolynomial time complexity problems called NP complete problems is also discussed along with algorithms to approximate solutions to these problems and the use of the search for exact solutions for feasible. P 600-257 or 363.

600-451 Data Base Management Systems 3 cr.
A project oriented course. Each student is responsible for designing and creating a real database using the Data Definition Language statement in the computer's extended Data Management System. The project is to include a program capable of entering information into and retrieving information from the database system. P 600-257 and a background in algebra.

600-452 Operating Systems 3 cr.
An introduction to operating systems, principles, techniques, and philosophies behind management of computer resources. Topics include job management, memory management, file management, and program management. P 600-257.

600-454 Advanced Topics in Microcomputing 3 cr.
A laboratory course on the hardware and software aspects for interfacing instruments and peripheral devices to a microcomputer, development and use of system software, and advanced programming of microcomputers. P 600-450 or completion.

600-457 Compiler Theory 3 cr.
A project oriented course, including software design concepts, list of processor instructions, and the use of assembly language to develop compilers. P 600-257.

600-465 Business and Industrial Statistics 4 cr.
Proper statistical methods applied to business and industry. Topics covered are quality control, control charts and acceptance sampling, multiple regression, time series, smoothing and forecasting. P 600-290.

600-461, 462 Special Topics in Mathematics 1-3 cr.
Courses cover a variety of topics not covered in the standard curriculum. P 600-257.

600-466 Independent Study 1-4 cr.
See page 77.

601-001 Math. Workshop 3 cr.
Topics covered are related to mathematics. P 600-257.

601-004 Elementary Algebra 3 non-degree cr.
An introduction to algebra. Topics include operations with variables, exponents, fractions, percentages, and literal expressions. P 600-257.

601-006 Elementary Algebra 3 non-degree cr.
An introduction to algebra. Topics include operations with variables, exponents, fractions, percentages, and literal expressions. P 600-257.

601-042 Algebraic Foundations 3 cr.
A study of number, operations, variables, algebraic expressions, and equations. Emphasis is placed on algebraic reasoning and the use of algebra to solve problems. Topics include properties of real numbers, operations with real numbers, solving linear equations and inequalities, and graphing linear equations. P 600-257.

601-043 Intermediate Algebra 3 cr.
An introduction to algebra. Topics include exponents, operations with variables, equations, inequalities, and graphing. Emphasis is placed on algebraic reasoning and the use of algebra to solve problems. Topics include properties of real numbers, operations with real numbers, solving linear equations and inequalities, and graphing linear equations. P 600-257.

601-044 Elementary Algebra 2 non-degree cr.
An introduction to algebra. Topics include operations with variables, exponents, fractions, percentages, and literal expressions. Emphasis is placed on algebraic reasoning and the use of algebra to solve problems. Topics include properties of real numbers, operations with real numbers, solving linear equations and inequalities, and graphing linear equations. P 600-257.
569-442 Practicum in Managerial Activities of the Commissioned Officer (MG 42) 2 cr.
This course introduces students to the role of the Squadron Lieutenant in a military life organization and the Army's new policies regarding his or her commission, conduct, behavior, duty performance, and professional development. Emphasis is placed on the understanding of the military mission and the professional role. The course is designed for students who have demonstrated promise and interest in leadership in the military. (P. 569-442, 443, 444)

569 NURSING

569-315 Health Assessment of the Adult 5 cr.
Focuses on the components of the health history, basic skills, including instrumentation of a physical examination; and communica tion skills, verbal and written, pertinent to both. This unit is designed to identify and describe the range of normalities from abnormal abnormal sensations and initiate assessment about health status. This course contributes to students' ability to gather comprehensive information about an adult. 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 core test.

569-411 Theoretical Foundations in Nursing 3 cr.
Comparative study of selected conceptual models of nursing to help with understanding current practice and educational trends. Curriculum design and implementation process. Particular emphasis on professional roles, theoretical frameworks 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 DNS Completion Program for RNs.

569-415 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 tasks in decision making regarding nursing care is explored. Clinical-learning experiences are provided to help demonstrate the Adaptation Model. P: 569-315, 569-411 or concurrent registration.

569-421 Community Health Nursing 6 cr.
Emphasizes the theoretical perspective of individuals' and groups' health needs in the context of the Adaptation model and nursing processes applied to individuals, families and communities emphasizing the levels of prevention especially during this very early and young adult years of life. The influences of community values, lifestyles and resources on health is stressed. The role of the community health nurse in environmental health, communicable diseases, epidemiology, and research is explored. P: 569-411.

569-425 Adaptation in Acute and Chronic Health Problems 4 cr.
The Adaptation Model and specific nursing interventions applied to care of clients who are identified as at-risk in states of ineffective adaptation due to a variety of pathophysiological conditions on an acute or chronic nature. Special emphasis on the nature and effects of health education. Direction of study and clinical area individually negotiated with the instructor. P: 569-315, 569-411 and 569-415.

569-431 Nursing Management 3 cr.
Use of management, technological, and interpersonal skills and processes approach to care of clients and supervision of other health team personnel. Examines skills and strategies used in nursing management and administration. Examines some of the major concepts related to management such as organizational structures, health care teams, role responsibilities, role conflicts, role relations, decision making, material resources, leadership, stress group process and performance appraisal. Apply pertinent concepts in an area of nursing practice. P: 569-415.

569-435 Nursing Research 3 cr.
An introduction to the theoretical principles of research methodology and methodology of research in nursing related to 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 significance of the research process through individual exploration of a health-related problem. An initial study of the literature; statement of hypothesis supported methodology to be used. P: 569-415.

569-451 Advanced Nursing Concepts 4 cr.
Synthesis of knowledge, skills and attitudes in the utilization of the adapted nursing process. Students are provided with the unique opportunities to explore interests intellectually and clinically and apply their knowledge and abilities in a variety of clinical settings. (P: 569-442, 569-415 and 569-450 or concurrent registration.)

570 MUSIC

570-101 Basic Musicanship 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.

570-16 Ear Training and Sight Singing 1 cr.
Concerted drill in all areas of music listening: emphasis on sight singing in music of various time periods; musical analysis of music in melodic form. Emphasis on ear training and sight singing in music of various time periods; musical analysis of music in melodic form.

570-16 Ear Training and Sight Singing 1 cr.
Continued drill in all areas of music listening: emphasis on sight singing in music of various time periods; musical analysis of music in melodic form. Emphasis on ear training and sight singing in music of various time periods; musical analysis of music in melodic form.

570-151, 152 Materials and Values in Music 1, 2 cr.
The many types of music that exist are valued not only in structural terms, but also in percuival, aesthetic, social and aesthetic terms. Students planning a music major should enroll concurrently in 570-151 or 152. Some previous background in music or 570-150. Must be taken in sequence.

570-241 Jazz Improvement 3 cr.
Lectures and laboratory work in jazz improvisation skills. Lectures on rhythm and function of chords, chord symbols, scales and rhythms. Laboratory work in selected re-improvisation and actual playing sessions. P: background in instrumental reading and playing.

570-251 Literature and Styles in Music 4 cr.
Involves a historical and theoretical survey of music literature and musical style from antiquity to 1700. Music, and musical structures are also valued in the perspective of other arts as well as in relation to their social and cultural milieu. Selected readings and sight-singing skills are developed in several works 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: 570-250.

570-252 Literature and Styles in Music 4 cr.
Involves a historical and theoretical examination of music literature and musical styles in the 19th century. Music and musical structures are also developed 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: 570-252.

570-262X Selected Topics 1-4 cr.
P: 569-315 and 569-411.

570-299 Independent Study 1-4 cr.
P: 569-411.

570-315 Choral Arranging 2 cr.
Arranging, adapting, and creating scores for small and large vocal ensembles: includes as original composition for soprano- tenor- baritone (SATB) to be performed by the current choir. P: 570-250.

570-316 Instrumental Arranging 3 cr.
Arranging, adapting, and creating scores for small and large instrumental ensembles, as well as full band. Involves an original composition to be performed by the concert band. P: 570-252.
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 credit in one's training in singing/sight singing. Students will also present class projects in these areas. P: concurrent enrollment in 705-365.

705-411, 412 Composition I, II cr.
Exercise and original compositions in media from solo to quartet, in forms from binary to sonata, etc., depending on the needs of the individual student. P: 705-329.

705-417 Arranging for Jazz Ensembles 2-3 cr.
Acquaints students with the musical knowledge necessary to write an artistic jazz arrangement. P: four semesters of music theory in 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 clinician and lecture in jazz theory, arranging, improvisation, piano, bass, guitar, drums, trumpet, trombones and saxophones. During the second week, some time will be devoted to having guest directors for the UWS summer jazz camp work with their ensembles. P: j.t.

705-488X Selected Topics 1-4 cr.
See page 76.

705-498X Independent Study 1-4 cr.
See page 77.

707 APPLIED MUSIC

707-061, 062 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, 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:


2. Concurrent registration for class instruction in voice, 707-001 through 707-042.


4. Students enrolled in 707-401 through 707-438 must have filed an academic plan which specifies a major or minor 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 707-101 and are waiting to take 707-151, may continue their study in applied music of the 100 level.

707-143, 343 Jazz Ensemble 1 cr.

707-144, 344 Woodwind Ensemble 1 cr.

707-146, 346 String Ensemble 1 cr.

707-148, 348 Gregorian Chant 1 cr.

707-149, 349 New Music Ensemble 1 cr.

707-151, 351 Orchestra I cr.

707-153, 353 String Ensemble I cr.

707-157, 357 Choir I cr.

707-163, 363 Vocal Ensemble I cr.

707-164, 364 University Singers 1 cr.

707-241, 444 Concert Band I cr.

707-242, 442 Marching Band 2 cr.

707-261, 461 Concert Choir I cr.

707-063X-083X Selected Topics 1-4 cr.

707-258, 298 Directed Study 1-4 cr.

707-311, 312, 313 Keyboard Musicianship I 1 cr.

707-321, 322, 323 Keyboard Musicianship II 1 cr.

707-331, 332, 333 Keyboard Musicianship III 1 cr.

707-341, 342, 343 Keyboard Musicianship IV 1 cr.

709 THEATER

709-X34X Selected Topics 1-4 cr.
See page 76.

709-498X Independent Study 1-4 cr.
See page 76.

709-482X Selected Topics 1-4 cr.
See page 76.

709-498X 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, an basic organic approach to acting techniques 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.
Work of warm-up techniques, practice in group and solo improvisation, and beginning scene work and analysis. Analysis of scenes from famous dramatic literature develops ability to study scripts from the actor's viewpoint and to embody insights in performance. P: 709-131 or cons rat.

709-141 Movement for Theater 3 cr.
An experiential course in movement techniques especially designed for those interested in the performance arts. Course work is based on a number of body techniques, e.g., modern dance, circus, mime, sensitivity awareness voiceophysical improvisation, biodynamics, which students can apply to their subsequent work in a number of areas, including dance, theater, music. Learning experiences progress from free form movement exercises, to developing and using a concrete technique, and finally to applying that technique to the communicative/expressive experience.

