Undergraduate Catalog

1986-88
University of Wisconsin-Green Bay
How to Use This Catalog

This catalog provides information about academic programs, facilities, services, and campus life at the University of Wisconsin-Green Bay. It describes what the University offers and what the University expects of a student in order to successfully complete an academic program.

The catalog is essential for planning a program of study, but students should not rely entirely on it. After reading appropriate sections of this catalog, students should plan their individual programs with the help of academic advisers and faculty advisers for their majors.

Effective Dates

This catalog is in effect beginning May 1, 1986, and until it is superseded by a new catalog. Policies of the 1984-86 catalog are in effect until April 30, 1986, unless they are changed by official announcements.

For More Information

The University address is:
University of Wisconsin-Green Bay
2420 Nicolet Dr.
Green Bay, Wisconsin 54301-7001

Campus Information Center
414-465-2000

Academic Advice
Office of Academic Advising
414-465-2002

Adult Student Information
Adult Services Office
414-465-2530

Applications, Brochures, Undergraduate Catalogs, Campus Visits, General Information
Office of Admissions
414-465-2111

Career/Counseling
Office of Placement and Career Development
414-465-2163

Financial Aid
Office of Financial Aid and Student Employment
414-465-2075

Graduate Studies
Director of Graduate Studies
414-465-2484

Housing and Residence Life
Dean of Students
414-465-2192

Housing on Campus
University Housing Office
414-465-2040

Lifelong Learning
Office of Outreach
414-465-2102

Personal Counseling and Life Planning
Counseling and Student Development Center
414-465-2343

Student Records, Transcripts, Residency, Credit Evaluation
Office of the Registrar
414-465-2055

Other Publications

Academic Advising Handbook
(available from Office of Academic Advising)
A guide to program planning, registration, and academic requirements.

Course Listing
(available from Admissions Office)
Lists schedule of courses for each spring and fall semester.

Timetable
(available to admitted students from Registrar’s Office)
A schedule of courses offered for each term, along with other information on arranging class schedules, descriptions of new courses, tuition and fees information, academic rules and regulations, etc.

Student Handbook
(available from Dean of Students Office)
Information about life on the campus and in the Green Bay community.

Prospective Student Booklet
(available from Admissions Office)
A summary of information for persons interested in exploring the possibilities at UWGB

Program of Study Flyers
(available from Admissions Office)
Individual flyers with detailed information on each academic program.

Housing Brochure
(available from Admissions Office)
A brochure describing on-campus residence halls and apartments for students.

Extended Degree Program Catalog
(available from Extended Degree Office)
Describes external degree program for adults who want to complete a college degree.

Graduate Studies Catalog
(available from Graduate Studies Office)
A catalog providing information about the University’s graduate studies tracks.

Other publications on special programs and services include:

Adult Services publications
Information for International Students Booklet
Scholarships Brochure
Educational Opportunity Program Brochure
Flyers on extracurricular activities, including:
Athletics
Communications
Independent Learning
Music
Student Organizations
Travel

Current Information

Current fee and tuition information is distributed as far in advance of each session as possible through the Timetable or a fee information sheet, both published by the Registrar’s Office. Fee information appears in the Timetable for each fall, spring, January, or summer session if fees have been determined by the Board of Regents before the Timetable is printed. If the information is received too late for the Timetable, it appears on a fee information sheet which is available to every student and prospective student.

Course schedules for each session are published in the Timetable. Changes which take place too late to be included are listed on assignment sheets given to students at the time of registration and posted at the Registrar’s Office.
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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 (closed period)
Examinations begin (closed period)
Commencement (Sunday)
Examinations end

1986-87 1987-88 1988-89
Aug. 25-29 Aug. 31-Sept. 4 Aug. 29-Sept. 2
Sept. 2 Sept. 8 Sept. 6
Nov. 27 Nov. 26 Nov. 24
Dec. 1 Nov. 30 Nov. 28
Dec. 10 Dec. 16 Dec. 14
Dec. 11-12 (none) Dec. 15-16
Dec. 15 Dec. 17 Dec. 17
Dec. 21 Dec. 20 Dec. 18
Dec. 20 Dec. 23 Dec. 23

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

1986-87 1987-88 1988-89
Jan. 5 Jan. 4 Jan. 2
Jan. 30 Jan. 29 Jan. 27
Jan. 31-Feb. 6 Jan. 30-Feb. 7 Jan. 28-Feb. 5

Spring Semester
Classes begin
Spring recess
Classes resume
Memorial Day recess
Examinations begin (closed period)
Examinations end
Commencement (Saturday)

1986-87 1987-88 1988-89
Feb. 9 Feb. 8 Feb. 6
April 4 April 2 March 25
April 13 April 11 April 3
May 24-25 (none) April (none)
May 23 May 23 May 22
May 30 May 28 May 27
May 30 May 28 May 27