709-231 Intermediate Acting 1 3 cr.
Scene work in realistic dramas, with particular emphasis on the plays of Chekhov and Ibsen. Technique of script analysis and character development are practiced. P: 709-131 and/or cons rat.

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, comical invention and characterization are practiced. P: 709-231 or cons rat.

709-331 Advanced Acting I 3 cr.
Scene work in poetic and dramatic plays, emphasis techniques of verse interpretation, research into production history and performance style, and use of appropriate movement, manners and behavior. P: 709-231 or cons rat.

709-322 Advanced Acting II 3 cr.
The actor's role in contemporary theater is studied and experienced through participation in major university theater companies and development of a performance group. P: 709-321 or cons rat.

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. The 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 are not rat.

709-376 Application of Developmental Drama 3 cr.
Developmental drama techniques are practiced, and methods of organization are studied. Through work in the Great 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 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, pauses, and development of a warm-up/cool-down. Detailed work in the systems as appropriate.

709-234 Voice and Speech 2 cr.

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 709-157 or 709-145.

709-117 Elementary Ballet 2 cr.
Exercises and stretches for strength, flexibility and coordination and contract body placement as they pertain to the technical and stylistic demands of ballet. Classical ballet technique and terminology is included. Ballet shoes, tights, skirt, and allegro shoes. P: 709-127.

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.

709-218 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.

709-217 Intermediate Ballet 2 cr.
A progression from elementary ballet with more complex rhythmic, spatial, and technical problems. Introduction of points work for women. Importance of body size to technical development with the relationship of weight and diet emphasized. P: cons rat 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 rat and/or Elementary Modern Dance. Repeatable up to 8 credits.

709-232 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 theatre. Competence in performance stressed. P: concurrent enrollment in either ballet or modern dance. Repeatable up to 5 credits.

709-317 Advanced Ballet 2 cr.
A progression from Intermediate Ballet with advanced technical problems, study and analysis of various styles of ballet, emphasis on isolation work for women, partnering, and ballet technique perfection. P: cons rat 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 rat and/or Intermediate Modern Dance. Repeatable up to 10 credits.

TECHNICAL THEATER

709-211 Theater Production Techniques I: Stagecraft 3 cr.
Lectures and laboratories in the organization and operation of theater productions, with emphasis on beginning technical crew, lighting, sound, and scenic 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 costume, makeup, and an introduction to scenic design. Participation in a theater production (minimum of 40 hours). Required of students with a minor in theater. P: 706-251 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 visualize the theater space 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. Costumes design in the context of the design process. Study of the processes behind costume design with emphasis on fabric, color and line, mood, sentiment. Participation in a theater production (minimum of 40 hours). P: 706-251 or cons. inst.

709-323 Lighting Design 3 cr.
The aesthetic practice of design and 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 practices. Individual area projects and participation in a theater production (minimum of 40 hours). P: 706-221 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 of 40 hours). P: 706-250 or cons. inst.

709-423 Advanced Stage Lighting 3 cr.
The aesthetic practice of design and lighting in theatrical productions, with emphasis on preparation for the lighting designer or lighting engineer. Practical application of the tools used in lighting. Advanced work and individual projects required. Concentration of 709-322, 706-251, 222, 223.

709-424 Advanced Technical Practices 2 cr.
Studies in modern theater technology, electronics, optics, and stage mechanics with an emphasis on the artistic potentialities of theatrical technology. Individual projects and participation in a theater production are required. P: 709-225, 328 or cons. inst.

THEATER HISTORY/LITERATURE/CRITICISM
709-235, 236 Theater Performance in the Community 1-2 cr. ea.
For students who wish the experience of participating in a theater production. The opportunity to become involved in their area of greatest interest. May include performances as well as technical work in plays, dance, or theater performances in high schools, for relaxation, or for community groups. May be repeated for up to six credits of 235 and three credits of 336 or repeated for 3 credits of 236 and six credits of 336.

709-309, 310 Theater History I, II 3, 3 cr.
Theater art and craft, its functions and significance to the different cultures in which it has thrived.

709-311, 312 Directing I, II 3, 3 cr.
Theory and techniques of theatrical staging. Presentation of the director to the audience. Students direct short scenes of varying lengths and complexity from different kinds of drama and types of staging. Study of drama, dramatics, criticism, and directing. Staging exercises. Students interested in directing should plan their program in consultation with the theater chairperson.

709-402, 404 Seminar In Theater Arts 3, 3 cr.
Individual or small group study focused on a specific or given areas of theater interest and related to other disciplines whenever possible. Pertinent in the study of theater of various periods and cultures.

709-410 Theater Management 3 cr.
A course in the business management of both the professional and non-professional levels. Will include the organization and activities of professional theaters and types and organization of nontheatrical theaters. Financial and business management, box office policies, and promotion and publicity units will be pertinent in both the professional and nonprofessional theaters. P: 5 cr. of these courses is to be a 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 Baratun and language.

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, the 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 1 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, politics, and psychology.

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 technical contexts.

736-112 Language and Conceptualism 3 cr.
A philosophical and historical inquiry into the nature of language, its relation to consciousness and to the social world.

736-120 Philosophy and Literature 3 cr.
A study of issues shared between philosophy and literature as reflected in literary works. Emphasis on the nature and meaning of literature for an understanding of the world.

736-130 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.

736-200 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 facts, and violence, each representing a dimension of reason and passion.

736-305 Contemporary Philosophical Movements 3 cr.
A study of current philosophical movements in Europe and America. Different movements are studied through different authors (e.g. phenomenology, existentialism, analytical philosophy, utilitarianism, pragmatism, and Marxists). Variable content. P: 736-314.

736-325 Manit Humanism 3 cr.
A study of Martin's writings, concentrating on his concern for the value of human life and activity. Certain issues are examined in detail, such as secularism, case-strategies, the problem of justice, property and morality, and law. P: a course in philosophy.

736-350 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 justice, and the problems of political practice and public policy, the role of the individual in society. P: a course in philosophy.

736-375 Ethics and the Medical Profession 3 cr.
Develops conceptual skills and tools for recognizing and defining ethical issues having to do with the relationship of medical professional and patients, the rights of patients, public health and medical resources, truth-telling, suffering and death, medical experimentation technology, law, politics, and medicine. The goal is to provide a general humanistic introduction to problems of ethics in the medical profession.

735-238 Independent Study 1-4 cr.
See page 77.

735-301 Criticism of Values 3 cr.
An examination of the possibility of 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: 735-21 and one course in philosophy.

735-202 History of Philosophy 1cr.
An examination of the history of Western philosophy, focusing on the thoughts of Plato, Aristotle, and selected pre-modern thinkers and movements, with an emphasis on clarifying issues which have endured as aliding concerns of the Western philosophical tradition. P: 736-102.

735-204 American Philosophy 3 cr.
A survey of some of the major thinkers and themes in the American philosophical tradition, including a discussion of the views of Perce, James, Royce, Dewey, and Santayana. The course concentrates on those schools and movements that are distinctly American such as transcendentalism, pragmatism, and existentialism. P: 735 and one course in philosophy.

736-314 History of Philosophy 3 cr.
An examination of major thinkers and movements representative of philosophical thought from the 17th century to the present. P: 736-39.

736-315 Philosophy of Work and Leisure 3 cr.
The development of 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 as a course in the social sciences.

735-322 Anthropology 3 cr.
A survey of some of the major 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.

735-324 Contemporary Philosophical Movements 3 cr.
A study of current philosophical movements in Europe and America. Different movements are studied through different authors (e.g., phenomenology, existentialism, analytical philosophy, utilitarianism, pragmatism, and Marxists). Variable content. P: 736-314.

735-325 Market Humanism 3 cr.
A study of Martin's writings, concentrating on his concern for the value of human life and activity. Certain issues are examined in detail, such as secularism, case-strategies, the problem of justice, property and morality, and law. P: a course in philosophy.

735-326 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 justice, and the problems of political practice and public policy, the role of the individual in society. P: a course in philosophy.

735-327 Ethics and the Medical Profession 3 cr.
Develops conceptual skills and tools for recognizing and defining ethical issues having to do with the relationship of medical professional and patients, the rights of patients, public health and medical resources, truth-telling, suffering and death, medical experimentation technology, law, politics, and medicine. The goal is to provide a general humanistic introduction to problems of ethics in the medical profession.

735-404 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.

735-405 Major Philosophical Issues 3 cr.
A study in depth of selected philosophical issues. Different issues are studied at different times (e.g., problems of knowledge and reason, problems of value, etc.). Variable content. P: cons. inst.
742-158 Tennis 11 cr.
Designed to develop basic skills and strategies as students have confidence to pursue tennis as a lifetime activity. Includes the forehand, backhand, volley, serve, lob, smash, drop shot, overhead, strategies, singles and doubles, positioning and strategy, regular and no-ad scoring, U.S.T.A. rules, rules and tactics of play.

742-159 Racquetball 11 cr.
Instruction in basic skills and understanding necessary to engage in racquetball as a competitive racquet sport activity. Service, service return and safety skills are taught. Information about history, rules, racquets, 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. This course is 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.

742-165 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 and 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 serving, 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 174 Officiating sports 1 cr.
Provides interpretation of the rules and officiating mechanics of a specific sport in preparation for students to become effective officials. Class members are encouraged to register with the Wisconsin Interscholastic Athletic Association and become eligible to officiate interscholastic, recreational or other league contests.

Approved courses are:
171. Officialing Basketball
171 Officialing Football
171 Officialing Women's Gymnastics
171 Officialing Soccer
171 Officialing Softball/Baseball
171 Officialing Swimming and Diving
171 Officialing Volleyball

742-196 Downhill Skiing 11 cr.
Introduction to basic techniques of downhill skiing including safety, warming, conditioning, clothing and equipment selection.

742-199 Snowshoeing 11 cr.
Instruction in the basic techniques of snowshoeing, including uphill travel, downhill travel, turning and trail breaking. Procedures for safer camping are presented, with specific emphasis on safety and cold weather survival. One overnight field trip is required.

742-201 Swimming 11 cr.
Emphasis on improvement of basic swimming techniques. Satisfaction completion enables students to enroll in subsequent aquatic courses. American Red Cross Certification available. P: 742-201 or equivalent.

742-202 Swimmers 11 cr.
Swimmers 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, attitude, take-off, flight, entry, degree of difficulty, scoring and judging. This course is for properly qualified participants. This course is required for diving instructors. P: 742-201 or equivalent.

742-204 Lifesaving 1 cr.
Includes principles and techniques of personal safety, victim rescue, resuscitation, preventive lifeguarding, self and first aid. Red Cross Advanced Lifesaving Certification available. P: 742-201 or equivalent.

742-210 Water Safety Instruction 2 cr.
Train instructors to conduct swimming programs sponsored by the American Red Cross. Swimming skills are perfected in accordance with American Red Cross instructional model and pool the confidence of students. Successful completion of learning lessons, injecting classes, presenting material, and evaluating progress are studied. American Red Cross Certification available. P: 742-204 or Advanced Lifesaving Certification.

742-208 Scuba 2 cr.
The nature and use of equipment peculiar to scuba diving is taught along with basic diving skills and considerations necessary for practicing divers. Students are enlightened to the basic aspects of respiration, the physical and physiological and environmental hazards of diving, and proper first aid procedures for emergencies. Certification by PADI may be earned. P: 742-204 or equivalent.

742-212 Sailing 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 level operation (sailor power) including: terminology, laws and regulations, equipment, roles of the tow, aids to navigation, practical navigation, weather, boat handling, basic sailmanship, electronic equipment, safety, and an optional chart yachting field trip. Successful completion gives students the knowledge required to operate boats in inland and coastal waters including the Great Lakes.

742-215 Aerial Navigation 2 cr.
Instruction in fundamentals of celestial navigation. Emphasis is on practical application of the principles presented rather than on theory. P: Knowledge of plane fundamentals, 742-214 or equivalent.

742-216 Simulators 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.

742-222 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 using information from the environment rather than on the map. P: Knowledge of orienteering fundamentals, 742-216 or equivalent.

742-224 Karate 1 cr.
Builds upon basic skills and physical and mental development of beginning karate. The opportunity to improve student's karate rank is provided by continuing instruction in offensive and defensive techniques in conjunction with voluntary competition. P: 742-145 or equivalent.

742-244 Tennis 11 cr.
Improves basic skills and develops intermediate skills such as the loop swing, lip-spin ground stroke, spin serve, side-hall volley, drop volley, drop shot, approach shot, and more advanced strategies for both singles and doubles. P: 742-150 or equivalent.

742-258 Racquetball 11 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, wedge, short radius; rolling, reverse: free style rook and slalom. P: 742-150 or equivalent.

742-297 Cross Country Skiing 1 cr.
Emphasizes mastery of cross country skiing techniques which enable the student to participate in long-distance cross-country touring. P: 742-150 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 ensure that prospective coaches have objectives consistent with our educational system. P 8:1-2.

742-402 Psychology and Sociology of Sport 2 cr.
The effects of competition and cooperation, value, satisfaction, 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 8:10-20, 80-200 or 900-202.

742-403 Organization and Administration of Athletics 2 cr.
A functional course in various aspects of organizing and admin-
istrating a recreational or athletic program with application to athletics in non-academic environments (e.g. boys' clubs, tennis clubs). P 8:1-2 and 742-401 or 742-402.

742-405 Scientific Conditioning of the Athlete 2 cr.
Interrelationships between growth and development and athletic performance. Physical fitness, endurance, and彈性 ability are stressed, emphasizing scientific principles; conditions, and specific techniques of physical and psychological conditioning are studied. P 8:4-6 or 742-406 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, first aid, and medical treatment. P 8:1-2 or 742-402.

742-419-424 Principles of Coaching 2 cr.
Focuses primarily on the fundamentals, skills, and techniques of coaching. Organization, planning, practice, and evaluation of the coaching process are emphasized. P 8:1-2.

742-425-426 Field Experience in Coaching 3 cr.
Culminates study and preparation for a practical coaching experi-
ence. Participation in practice, competitive and other coaching experience is required under the supervision of an experienced coaching coach. Student coach maintains daily log and consults with and observes and provides feedback to the supervising coach. P 8:1-2 and 742-403.

754 PHYSICS

754-103 Fundamentals of Physics I 4 cr.
A non-calculus course covering fundamentals of mechanics, energy, power, thermodynamics, and sound. Applications to the areas of biology, chemistry, the earth sciences and technology. P 690-194 or equivalent. Graduation credit will not be awarded for both 754-102 and 754-103.

754-104 Fundamentals of Physics II 4 cr.
A non-calculus course covering fundamentals of electricity and magnetism, electric, light, atomic and nuclear structure and relativity. Applications are to the areas of biology, chemistry, the earth sciences and technology. P 690-102 or equivalent. Graduation credit will not be awarded for both 754-104 and 754-103.

754-201 Principles of Physical 1 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 900-202 or concurrent registration in 900-202 with cons ins. 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. Fundamentals of mechanics, Newton's laws, momentum, energy, fluid statics and dynamics, temperature, heat transfer, thermodynamics, vibrations, waves and sound. P 900-202 or concurrent registration in 900-202 with cons ins. Graduation credit will not be awarded for both 754-202 and 754-104.

754-283 Selected Topics I 1-4 cr.
See page 75.

754-284 Independent Study 1-4 cr.
See page 77.

754-315 Mechanics III 3 cr.
Course and development of mathematical physics; mathematical techniques especially the use of vectors. Tensor, Fourier analysis, and generalized coordinates in physical problems. Conservation laws and their relationship to the mechanical problems; the physical basis of control and feedback; introduction to rigid body dynamics, accelerated coordinate systems, introduction to acoustics. P 754-202, 600-200, 283, and 385.

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 measurement of electromagnetic radiation. Topics may include solar radiation, atmospheric optics, photochemistry, and plant growth chambers. P 754-202.

754-384 Electricity and Magnetism 3 cr.

754-405 Electronics for Scientists 4 cr.
Fundamentals of electronics, electronic elements, basic circuits, conversions of these into measurement and control instruments. P 754-104 or 200.

754-483 Selected Topics I 1-4 cr.
See page 76.

754-498 Independent Study 1-4 cr.
See page 77.

778 POLITICAL SCIENCE

778-190 Introduction to Political Science 1 cr.
778-191 American Government and Politics 1 cr.
778-192 Comparative Political Systems 1 cr.
778-193 Political Parties 1 cr.
778-194 Political Theory 1 cr.
778-195 International Relations 1 cr.
778-196 Political Science Seminar 1 cr.
778-293X Selected Topics I 1-4 cr.
See page 18.

778-296 Independent Study 1-4 cr.
See page 77.

778-305 Urban Politics and Policy 3 cr.
Concerned with urban social problems and the relation to urban political processes and public policy. Of central concern is the question: To what extent are urban human needs, as identified by urban theorists, frustrated and/or fulfilled by urban political processes and public policy? Policy areas 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 uses of presidential power, presidential elections and administrations; 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 mass media, and presidential leadership and personality. P 778-100 or 778-101 or consent.

778-315 American Community Politics 1 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 election procedures, contemporary political structures and local policy formation. P 778-100 or 778-101 or or consent.

778-317 Elections and Voting Behavior 3 cr.
An examination of the role of elections in American political systems and the behavior of voters in these elections. Special emphasis on the nature of modern political elections: campaign techniques; the role of the mass media and campaign professionals; trends and levels of opinion, the impact of national elections; and psychological, social, and political influences on voter behavior. P 778-101 or or consent.

778-320 Constitutional Law 3 cr.
An examination of the law of the United States Constitution as it applies to the Constitution of the United States Supreme Court. Topics include: the structure of the Constitution; the relationship 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 the Constitution. The structure, operation and jurisdiction of the United States courts are also considered. P 7: set or cons ins.

778-330 Law and the Judicial Process 3 cr.
An examination of the courses as institutions of government and law as an instrument of government. Topics examined include: the judicial role in the American system of government, the nature of the judicial process, judicial decision making, judicial policy making, compliance with judicial opinions, and the effects of law and jurisprudence. P 778-111 or or consent.

778-360 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 context 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 institutional patterns of 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 778-111 or or consent.

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 China, Britain, France, the Soviet Union, and other relatively developed nations. P 778-100 or 778-101 or or consent.

778-353 Politics of Developing Systems 3 cr.
(Practical course in contemporary developing systems, with particular attention to problems of nation-building, the formulation of rational national policies, and the role of foreign aid, development, and forms of regional cooperation. P 778-100 or 778-101 or or consent.

101
778-360 International Politics 3 cr.
An overview of international politics, including an analysis of the nation-state system, militarism, international control and disarmament, international conflict, and conflict resolution. Examples are drawn from both the American and non-American perspectives. P: 778-100 or core inst.

778-365 Geopolitics of World Regions 3 cr.
An examination of the impact of social, physical, and cultural factors on political behavior and international relations, including political conflict. Topics include concepts such as political space, political territory, the organization of states 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 organizations on global, social, economic, and political structures. P: 778-101 or core inst. See 853-365.

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 an integrated and interdependent system. Attention is given to constitutional bases of federalism, how intergovernmental relations affect public policy, and revenue sharing. P: 778-106 or 778-101 or core 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 party, especially its role in the electoral process; and the organization, policies, techniques, and influence of contemporary pressure groups in American politics. P: 778-101 or core inst.

778-415 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 legislators in American politics; the electoral process; the nature of representation and public policy decisions; the political behavior of legislators; the impact of formal and informal institutions and practices on public policy making; political parties, leadership, party, minority party, and the foreign policy-making in the United States and an assessment of its effectiveness. P: 778-103 or 778-101 or core inst.

778-483X Selected Topics 1-4 cr.
See page 76.

778-498 Independent Study 1-4 cr.
See page 76.

820 PSYCHOLOGY

820-101 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.

820-201 Introduction to Social Psychology 3 cr.
Introduction to social psychology: attitudes, beliefs, and behaviors; group processes; communication, roles, multiple group membership, social prejudice. P: 778-101.

820-205 Psychology of Human Adjustment 3 cr.
Personality adjustment and maladjustment in normal persons; need, frustration, and conflict; anxiety; socio-cultural factors; information for the rehabilitation. P: 778-101.

820-283X Selected Topics 1-4 cr.
See page 76.

820-290 Environmental Psychology 3 cr.
An 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 to the physical environment, perceiving and knowing the physical environment, human social behavior in natural environments, and physical factors that influence human behavior.

820-298 Independent Study 1-4 cr.
See page 77.

820-300 Experimental Psychology 4 cr.
Experiments 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 or 225-200 or 250-200.

820-306 Psychology of Perception 3 cr.
Nature of psychophysical processes and their functional relationships to environment, behavior, and mental processes. P: soph.

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; socialization of motivation. P: soph or 300-102 or 481-210.

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 ethically, gender, social status, age and the implications for interpersonal relationships and achievement related behavior will be examined. P: 820-102 or 820-109.

820-335 Psychology of Attitude and Public Opinion 3 cr.
Analysis of attitudes; socialization of the formation and change of attitudes; expression of attitudes in public voting, cognition, and consumer behavior; polling techniques and problems. P: soph.

820-337 Social Behavior Dynamics 3 cr.
Important factors in social behavior; roles, group membership, organizational behavior, social identification, aggression, social prejudice. P: soph 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: soph and 820-102.

820-415 Organizational Psychology 3 cr.
Relation between social structure and psychological processes; problems of humanism, leadership styles, communication networks, decision-making processes, and group productivity. P: soph.

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-generational adjustments, race relations, and international relations. P: soph.

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 criteria for such measures. Examination of selected tests in achievement, scholastic aptitude, interests, and personality. Typical uses of various tests for research and selection. P: soph or above.

820-429 Theories of Personality 3 cr.
Major ideas and systematic statements about the organization, function, change, and development of human personality. Readings include and interpret various theories of personality, such as Freud, Adler, Jung, Sullivan, Erikson, Dollard and Miller, Skinner, and selected existentialists. P: 441-311 and 312.

820-430 History and Systems of Psychology 3 cr.
This seminar focuses on the major schools, figures, trends, and theories 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, 820-301, 820-310, 820-320 and 820-321. P: 820-322.