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

1986-87 1987-88 1988-89
June 11-12 June 9-10 June 8-9
June 15 June 13 June 12
Aug. 7 Aug. 5 Aug. 4

Please note: These dates may be subject to change. Consult the most recent Timetable to confirm dates.
About the University of Wisconsin-Green Bay

Academic Program

The value of an education at the University of Wisconsin-Green Bay is its foundation in the liberal arts. That means that students are introduced to the best of human knowledge in many fields of study and learn how these fields, or disciplines, relate to a single subject. This concept is called interdisciplinary, because it draws resources from two or more disciplines. Interdisciplinarity prepares students for the future in a world of change because it enables them to become learners throughout their lives. That is the goal of a liberal education—to help students gain the ability to think critically and analytically, to assess information, and to make reasoned decisions.

It is a highly practical education. Whatever students’ career goals, a broad liberal education will serve them well. So will the University’s emphasis throughout the academic program on problem solving. Problem solving provides opportunities to gain practical experience through projects, independent studies, participation in research, internships, and other experiences that enhance students’ opportunities in careers and in professional and graduate schools.

Each student at UWGB has an interdisciplinary component to his or her education. Students may choose an interdisciplinary major, such as Humanistic Studies, Business Administration, Science and Environmental Change, or Human Development. Or, students may select a disciplinary major, such as music or chemistry or political science, or managerial accounting, but
students with such a major will also choose an interdisciplinary minor. All students complete a core of courses which introduce them to ways of thinking in the different disciplines. At most universities, students follow prescribed courses of study which allow them little flexibility. But because students at the University of Wisconsin-Green Bay structure their academic programs from a variety of components, they are able to develop highly individual programs of study.

Statewide Mission

The special qualities of the University of Wisconsin-Green Bay academic programs reflect its special role in the state. The University operates under a mandate from the University of Wisconsin Board of Regents to carry out 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. The mandate includes providing strong programs in the liberal arts as the foundation for all of its degrees, emphasizing teaching excellence, supporting a commitment to the needs of nontraditional students, and serving as a center for applied research on regional problems.

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 accredited by the National Association of Schools of Music for undergraduate degrees emphasizing music performance and music education. The chemistry physics program is accredited by the American Chemical Society, and the nutritional sciences major by the American Dietetic Association. In 1986-87, two other units are seeking special accreditation: the nursing program through the National League of Nursing and the social work program through the Council on Social Work Education.

History

In 1965, when the Wisconsin Legislature authorized a new campus of the University of Wisconsin System for Northeastern Wisconsin, Green Bay was already the home of a two-year University of Wisconsin Center. It 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 waters 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 area, student apartments and residence halls, and ample open space.

The University offers the Associate of Arts degree, the Bachelor of Science or Bachelor of Arts degree, and the Master of Science or Master of Arts in Environmental Studies.

The campus is one of 13 degree-granting institutions in the University of Wisconsin System.

Students

The University enrolls about 4,600 undergraduates and 530 graduate students (1985-86). The diverse student body includes students from most of Wisconsin's counties, half of the states, and 24 other countries. Of the regularly admitted freshmen in 1985-86, 46 percent were in the upper one-fourth of their high school graduating class.

Faculty

Faculty members at UWGB, primarily engaged in teaching, are also recognized for their scholarship and commitment to community concerns. Many are involved in research and consulting work which often provides practical experience opportunities for students. Of the 160 full-time faculty, more than 90 percent have the highest degree or credential available in their fields.

The Campus

The campus is a 10-minute drive from the city center of Green Bay, Wisconsin. The 700-acre site is along gently rolling terrain sloping from a geological formation known as the Niagara Escarpment to the waters of Green Bay. The Cofrin Memorial Arboretum, being developed around the campus periphery, is a resource for instruction and recreation. It has streams, ponds, wooded areas, prairie habitat, and bay shore environment, all accessible by trails. A nine-hole public golf course on campus is maintained in winter for cross-country skiing. Because major buildings are clustered on the University site, much of the rest of the campus is open for recreational use.

The campus has exceptional facilities for learning. Library and computer facilities are excellent and laboratories and studios are well equipped. Facilities are described in more detail in the appropriate program descriptions.

The Community and Region

Green Bay is a manufacturing city and the county seat of Brown County with a metropolitan area population of more than 175,000. Major industries are paper products, food processing, and metal working. The city is the home of the Green Bay Packers' professional football team.

Community resources include theater and music organizations, a good public library system, daily and weekly newspapers, several AM and FM commercial radio stations, and five commercial television stations. The region is also served by WPNE-FM of the Wisconsin Public Radio System and WPNE-TV, Channel 35, 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 Northeast Wisconsin is farm land. 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 the bay of 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 265 miles west of Green Bay. The city is served by the interstate highway system, several airlines, and two intercity bus lines.
University Resources and Student Life

This section of the catalog describes resources and services relating to students' life outside the classroom and some resources available to support students in their academic work. More detailed information is in the Student Handbook and in brochures on specific resources, services, and programs. A list of these publications is printed on page 1 of this book. All are available on request from the Office of Admissions, University of Wisconsin-Green Bay, 2420 University Dr., Green Bay, WI 54301-7001, 414-465-2111.