820-435 Abnormal Behavior 3 cr.
Deviations from normal mental, 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: 461-332.

820-436 Group Dynamics 3 cr.
Psychological principles they apply to the individual in social groups, interpersonal analyses of group formation, maintenance, morale, and productivity. P: 890 and 890-302.

820-437 Psychological Stress and Adaptation 3 cr.
An examination in depth of the nature of stress, its effects on fundamental aspects of human behavior, its interactions with emotion, learning, and cognition. Some emphasis is placed on psychological methods of dealing effectively with stress; tension and anxiety. P: 156-100, 478-011, 858-103, 880-202 or 900-202.

820-461 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, licensure qualifications, and occupational opportunities. Presents research on characteristics of practitioners. Most suited for persons considering careers in these fields. P: 820-102.

820-482X Selected Topical 1-4 cr.
See page 76.

820-498 Independent Study 1-4 cr.
See page 77.

834 REGIONAL ANALYSIS

834-506 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.

834-522 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. See 299-492.

834-235 Wisconsin's Landscapes and Regions 3 cr.
Wisconsin natural and cultural landscapes—specifically the characteristics and origins of landform and landscape regional features and their associated cultural features. Field trips included. See 414-202.

834-591 Student-Led Courses 1-4 cr.
See page 76.

834-283X Selected Topics in Regional Analysis 1-4 cr.
See page 76.

834-286 Independent Study 1-4 cr.
See page 77.

834-303 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 in satisfying their needs. Methods of defining regions, bases upon human activities and the nature of the total environment are developed.

834-352 Regional Planning 3 cr.
The concept of planning, the history of its use in development of regions, and the present status of planning in the United States with some international comparisons. P: 890.
534-323 Land-Use Control 3 cr.
Provides an opportunity to appreciate various forms of public land-use control. Includes student interviews with professionals 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 "who, why and how" aspects of land-use controls. The "what and why" aspect are dealt with through lectures/discussions in the classroom, and the "how" aspect, being applied in nature, is illustrated to a "real world" situation. Students analyze zoning and subdivision regulations of a selected community. P. soph or junior.

534-325 Behavior in Designed Environments 2 cr.
How the physical development of indoor and outdoor living spaces, including their location, form, design, influence and shape human behavior. Contributing variables and techniques of measuring environment-behavior relationships. P. jr. or st. See 144-325.

534-326 Behavior in Designed Environments 2 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 a detailed study of a selected environment behavior problem. P. jr. or st. See 944-326.

534-330 Transportation Systems in the United States 3 cr.
Introduction to transportation systems in the United States, including air, rail, road, water, pipeline, and space transportation. P. jr. or st.

534-340 Economics of Land Use 3 cr.
Study of economic relationships between human and land. Emphasis on the principles governing the land use and conservation, and in particular, the institutional arrangements - the "willing sales" - of the 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. or st. or consent.

534-342 Community Economic Development 3 cr.
Study of various factors involved in the process of community economic development. Includes the resource potential - 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. or st. or consent.

551 Elements of Cartography 3 cr.
See 419-351.

553 Air Photo Interpretation 3 cr.
See 419-353.

555 Introduction to Quantitative Methods of Spatial Analysis 3 cr.
See 415-355.

534-356 Environmental Impact Analysis 3 cr.
Principles and requirements of NEPA; State NEPA equivalency; methodologies and site approaches to environmental impact analysis; assessment of alternatives; inter-disciplinary occurrence to substantive levels of impacts using natural and social sciences; emphasis on social impact analysis; local field project in impact analysis. P. jr. or st.

534-357 Final Methods in Regional Analysis 3 cr.
A summer field camp, under faculty supervision in which students are trained to inventory the user values and the reusability of the resources of a given region. Techniques for evaluating the human resources of the region after development. Each team of students is assigned to a specific research area. P. jr. or st.

534-502 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 process of the great lakes area, the land use base with respect to economic activities and regional development. P. soph or st.

534-365 Impressions of Southern Africa 3 cr.
This dynamic and muscled influenced 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 relations and conflicts in Southern Africa.

534-369 The Geopolitics of World Region 3 cr.
An exploration of the impact of geographic factors on political behavior and relationships. Topics include concepts such as political space, political territory, 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, economic, and political structures. See 778-398.

534-372 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, environmental, and political changes and problems. P. soph or st. See 416-372.

534-377 Analysis of Northern Lands 3 cr.
A topical and regional analysis of the subarctic and arctic areas of North America and Europe; regional emphasis on Alaska, Northern Canada, and Scandinavia. P. soph or st. See 416-377.

534-382 Regional Analysis of Northwestern Europe 3 cr.
An analysis of the political, economic, and cultural regions of the British Isles, France, Germany, Switzerland, Austria, and the Benelux and Scandinavian countries. Comparison of the region as a whole with its relationships with the rest of the world. Map work is emphasized. P. soph or st.

534-389 Analysis of South Asia 3 cr.
A topical and regional analysis of the countries of South Asia in various stages of development. Emphasizes the interaction of human and physical resources. P. soph or st.

534-390 Seminar: Transportation Systems in Wisconsin's 3 cr.
The analysis of an existing system 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 Winter, Jr. or Sr. Jr or Sr. consent.

451 Regional Economic Analysis 3 cr.
See 568-451.

434-421 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, energetics, land use, housing, and transportation analysis and projects. P. jr. or st.

434-454 Remote Sensing of the Environment by Satellites 3 cr.
Large area, small scale analysis of earth surface features by satellite imagery and data. Major emphasis will be on LANDSAT, NASA Earth Resources Satellites. Hands-on experience will involve 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. P. jr. or st. See 454-454.

534-462 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 the homeless regions of the United States. Includes visits to locations such as River Rouge watershed, and Door County. A two forty-two-hour includes tours and tours and information sessions or representative of planning agencies, consulting government, governmental agencies, and industrial organizations. P. jr. or st. See 462-462.

534-472 Senior Seminar in Regional Analysis 3 cr.
A seminar focusing on regional problems relating to land use, economic development, outdoor recreation, transportation, and other topics which may be of personal concern. Student research projects of a professional quality are included. P. jr. or st.

534-481 Student-Led Courses 1-4 cr.
See page 76.

534-483 Selected Topics in Regional Analysis 1-4 cr.
See page 76.

534-484 Senior Honors Project 3 cr.
See page 77.

534-490 Independent Study 1-3 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 freshman 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 assessing the merits 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 market and energy provide the basis for these studies.

862-102 Introduction to Environmental Sciences 13 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 the natural state and current problems of pollution and mismanagement. Scientific principles facilitate understanding of environmental processes. The social and personal implications of environmental processes and possible solutions to current environmental problems. Designed for science majors.

862-195 Elements of Descriptive Geomorphology 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 garden, and plants in the home. Local field trip.

862-141 Elementary Astronomy 1 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, education, social and cultural impact of space exploration and our knowledge of the universe. Students identify the major periods in human thought, 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 our environment 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 254-103 or 201 or 235-111.

862-192 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 backdrop, some assessment of the status of some advanced technologies and technology assessment, are considered.
862-355 Geology of the Energy Resources 3 cr.
A survey of geological energy resources (petroleum and natural gas; coal; helium; and geothermal energy). Development of the storage, development, and economic factors associated with these. P: 264-200 or 266-202 or equivalent.

862-350 Meteorology 3 cr.
Examination of the state and structure of the atmosphere: survey; atmospheric thermodynamics, dynamics and kinematical horizontal and vertical motion in the atmosphere. P: 740-301 or coreq.

862-351 Synoptic Meteorology Laboratory 1 cr.
Application of principles presented in 862-350 to artificial synoptic-scale weather situations. Techniques of weather analysis and forecasting. P: 862-350 or concurrent registration.

862-353 Plant and Forest Pathology 3 cr.

862-366 Integrated Pest Management 3 cr.
The management of pest plant and animal populations employing an integrated combination of cultural methods emphasizing maximum dependency upon natural regulators of populations. Various control methods are analyzed, e.g., chemicals, disease agents, predators, parasites, and hospices, and various means of pest resistance in wood storage and their economic importance with methods of control, folio, P: 204-300.

862-378 Chemical Ecology 2 cr.
Selected topics concerning the chemical interactions of organisms and their environment. Topics such as chemical communication, chemical defense mechanisms and sex attractants are covered. The course is in a lecture format and most student preparation is assigned on an aspect of chemical ecology which is of interest to the instructor. P: coreq.

862-386 Radioecology 3 cr.
An introduction to the use of radionuclides (C-14, P-32, Sr-90, etc.) and of sources of ionizing radiation in biology, medicine and environmental sciences. Emphasis is on experimental methods currently used in the life sciences. Incorporating techniques in bio-logy, radiobiology, nuclear medicine and radioecology. This course provides the background material needed to obtain an AEC license to use radionuclides in most research areas. Credit is not given for both this course and 219-418.

862-381 River Basins in Transition 3 cr.
Use of the river drainage basin as an element in planning and of water quality and planning with wetland natural resources to introduce. A review of the natural and human history of one or more river basins in the U.S. P: coreq. with emphasis on the interrelationships between the natural resources such as water, land, plants and animals and human activities such as agriculture, industry, transportation and recreation. P: coreq.

862-402 Ecological Engineering 3 cr.
An introduction to the use of ecological principles and techniques in the design and management of natural and artificial ecosystems. Topics include the principles of ecological engineering, the design of ecological systems, and the evaluation of ecological engineering projects. P: 204-300.

862-401 Convolution 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: 200-203, 226-220.

862-405 Solar and Alternative Energy Systems 3 cr.
A study of alternate energy systems which may be the important energy sources of tomorrow as well as wind, biomass, solar thermal, fuel cells, and magnetohydrodynamics. P: 226-200 or 274-202 or equivalent.

862-401 Soils of Wisconsin Field Trip 2 cr.
An intensive three-day field study of the properties, uses, and limitations of soils in Wisconsin. The tour is offered in cooperation with UW-Madison departments of Soil Science and Geography. Pre-tours at WSSDU on Tuesday and Wednesday following Labor Day, and on Thursday, September 12, 2004. Field trips are on Wednesday, September 15, 2004. P: coreq. with 267-800 or 269-800. Credit may not be received for both courses.

862-422 Environmental Biogeography 4 cr.
Microbial and chemical transformations of carbon, nitrogen, phosphorus, sulfur, and certain trace compounds in natural-water ecosystems, fate of chemical-tracer substances, biogeochemical cycles, natural and synthetic wastes in the ecosystem, beneficial and toxic effects on plants and animals, role of populations in the environment, waste of water disposal systems for petrogenic and agricultural sources. Field trips: P: 204-202, 226-200, 226-100.

862-436 Quantitative Hydrology 3 cr.
A survey of the principles of water movement and movement effects, including precipitation, infiltration, evaporation and soil water movement. Hydrological principles and techniques for the determination of ground water flow movement and soil water movement. Field work includes field and laboratory techniques. P: 204-202.

862-443 Practicum in Environmental Interpretation and Communication 3 cr.
A practicum for persons who intend to work as environmental naturalists or environmental educators with youth and adults in outdoor environmental centers, or as leaders, in schools 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), school(s) and/or environmental centers. Emphasis developing, implementing, and evaluating programs and activities in environmental interpretation communication. P: 862-300 or equivalent, and 3 credits of class work in Environmental Sciences highly recommended.

862-441 Seminar in Environmental Interpretation and Communication 3 cr.
A seminar practicum is primarily for seniors in environmental interpretation communication. And others who intend to become practicing outdoor educators. Lectures, discussions, laboratory, 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 lead employment in environmental interpretation communication. P: 862-300 or equivalent, and 3 credits of class work in Environmental Sciences highly recommended.

862-460 Air Pollution Chemistry and Meteorology 3 cr.
Chemical reactions and transport phenomena in the unpolluted and polluted atmosphere with emphasis upon dispersion processes and control. P: 225-110.

A large area, small scale analysis of earth surface features by satellite imagery and data. Major emphasis is on use of LANDSAT (NASA Earth Resources Satellites). Handed on experiment in manual interpretation of multispectral images with respect to vegetation, geology, soils, water resources and land use. Introduction to computer assisted analysis. Overview of selected 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: 226-220, 416-203, 416-203. See 834-454.

862-460 Resource Management Strategy 3 cr.
Applications of principles of system analysis is designing resource management systems and to developing strategies for maintaining optimum environmental services. Decision making and the role of economic management in natural resource management. P: 303-200 and 301-200.

862-462 Land-Use Study Tour 1-3 cr.
Cooperative plan offering by UW-Madison area UW-Green Bay. The tour focuses on land use, soil and water management in the northeastern Wisconsin including the upper and lower Fox River watersheds of Marinette and Door County. The two-day-weekend tour, during last weekend of summer session, includes scene overview by representatives of regional planning, consulting groups, government agencies and institutional organizations. Students pay travel costs. See 864-462, P: 3 cr.

862-466 Vegetation Management 3 cr.
An analysis of current practices in managing U.S. vegetation, including management establishment control, panel societies and management. An assessment of management tools, such as cutting, grazing, chemical spraying, flooding and burning, exposure of plants and potential for selecting management systems for specific environments. An overview of field and in situ experimental design, disturbance and management. P: 301-200 and 306-200. See 866-200.
867-401 The Role of International Organizations in Support of Cultural and Scientific Developments (V. Nair)

867-402 Images of Woman and Man (U. Bremer)

867-403 Critical Thinking (A. Jathoe)

867-404 Overcoming World Hunger (K. White)

867-405 Transactional Analysis in Diets (J. Bown)

867-406 Science and the Quality of Life (G. O’Heare)

867-407 The Improvement of Life and the Use of Law

867-408 Culture, Life-Style, and Science in a No-Growth World (H. Pradni)

867-409 The Humanitarian Movement: Its Philosophy, Principles, and Applications (D. Littig)

867-410 Biopolitics: The Potential Influence of Modern Biology on Our Social, Economic, and Political Future (W. Kasmuk)

867-411 Contemporary Critical Views of the American Prospect: Changing Circle or Expanding Horizons? (C. Lassard)

867-412 The Impact of Science and Technology on Society (J. Wriess)

867-413 Immunogenetics and the Future (E. Lauer)

867-414 International Aspects of Environmental Planning (J. Reed)

867-415 Social Consciousness and the Scientist (W. Kasmuk)
867-426 The Search for an Ideal Community: Planned New Towns (L. A. Northrup). Begins with a brief exposition of early literature from the proponents of the Greek city-state, to the 19th century utopias, and to the 20th century new towns movement; then the author presents a planned community incorporating its own values and expertise.

867-427 The Actor as a Pioneer of Effective Communication: The Social, Environmental, Administrative, Cultural, and Scientific Uses of Art (C. D. Nelson-Cole). Deals with problems confronting public life generated by large administrative organizations whose languages follow traditional patterns and which are based on bureaucratic systems; looks at the artist in simplifying the individual's contacts with the authorities; the democratic system, where the only limit must be able to understand political decisions; the artist and the audience.

867-428 Beyond Survival: Visions of Meaning and Hope for the 21st Century (J. B. Eiflessen). The 21st Century is only 25 years away, and almost everyone agrees that life will be very different, if not actually survive at all, due to especially to energy-resource-environmental constraints causing social, economic, and technological change in all human systems and relationships. Assessing our survi-

867-429 Comparative Perspectives on Race, Ethnicity, and Cultural Conflict in Modern Society (D. C. Lockard). Recent headlines confirm that racial, ethnic, and cultural conflicts are on the rise. This paper reviews the work of great magnitude in the tempo-

875-241 Women and Changing Values 1 cr. Examination of traditional restrictions placed on women in family roles, sexual behavior, economics, politics, and religion to de-

875-242 Critical Views of Higher Education: Closing Circles or Expanding Horizons? (D. M. Marshall). Examines the history, sociological aspects, economics, and systems of higher education. Given the historical overview, the seminar will proceed with detailed discussion of two themes, antithetical to the social and cultural attitudes of the 20th century: the findings of innovative liberal educators in higher education such as Louis Mayre, Paul Grenier, Fred Harvey Harrington, Ernest Boyer, and Claire Kerr. A central concern of the seminars will be analyzing the role of higher education in an uncertain future: Students will prepare and present an in-depth analysis of a current problem facing higher education.

875-432 Rebels and their Causes: Explorations in Biography of revolutionaries and social activists (M. Klay). The seminar will attempt to plot out the individual journeys of discovery of understanding other people's causes in their specific social contexts. Students will select and research a biograph-

875-433 Social Change and Development 3 cr. Focuses on the relationship between fiction and the social sci-


875-435 Power 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 stable and powerful. The increasing infringement upon individual freedoms, and increasing institutional power and prerogatives, raise very important issues of justice, equality, and values concerning freedom and social control which this course ad-

875-436 Sex and Society 3 cr. Examines some of the major social, political, and personal issues related to sexual behavior, sexuality, and gender roles in American society. Areas of study include: changing sexual atti-

875-437 Community Organizing: Strategies and Techniques 3 cr. Explores different techniques of solving social problems in a local community. Studies of successful projects and comparisons of alternative organizing strategies. Includes practical instruction in running a campaign, preparing publicity, lobbying, and other organizing skills. P: 6 credits in Social Change and Development or social sciences courses.
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 consequences of social change through time. Emphasis on both the historical processes of social change and on values implicit in them. P: 875-360 or co-req.

875-363 People and Development 1 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 weighted by “quality” of human potential), for considering, “What is the role of population in the economies of poor countries in the world today?” P: 875-360, 361 or 476-321.

875-366 Conflict and Change in Agrarian Societies 3 cr.
A comparative study of the agrarian sectors within underdeveloped nations and within highly industrialized nations. Emphasizes the relationship between urban centers and rural areas and the terms of adaptation and resistance caused by agrarian peoples in such relationships. P: 875-360 or co-req. 875-366.

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. Methodologically based theories of economic development. The interaction of psychological and social structural forces in collective phenomena such as social movements, the diffusion of innovations, and generational change.

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, principal those in the Judeo-Christian tradition; it explores the history of organized religions, theology and religious traditions as they shape and settle the "accepted" rules 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 of the work of an important social change theorist. The emphasis is upon intellectual depth. P: 875-360 or 361.

875-481 Student-Led Courses 1 cr. 
See page 76.

875-483 Selected Topics in Social Change and Development 1-4 cr. 
See page 76.

875-484 Senior Honors Project 3 cr.
See page 77.

875-496 Independent Study 1-4 cr. 
See page 77.

882 SOCIAL SERVICES

882-202 Introduction to Social Services 3 cr.
The role of social change in modern society, field methods, principles, scope of the social work. P: soph. at 205.

882-205 Personal Values and Social Reform 3 cr. 
See 823-205.

882-250 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 so that their relationship to therapeutic technique, discusses alternative strategies for future action.

882-354 Comparative Counselling 3 cr.
An examination of social institutions, political processes, and social values in selected community-led nations. Human rights in communist states will also be discussed.

882-360 Models and Social Change 3 cr.
Theories of change; the design of social change. Use and construction of models as analytical tools in the study of social change.
344-313 City Through Time and Space 3 cr.
Development and comparison of urban patterns from different cultural contexts. Major issues such as community, expansion, transportation, infrastructure and participation, stratification, mobility, poverty, urbanism, and urbanism of the public space are examined in historical and cross-cultural settings.

344-325 Behavior in Designed Environments 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.

344-328 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 a set of selected case studies of selected environment-behavior problem. See 843-328.

344-335 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.

344-337 Urban Violence: Creation and Control 3 cr.
Analysis of collective violence in urban communities. Brings together several strands of scholarship—political science, psychology, sociology, and history—in an effort to probe the causes, the uses, and consequences of collective urban violence. Special emphasis is placed on links between theories of causation and theories of control.

344-340 Urban Visions and Cultural Traditions 3 cr.
The ways in which creative individuals imagine the city as it is and what it could be reflected in the urban experiences 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 vision, 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.

344-345 Women in American Perspective 3 cr.
Presents a historical survey of the changing situations and various contributions of women in American society. It covers the colonial, frontier, Jeffersonian, urban, and modern periods, and it includes an in-depth study of the turn of the century women’s movement. It also analyzes social analysis and individual life histories to explore the impact of sex role problems on contemporary women, often differentiated sociocultural, within, and personal backgrounds.

344-351 Transportation and the City 3 cr.
The interaction of transportation sub-systems of the city upon other urban subsystems (residential, commercial) and upon urban dwellers.

344-370 Police in Modern Society 2 cr.
The relationship of the police with the environment and what police actually do. Emphasis on organizational structure of police departments, personnel and situational characteristics of officers, psychology of becoming an officer, public attitudes toward police, police-military relations, response to social unrest, and future roles for police.

344-375 Women: Strategies for Change 3 cr.
Designed to combine theoretical knowledge and practical experience in the evaluation and evaluation of alternative strategies for change in the status of women in society today. Interested for students with some background in women's studies and/or community activism. Offering theoretical approaches to social change for women are compared, focusing on the concepts of power relations, methods of reform, and effectiveness. Student projects consist of writing, problem solving, role play, and participation in community projects, through which arrangement with appropriate organizations, office holders, or other skilled individuals of the student's choice.

344-480 The City as Idea 3 cr.
Attempts to define the city 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 projects itself and how it is understood. In this course the question is examined in 19th and 20th century Europe: how did the urban space become a spectacle full of meaning? The work of certain masters such as Gaudi and Beaux Art are examined to understand how the city is understood in the modern age. The course is divided into four parts: (1) urban space as spectacle; (2) urban space as spectacle in the modern age; (3) urban space as spectacle in the modern age; and (4) urban space as spectacle in the modern age. The course is divided into four parts: (1) urban space as spectacle; (2) urban space as spectacle in the modern age; and (4) urban space as spectacle in the modern age. The course is divided into four parts: (1) urban space as spectacle; (2) urban space as spectacle in the modern age; and (4) urban space as spectacle in the modern age.

344-485 National Issues and Community Reform 3 cr.
Focuses on two general areas: the effect of national social-economic problems on urban concerns, and the effect of community reform action on urban and national issues. The course explores the urban effects of corporate and national government policies toward 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.

344-478 The Concept of Community in American Societies 3 cr.
Analyzes changing conceptions of community and consequent dilemmas involved in American urbanization and industrialization. This form "community" is a complex concept encompassing a variety of both social structures and cultural paradigms. The course explores American views of community from preindustrial to industrial 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, urbanization and role 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.

344-481 Student-Led Courses 1-6 cr.
See page 66.

344-483 Selected Topics in Urban Studies 1-6 cr.
See page 76.

344-484 Senior Honors Project 3 cr.
See page 77.

344-488 Independent Study 1-6 cr.
See page 77.

957 ART

957-105 Drawing 3 cr.
An introduction to studio art work and to fundamental concepts of drawing, structure and design. Emphasis upon development of original work employing various drawing techniques in black and white media.

957-106 Design Methods 3 cr.
This studio semester is served as an introduction to design methods. Focus is investigating spatial and formal games, pattern, and composition techniques. Emphasis is on developing and improving spatial understanding of space, light, texture, and color. Exploration of graphic and painterly techniques.

957-107 Two Dimensional Design 3 cr.
Introduction to design studio art work and to fundamental concepts of art, structure and design. Emphasis upon development of original work employing various design techniques in black and white media.

957-108 Introduction to Painting 3 cr.
Exploration of a variety of medias, color, and color theories and their inherent expressive qualities and characteristics. P: 597-107.

957-220 Introduction to Sculpture 5 cr.
Introduction to various sculpture media and their inherent expressive qualities and characteristics. P: 597-107.

957-226 Introduction to Drawing 3 cr.
Introduction to techniques of depicting objects, shapes, and symbols as a two-dimensional art work in color and design utilizing the elements and principles of design.

957-350 Introduction to Drawing 3 cr.
Introduction to the process of drawing as a method of visual and mental exploration. Emphasis is on the development of the student's ability to perceive and record visual and non-visual stimuli.

957-450 Introduction to Painting 3 cr.
Introduction to the process of painting as a method of visual and mental exploration. Emphasis is on the development of the student's ability to perceive and record visual and non-visual stimuli.
957-254 Textile Arts Workshop 1 cr.
Intensive one week summer workshop designed for in-depth 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 courses differ. When a technical area is repeated, student should enroll in the advanced textile arts workshop.

957-256X Selected Topics 1-3 cr.
See page 74.

957-256 Independent Study 1-4 cr.
See page 77.

957-301 Life Drawing and Anatomy 3 cr.

957-311 Intermediate Painting 3 cr.

957-314 Watercolor Painting 3 cr.

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, lacquer and etching, vitrification and in-lay methods of constructing 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 and utility. P. 957-210.

957-332 Intermediate Ceramics: Wheelwork 3 cr.
Studio work in the construction and use of media for ceramic use. Explores multiple imagery, modular units, slip casting and the use of original and found forms in introducing the ceramic object. P. 957-210.

957-343 Photography II 3 cr.
Emphasis upon black and white photography and development of personal techniques. P. 957-230 or equivalent experience. See 256-245.

957-344 Photography II 3 cr.
A continuation of 957-245/342, investigation of black and white photography, allied media, and applications of photography. See 256-245.

957-353 Textiles: Fiber Construction 3 cr.
Investigation of the varied technical processes of creating both two and three dimensional forms with fibers, yarns, and related materials. Areas include weaving (both hand and off the loom), knitting and macramé, creative knitting and crocheting. Techniques are introduced as a vehicle for creative expression. P. 957-105, 957-106, 957-107.

957-354 Textiles: Designing with Fabric 3 cr.
Introduction to techniques in design and fabrication with fabrics such as cotton, linen, silk, wool, rayon, and synthetic fibers, creative stitching, fabric collage (appliqué) and soft sculpture. Students use techniques to work toward personal expression. P. 957-105, 957-106, 957-107.

957-363 Art Metals: Jewelry Fabrication 2 cr.

957-364 Art Metals: Casting 3 cr.
Study and investigation of casting techniques in jewelry and art medallic media. Emphasis on design using wax models, tested casting processes (i.e., "lost wax," centrifuge, steam casting, vacuum casting, gravity casting), and the aesthetic development of 2-D art medals/jewelry pieces in reflection of individual creative expression. P. 957-105, 957-106, 957-107.

957-271 Relief Printing: Reduction 3 cr.
Aspects of relief printing: woodcut and linocut printing is black and white or in color. Explained and developed as a means of expression in which the artist communicates personal statements reflecting the human condition of the environment. P. 957-210.

957-273 Intaglio 3 cr.
Studio work in intaglio techniques including dry point, engraving and various etching processes. P. 957-210.

957-275 Screen Printing 3 cr.
An introduction to studio work in screen printing, including basic materials and equipment, blockout stenciling, paper stencils, Grave, water soluble film, and photo emulsion technique. P. 957-105 and 957-106 or 957-243 and 957-342 or 242-231 and 242-331.

957-277 Lithography 3 cr.
An introduction to the art of lithography employing fundamental techniques of planographic printing. Explained 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.

957-290 19th and 20th Century Art 3 cr.
Analysis of the evolution of art styles from neo-classicism to surrealism (1783-1945) and related these movements to their historic and cultural origins. Topics include the struggle of the individual artist and the social and the academy, the influence of scientific and psychoanalytic doctrines on the arts, and the resulting changes in our perception of reality. P. 957-220.

957-305 Exhibition Development and Design 2 cr.
Familiarization to the standards, practices and methods of the museum and art gallery profession. Includes past projects of successful exhibition development including planning, promotion and publicity, development of educational materials and programs, exhibition design and installation, and training in proper handling and treatment of works of art. P. 957-105.

957-461 Advanced Life Drawing 3 cr.
Emphasis on the interpretation and expressionistic use of the human figure. Special attention is paid to anatomical structure to heighten the visual expression. May be repeated to a maximum of 9 credits. P. 957-301.

957-410 Advanced Painting 3 cr.
Mastering painting students explore specific problems relevant to their individual artistic development. A major goal is to instill a relaxed body of work, both conceptually and formally. The course also deals with portfolio presentation. May be repeated for a maximum of 8 credits. P. 957-311.

957-441 Advanced Problems in Watercolor 3 cr.
The development of coloristic effects and control on such aspects as color selection 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 6 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 media and aesthetic considerations of the sculpture. May be repeated for a maximum of 6 credits. P. 957-321.

957-431 Advanced Ceramics 3 cr.
Extension and development of ceramic technique and aesthetic principles and personal expression and portfolio development. May be repeated for a maximum of 9 credits. P. 957-316 or 957-332.

957-443 Advanced Problems in Photography 3 cr.
Each participant identifies an area of interest and an approach to the problems implicit and developed to resource it in that particular area. Each student leads a seminar and prepares a poster on a selected photograph. 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. 956-441/443. See 242-445.

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 enter into the viewer's life over the passage of time. The courses includes active participation in discussions, screening, coordination, and productions. See 242-444/445. 957-342 and 343.

957-453 Advanced Textiles 3 cr.
In depth research in one area of textiles including but not limited to weaving, crocheting, knotting, baskets, macrame, fabric collage, padded or tufted work, and soft sculpture. Emphasis upon the synthesis of technical mastery and cohesive aesthetic statement. Portfolio preparation included. Can be repeated for a maximum of 6 credits. P. 957-303 or 957-304 or consent.

957-454 Advanced Textile Arts Workshop 1 cr.
Intensive one week summer workshops concentrating on one technical area. See 957-354. The advanced student is required to design and produce a series of related pieces that exhibits both stylistic and conceptual consistency. Course may be repeated up to 2 credits as long as content varies.

957-463 Advanced Art Metals: Jewelry 3 cr.
Study of advanced techniques in jewelry, creative research and innovation of metals and jewelry media. Emphasis upon technical competency of art metal media; designing, aesthetic development of a personal style; plus the making of qualitative and expressive art jewelry pieces. May be repeated for a maximum of 9 credits. P. 957-365 and 957-364 or consent.

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. 957-311.

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 6 credits. P. 957-373.

957-474 Advanced Screen Printing 2 cr.
Provides an advanced studio experience building upon the introductory course. P. 957-375. Includes printing on vacuum formed plastic, on glass, metal, and fabrics. Can be repeated for a maximum of 6 credits. P. 957-375.

957-477 Advanced Lithography 3 cr.
Provides further investigation of specific problems relevant to the student's personal artistic development. Optimum individual compositional, both technically and conceptually thorough assigned projects. May be repeated for a maximum of 6 credits. P. 957-377.

957-483X Selected Topics 1-4 cr.
See page 76.

957-486 Contemporary Art: Post 1945 3 cr.
Analyzes the art movements from abstract expressionism to post-modernism. It explores, critically, artistic "gropings" with such issues as meaning and standards (or the lack thereof) in art today, pluralism, commercialization, desacralization of art, morality in art, and the mingling of life and art (the Zen movement) P. 957-302.

957-487 Gallery Practices 1 cr.
Students completing the course in Exhibition Design and Development receive practical experience in the University gallery program. Each student is responsible for coordinating all aspects of an exhibition and overseeing its installation. Students may take this course twice and may acquire additional credit vis-a-vis. P. 957-395, minimum grade B.

957-496 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 non-credit 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 82 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 Fredonia, 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 82 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, internships have been arranged 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 ethnography 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 interterm.

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 '01 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 flyers 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 selecting 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 Telfi T-85 and Xerox SIGMA-8 with two million bytes of memory. The system has two tri density 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 languages, 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 202,000 books and bound periodicals, 3,815 different periodical and serial titles, 3,915 linear feet of archival and Area Research Center collections, 352,500 government documents, 44,000 maps, and some 455,000 items in microform. 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, email 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-kin- dergarten 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, group counseling, 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 who have severe emotional problems are helped to find appropriate community services. Short-term growth 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 Chosen Synagogues.

**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 Aid. 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 wired 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.

**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 stamped ads 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
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. Ride-share 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 *Shepshead 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 (algebra or above): minimum of 3 units
   - Mathematics: minimum of 1 unit
   - Science: minimum of 1 unit
   - Social Studies: minimum of 1 unit
   - Academic Electives (from the area of English, Speech, Foreign Language, Social Studies, and History, Sciences, Mathematics): minimum of 8 units

   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 advisors 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 directly in 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 admisibility.

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 of 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 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 non-college 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 nationally 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 advisor in the office of Academic Advising to have their questions answered about general requirements for a degree. The office can refer students to faculty advisors 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

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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 (EOP). 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.
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 semesters.

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

<table>
<thead>
<tr>
<th>Level</th>
<th>Wit Res</th>
<th>Ron Res</th>
<th>Minn Res</th>
</tr>
</thead>
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<tr>
<td>Undergraduate</td>
<td>$506.50</td>
<td>$1725.00</td>
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<tr>
<td>Graduate</td>
<td>$653.00</td>
<td>$1962.50</td>
<td>$631.00</td>
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</tbody>
</table>

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 is available to 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

<table>
<thead>
<tr>
<th></th>
<th>Commuter Student</th>
<th>Resident Student</th>
<th>Resident Student</th>
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<tr>
<td>Books &amp; Supplies</td>
<td>$120.00</td>
<td>$100.00</td>
<td>$100.00</td>
</tr>
<tr>
<td>Room &amp; Board</td>
<td>$1186.00</td>
<td>$2105.00</td>
<td>$2105.00</td>
</tr>
<tr>
<td>Travel, Personal, &amp; Misc.</td>
<td>$116.00</td>
<td>$1090.00</td>
<td>$1090.00</td>
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<tr>
<td>Total costs to be added to tuition</td>
<td>$2984.00</td>
<td>$3574.00</td>
<td>$3574.00</td>
</tr>
</tbody>
</table>

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 $1300. 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 Requirements. 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 Aid 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 May 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 Frankenental Family Foundation of Green Bay, in memory of the late S. W. Frankenental, the late Mrs. Walter G. Scherf of Green Bay in memory of herself and her husband; Mr. and Mrs. Oliver C. Trampe of Milwaukee, the Lucy Peckham Gibeher 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 90, 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. Generally, 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 and 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. Delinquencies of up to three years may be obtained while serving as 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. Delinquencies 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. Breider 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:

<table>
<thead>
<tr>
<th>Hours worked weekly</th>
<th>$3.35/hour</th>
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<tbody>
<tr>
<td>10 hours</td>
<td>$1139</td>
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<tr>
<td>12 hours</td>
<td>$1396</td>
</tr>
<tr>
<td>15 hours</td>
<td>$1798</td>
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</table>
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 $4,500 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
- Registration and new student period (or register by mail earlier)
- Classes begin
- Thanksgiving recess begins
- Classes resume
- Classes end
- Study and advising days
- Examinations begin
- Commencement (Sunday)
- Examinations end

<table>
<thead>
<tr>
<th>Year</th>
<th>1984-85</th>
<th>1985-86</th>
<th>1986-87</th>
</tr>
</thead>
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<td>Sept. 4</td>
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<td>Nov. 22</td>
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<td>Dec. 12</td>
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<tr>
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<td>Dec. 13-14</td>
<td>Dec. 12-13</td>
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<td>Dec. 17</td>
<td>Dec. 16</td>
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<tr>
<td></td>
<td>Dec. 23</td>
<td>Dec. 21</td>
<td>Dec. 20</td>
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</table>

### January Interim Period
- Classes begin
- Spring registration (or register by mail earlier)
- Last day of classes
- Winter recess

<table>
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<th>1985-86</th>
<th>1986-87</th>
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<td>Jan. 6</td>
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<tr>
<td></td>
<td>Jan. 29-31</td>
<td>Jan. 28-30</td>
<td>Jan. 27-29</td>
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<tr>
<td></td>
<td>Feb. 1</td>
<td>Jan. 31</td>
<td>Jan. 30</td>
</tr>
<tr>
<td></td>
<td>Feb. 2-10</td>
<td>Feb. 1-9</td>
<td>Jan. 31-Feb. 8</td>
</tr>
</tbody>
</table>

### Spring Semester
- Classes begin
- Spring recess
- Classes resume
- Memorial Day recess
- Examinations begin
- Examinations end
- Commencement (Saturday)

<table>
<thead>
<tr>
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<th>1986-87</th>
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</thead>
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<td>Feb. 11</td>
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<td>April 6</td>
<td>April 5</td>
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<td></td>
<td>April 15</td>
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<td>April 13</td>
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<tr>
<td></td>
<td>May 25-27</td>
<td>May 25-26</td>
<td>May 24-25</td>
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<td>May 24</td>
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<tr>
<td></td>
<td>June 1</td>
<td>May 31</td>
<td>May 30</td>
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</tbody>
</table>

### Summer Session (8 Week Session)
- Registration
- First day of classes
- Last day of classes

<table>
<thead>
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<th>1986-87</th>
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<tbody>
<tr>
<td></td>
<td>June 13-14</td>
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<tr>
<td></td>
<td>June 17</td>
<td>June 16</td>
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<tr>
<td></td>
<td>Aug. 9</td>
<td>Aug. 8</td>
<td>Aug. 7</td>
</tr>
</tbody>
</table>

Please note: These dates may be subject to change. Consult the most recent Timetable to double check dates.
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Murray, Helen U., Specialist in Extended Degree Program; B.A., North Dakota; MEAS, UWGB.

Netzel, Barbara J., Specialist in Children's Center.

Niquette, Paul, Manager of University Purchasing; B.B.A., UW-Milwaukee.

Novak, Robert M., Director of Community Relations and Information Center; B.S., UW-Oshkosh; M.A., Northern Michigan.

O'Brien, Lee D., Director of Educational Communications; B.A., Michigan State.

O'Connor, Patrick, Specialist in Extended Degree and Individualized Learning Programs; B.A., St. Norbert; M.A., Northwestern University.
Olski, Katharine J., Specialist in Extended Degree Program and Individualized Learning Programs; MEAS, UWGB.

Olson, Gerald H., Dean of Students; B.S., UW-LaCrosse; M.S., UW-Madison.

Pletcher, Kathy, Assistant Director, User Operations, Library; A.B., M.S., Illinois.

Prechter, Keith J., Assistant in Academic Budget; B.B.A., UW-Madison.

Presnell, Sandra S., Supervisor in Media Services; B.A., Iowa; M.A., UW-Oshkosh.

Pritchard, Robert M., Assistant Director of Financial Aids; B.S., UW-Milwaukee.

Putnam, Carol Ann, Specialist in Residence Halls; B.S., Portland State; M.Ed., M.S., Oregon State.

Quigley, Timothy R., Promotions Director in Athletics.

Raduenz, Les R., Landscape Architect, Campus Grounds; B.S., UW-Madison.

Rehling, Ann F., Associate Director and Counselor, Admissions; B.S., M.S., UW-LaCrosse.

Reinschmidt, Alan, Manager of Institutional Services and Risk Management; B.A., UW-Milwaukee.

Rickerl, Stanley, Assistant to the Director, Academic Support Program, Mathematics; B.A., UW-Milwaukee.

Robb, Joan M., Specialist in Interlibrary Services; B.S., Cornell University; M.A., UW-Madison.

Ronnenberg, Ron A., Assistant Director of Student Employment and Counselor; B.S., M.S., UW-LaCrosse.

Rothe, Kurt B., Director of Library; B.M., St. Norbert; M.M., UW-Madison; M.A., Michigan.

Rozek, Evalyn K., Supervisor of Academic Support Program Laboratory; B.A., M.S., UWGB.

Santana, Aldo P., Head Soccer Coach; Intercollegiate Athletics and Intramurals and Recreation.

Satterlee, William T., Assistant Director, Student Life Programs; B.S., Clarion State; M.S., Western Illinois.

Schaeppe, Pamela, Specialist in Extended Degree Program; B.A., American.

Schoenbock, Patricia Marie, Supervisor of Children's Center; B.S., UWGB.

Sewall, Timothy J., Associate Director of Educational Research and Development and Director of Testing; B.S., M.Ed., Madison College.

Shakal, Charles, Specialist in Arts and Performances; B.A., UWGB; M.A., UW-Madison.

Sicinor, Joseph R., Specialist in Regional Analysis; B.S., UWGB.

Skorczewski, Robert J., Jr., Assistant Director for Off-Campus Credit Outreach; B.S., UWGB.

Slaats, Glen C., Specialist in Educational Communications; WGBW; B.S., UW-LaCrosse.

Spangenberg, Richard, Computer Programmer; B.S., UWGB.

Steffens, Judith A., Specialist in School University Programs; B.S., MEAS, UWGB.

Stiller, Ann, Assistant to the Registrar for Credit and Residency Evaluation; B.S., UW-Madison.

Tadyshak, Greg S., Specialist in Educational TV.

Thomas, Dean, Specialist in Educational TV; B.S., UWGB.

Thornlon, Jan, Assistant Director for Conferences, Seminars and Workshops; B.S., UW-Whitewater.

Thorn, Joan E., Director of Academic Support Program and Lecturer; B.S., Emory; M.A., UW-Madison.

Tillis, Jennifer M., Specialist, Collection Development Librarian; B.A., M.A., UW-Milwaukee.

Toepel, Timothy E., Specialist in Media Services; B.A., UW-Madison; M.S., UW-LaCrosse.

Vanderperren, Roger J., Specialist in Educational Communications and Educational TV; B.S., UW-Madison.

Van de Ven, Myron J., Director of Admissions and Financial Aids; B.A., St. John's University; M.Ed., Wyoming.

Von Hoff, Monica A., Specialist in Teleproduction Center; B.A., UWGB.

Wagner, Melinda, Specialist (Nurse) in Student Health Services; B.S.N., Catholic University.

Wesel, Frederick P., Specialist, Teleproduction Center; B.A., Colorado; M.A., Columbia College.

Wayenberg, Mark R., Specialist in Educational Communications; B.S., UWGB.

Wied, Lawrence J., Specialist in Small Business Feasibility Center; B.S., UWGB.

Wiseman, Charles L., Chief Accountant; B.S., Southeast Missouri State.

Yordi, Bonni L., Director of Extended Degree and Individualized Learning Programs; B.A., Oklahoma State; M.A., Roosevelt University; Ph.D., Union.

Zakowski, Casey J., Counselor in Admissions and Orientation; B.A., UWGB.

Zinzti, Andrew R., Assistant Reference and Data Base Librarian; A.B., Marquette; M.A., Creighton; M.A.L.S., UW-Milwaukee.
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 16 credits and for a student probation the maximum is reduced to 15 credits, for shorter terms lower prosate. Limitations are specified.
- **Minimum Credit Load** - is a specific number of credits that must be attempted to be eligible for a variety of programs and benefits, e.g., athletics and financial aid.
- **Grade Point Credits** - the number of credits which are assigned for a grade that will affect the grade point average. Some attempted credits may not count toward grade point 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 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, including audited credits, for which a final grade, other than a temporary grade of I or F, has been received. IP credits, passed degree credits, and attempted degree 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 load assessment purposes, they are of no significance for any other purpose. Enrollment on an auditor basis is subject to special conditions.

**Academic Drop** - is a status assigned when the record of academic progress and/or achievements is unacceptable to the extent that the student is not permitted to continue to enrol at the University.

**Good Standing** - is a status assigned when a student is making adequate academic progress and has his/her cumulative GPA of 2.0 or better.

**Grading System and Grade Points**
- Grade point averages (GPA) indicate academic achievement 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:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Excellent)</td>
<td>4.0</td>
</tr>
<tr>
<td>B (Good)</td>
<td>3.0</td>
</tr>
<tr>
<td>C (Fair)</td>
<td>2.0</td>
</tr>
<tr>
<td>D (Poor)</td>
<td>1.0</td>
</tr>
<tr>
<td>F (Unsatisfactory)</td>
<td>0.0</td>
</tr>
<tr>
<td>WP (Unofficial Withdrawal)</td>
<td>0.0</td>
</tr>
</tbody>
</table>

- (Pass-fail) letter grade(s) effect (undergrad only) of "C" or better: NC, NC-

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>U (Unsatisfactory)</td>
<td>No effect</td>
</tr>
<tr>
<td>S (Satisfactory)</td>
<td>No effect</td>
</tr>
<tr>
<td>N (No acceptable report)</td>
<td>No effect</td>
</tr>
<tr>
<td>J (Incomplete)</td>
<td>No effect</td>
</tr>
</tbody>
</table>

A student may effect courses on a pass/fail credit basis with certain restrictions; see the special section on P/F grading.

**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.

**Probation and Drop Status**
The University is concerned about students whose academic achievement seem to indicate that they are not capable to meet the expectations of their instructors or are experiencing other problems that may be interfering with their students. 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 is unacceptable and an effort to continue enrolment at the University would be to the student's and the University's disadvantage. Students who have 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 counsellors, advisors 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 grade] 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, continues probation or exclusion 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 full semester, a drop action will be taken solely on the basis of inadequate achievement in the January Interim.

**Probation and Drop Status**

<table>
<thead>
<tr>
<th>Original Credit</th>
<th>Completed Credit</th>
<th>End of Semester Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 or more</td>
<td>8 or less</td>
<td>Drop</td>
</tr>
<tr>
<td>9 - 11</td>
<td>5 or less</td>
<td>Probation</td>
</tr>
<tr>
<td>6 - 8</td>
<td>2 or less</td>
<td>Probation</td>
</tr>
</tbody>
</table>

**Probation and Drop Status**

<table>
<thead>
<tr>
<th>Original Credit</th>
<th>Completed Credit</th>
<th>End of Semester Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 or more</td>
<td>5 or more</td>
<td>Good Standing</td>
</tr>
<tr>
<td>9 - 11</td>
<td>5 or more</td>
<td>Good Standing</td>
</tr>
<tr>
<td>6 - 8</td>
<td>2 or more</td>
<td>Good Standing</td>
</tr>
</tbody>
</table>

**Examining the end of the course and period, students who enroll for an original credit load of less than 10 Credits are exempt from completion requirements. A student may drop at least one course from the original credit load without incurring a drop or probation action. (EXAMPLE: A student enrolled for an original credit load of 10 credits could drop one 5-credit course without incurring an action of probation or drop for lack of progress.)

**4.0 or better end of semester or term GPA, 2.0 or better cumulative GPA will result in a return to good standing.
Readmission

Readmission after academic drop is not an automatic process. The Office of Admission 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 retested 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 first ten request form or that registration must see a counselor in the Student Development Center, on-campus 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 second week of a semester, the six week period before the second week of a January term, or 20% of the regular semester. If a student has not attended classes or taken the final examination in a course, a grade of "W" will be given unless official withdrawal procedures have been followed.

A decision to withdraw should be given careful consideration in consideration of academic retention policy, veteran's benefits, Social Security benefits, financial aids and other situations that have specific provisions against withdrawal. 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 toward the 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 or drop status.

Course Drops

The course drop deadline has been established to allow the student ample opportunity to decide whether suspension or reenrollment under the new conditions will provide the type of readings and projects to be assigned, the instructors teaching style and the methods of evaluation to be utilized. In some course 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, responses 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 mentioned above as possible. If a student decides that a course does not fulfill expectations, a reasonably early drop may result in an instructor's grade for the course. The student is responsible for notifying the instructor(s) in writing of the reason for the withdrawal; however, the student is not responsible for the instructor's approval of the withdrawal. The instructor's grade must be completed by the instructor's final course deadline.

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: Official drop deadline allowed, "WF" or "F" appears on transcript.

For terms of classes of a shorter duration than 14 weeks, pro rata deadlines shall be established as follows:

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. No course drop shall be recorded as an "S" on the student's academic record unless the student's credit load is increased to exceed the student's regular load by the number of units the student properly has included on his/her official credit load as indicated on the student's academic record.
A student may register for one or more courses before 12 credits in a semester with the understanding that for certain purposes, he/she may 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 aid, government benefits, and other programs with credit load eligibility stipulations, including the standards of progress for probation and drop status purposes.

**Maximum Credit Load**

For Probationary Students

A 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 recorded in the Office of the Registrar no later than 96 hours after the final examination. Accordingly, the grade roster received from the registrar each semester will be information on current grading practices.

If an instructor has a question about a grade, the student concerned may bring the matter to the attention of the chairperson of the Academic Affairs Committee. If the student does not receive a satisfactory response, he/she may bring the matter to the attention of the Chairperson Academic Affairs committee.

In the case of grades, the instructor and the student should discuss the grades before the final examination.

**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 accepted, the original grade and any attempt on the transcript will remain in the transcript but will not be used in the calculation of the grade point average. Courses repeated at another institution will not be used in the calculation of the grade point average.

If a student repeats a course at a later date, the original grade and any attempt on the transcript will remain in the transcript but will not be used in the calculation of the grade point average.
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 designated 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 2.8.
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.

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**UW-Center System Course Equivalency Tables**

<table>
<thead>
<tr>
<th>Center System Courses</th>
<th>UWGB Courses</th>
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<tbody>
<tr>
<td><strong>Anthropology</strong></td>
<td></td>
</tr>
<tr>
<td>ANT 100</td>
<td>ANT elective</td>
</tr>
<tr>
<td>ANT 102</td>
<td>ANT 215</td>
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<tr>
<td>ANT 105</td>
<td>ANT 110</td>
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<tr>
<td>ANT 106</td>
<td>HUA elective</td>
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<tr>
<td>ANT 200</td>
<td>ANT 100</td>
</tr>
<tr>
<td>ANT 204</td>
<td>ANT elective</td>
</tr>
<tr>
<td>ANT 202</td>
<td>Determined by topic</td>
</tr>
<tr>
<td>ANT 291</td>
<td>Determined by topic</td>
</tr>
<tr>
<td>ANT 293</td>
<td>Determined by topic</td>
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<td>ANT 299</td>
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<tr>
<td>ANT 301</td>
<td>COA 160</td>
</tr>
<tr>
<td>ANT 302</td>
<td>ANT elective</td>
</tr>
<tr>
<td>ANT 303</td>
<td>HUA elective</td>
</tr>
<tr>
<td>ANT 304</td>
<td>HUA elective</td>
</tr>
<tr>
<td>ANT 308</td>
<td>ANT elective</td>
</tr>
<tr>
<td>ANT 311</td>
<td>ANT elective</td>
</tr>
<tr>
<td>ANT 314</td>
<td>ANT 301</td>
</tr>
<tr>
<td>ANT 322</td>
<td>ANT elective</td>
</tr>
<tr>
<td>ANT 325</td>
<td>ANT 301</td>
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<tr>
<td>ANT 330</td>
<td>Determined by topic</td>
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<td>ANT 343</td>
<td>ANT elective</td>
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<td>ANT 349</td>
<td>ANT elective</td>
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<td>ANT 351</td>
<td>ANT elective</td>
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<td>ART 191</td>
<td>ART elective</td>
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<td>ART 192</td>
<td>ART elective</td>
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<table>
<thead>
<tr>
<th>Center System Courses</th>
<th>UWGB Courses</th>
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<tbody>
<tr>
<td><strong>Astronomy</strong></td>
<td></td>
</tr>
<tr>
<td>AST 100</td>
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<td>SEC elective</td>
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<td>AST 200</td>
<td>SEC 141</td>
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<tr>
<td>AST 291</td>
<td>SEC elective</td>
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</tbody>
</table>

| **Biological Sciences** |              |
| BAC 101               | BIO 302      |
| BAC 200               | BIO elective |
| BAC 269               | BIO elective |
| BAC 297               | BIO elective |
| BOT 100               | BIO elective |
| BOT 107               | SECTION 162  |
| BOT 109               | BIO elective |
| BOT 116               | BIO elective |
| BOT 120               | BIO 202 & 203 (plus CS BOT 152) |
| BOT 151               | BIO 202 & 203 (plus CS BOT 152) |
| BOT 152               | BIO 202 & 203 (plus CS BOT 151) |
| BOT 160               | BIO elective |
| BOT 201               | BIO elective |
| BOT 240               | BIO 202 & 203 (plus CS BOT 152) |
| BOT 250               | BIO 202 & 203 (plus CS BOT 152) |
| BOT 260               | BIO 202 & 203 (plus CS BOT 152) |
| BOT 291               | BIO 202 & 203 (plus CS BOT 152) |
| BOT 299               | BIO 202 & 203 (plus CS BOT 152) |

Determined by content
<table>
<thead>
<tr>
<th>Center System Courses</th>
<th>UWGB Courses</th>
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<tbody>
<tr>
<td>BOT 400</td>
<td>BIO 510</td>
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<tr>
<td>BOT 450</td>
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<td>FOR 120</td>
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<td>WIL 140</td>
<td>SEC 185</td>
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<tr>
<td>NAT 179</td>
<td>SEC elective</td>
</tr>
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<td>PHS 104</td>
<td>HUA 203, 204</td>
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<tr>
<td>PHS 170</td>
<td>HUA elective*</td>
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<td>PHS 202</td>
<td>Both courses equal HUA 203, 204 and elective credit</td>
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<td>PHS 236</td>
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<td>BIO 202 &amp; 203 (plus CS BOT 130)</td>
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** No HUA 203, 204 for full credit.

*** CS ZOO 234 plus 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.
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**Interdisciplinary Studies**

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| 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             | Not transfer |
| LEA 101             | Not transfer |
| LEA 102             | Not transfer |
| LEA 104             | Not transfer |
| LEA 105             | Not transfer |

**Lecture (University) Forum**

| LEC 101             | Social Science elective |
| LEC 102             | Not transfer |
| LEC 103             | Not transfer |

**Mathematics**

| MAT 681             | No transfer |
| MAT 691             | 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**

| 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 300 |
| MAT 299             | Determined by topic |
| MAT 320             | MAT 305, 320 |

**Military Science**

| MLS 101             | MLS elective |
| MLS 102             | MLS elective |
| MLS 201             | MLS elective |
| 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 |
| MUS 300             | |
| MUL 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 111 |
| PHI 211             | PHI 120 |
| PHI 220             | PHI 207 |
| PHI 226             | PHI elective |
| PHI 240             | PHI 102 |
| PHI 241             | PHI 205 |
| PHI 248             | PHI 253 |

**** Applied music course number determined by instrument and proficiency level.
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**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 209               |                                                                 |
| PED 210               |                                                                 |
| PED 211               |                                                                 |
| PED 212               |                                                                 |
| PED 213               |                                                                 |
| PED 214               |                                                                 |
| PED 215               |                                                                 |
| PED 216               |                                                                 |
| PED 217               |                                                                 |
| PED 218               |                                                                 |
| 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 206               | PSY elective     |
| PSY 208               | PSY elective     |
| PSY 210               | CDS 205          |
| PSY 224               | General elective |
| PSY 225               | PSY 300          |

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**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
- GFD Growth and Development
- HIS History
- HCC Humanism and Cultural Change
- HUA Human Adaptability
- HUD Human Development
- HUS Humanitarian 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
- SSB 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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