Academic Resources

Academic Advising
Helping a student plan a program and select courses in keeping with personal goals and University requirements is a major service of the Academic Advising Office. Academic advisers also provide the student with help in deciding on selecting academic majors and minors and make referrals to faculty advisers in the student's area of interest.

Academic Support Program
The Academic Support Program assists students who need to improve reading, composition, mathematics or study skills. The program is described in the academic programs section of this catalog 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 Office 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 off-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.

Bookstore
The University-operated Phoenix Book Shop, located in the Instructional Service 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 currently 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 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 as well as course 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 two multiprocessors, a TRS-80 Model III, four million bytes of memory. The system has two disk drives, two printers, a card reader, and a 15 billion-byte disk storage located on five removable disk drives. Most of the activity on the system comes from the 100 terminals on campus, of which 35 are located in a workroom adjacent to the Computer Center. Also available in the workroom are 18 Apple-compatible microcomputers. There are two computer labs adjacent to the computer system that are used for hands-on instruction. One room contains 12 Apple-compatible units while the other contains 12 Zenith MS-DOS units. These are available to authorized students when not being used by a class. Mainframe software capabilities include an Extended Data Management System (EDMS), graphics, and a variety of computing languages including BASIC, FORTRAN, COBOL, PASCAL, LISP, Assembly, and others. Statistical analysis programs available are BMDP, MINITAB, and SPSS. Graphics capabilities are supported by Tektronic terminals and a Calcomp plotter using Plot 10 and Calcomp software. Applications include mapping and statistical software.

Micro software operating systems and languages are Apple DOS 3.3, MS-DOS 2.0, CP/M, Apple Basic, Logo and LISP. Applications include word processing, spreadsheet, filing systems, statistical graphics as well as course-related applications. Word processing is available to all students at a nominal fee.

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 chapter 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, prescription placement in courses, including coursework in basic writing, reading and study skills, and meetings with a counselor. This helps 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 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 may 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.
Centers and Services

American Intercultural Center
The American Intercultural Center, on the plaza level of the library, is staffed by minority academic staff members who coordinate the Minority Student Services Program. The center serves the special interests of American Indian, Black, and Hispanic students and presents campus-wide awareness programs through art exhibits, lectures, films, and social events. Public events bring together members of the University community and townpeople of different backgrounds. Such programs foster understanding and appreciation of the traditions represented by the three student organizations supported by the center: the American Indian Council, the Black Student Union, and the Hispanic Student Organization.

Children's Center
The Children's Center, located on campus, offers a preschool and day care service for University students and faculty members at low cost. The Center is open Monday through Friday under the supervision of licensed nursery-kindergarten teachers. Care is provided during the academic year for children aged two through 10.

Counseling and Student Development
The Counseling and Student Development Center can provide individual counseling, family and couple counseling, group counseling, and workshops. 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 those with severe emotional problems are helped to find appropriate community services.

Dean of Students
The Dean of Students Office staff tries to be aware of student needs and attitudes in order to facilitate the best possible learning environment on campus. Staff members help students accomplish personal goals and solve problems through advice, counsel, referral, and support to assist students in using their own resources and those of the University to solve problems and make changes. Most offices providing student services report to the Dean of Students Office, therefore the office is particularly concerned with the quality of those services. Dean of Students Office staff are responsible for academic student disciplinary procedures as well as the investigating officers for nonacademic disciplinary matters. They also coordinate a free legal service for students.

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 on campus. 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 arts, 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 many denominations.

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 chapter on admissions, costs, and financial aids. Notices of part-time jobs appear in local newspapers.

Handicapped Services
University buildings are 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, non-skid floor tiles and handrails in sloped corridors, some lowered telephones and drinking fountains, and adaptations for wheelchairs in washrooms and in two science laboratories. The Phoenix Sports Center has special shower and dressing room facilities, and the pool has a lift for disabled persons. Visually handicapped students can get raised maps of the campus concourse system and outdoor routes to buildings with accompanying keys, printed in braille or recorded on a cassette. Raised print and braille letters identify washrooms and the appearance of elevator controls. Textured floor tiles direct attention to wall signs, printed in braille and raised letters, which locate buildings in accordance with the concourse system map. A telephone with special equipment is available for the hearing impaired.

Resources and services related to the academic program are described under the heading Handicap Resources Center.

Radio-Television Media
Faculty and students may obtain professional media production services through 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 slides-tape presentations and other relatively complex media projects. Professional specialists staff these facilities.
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 three registered nurses 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 postage stamps are for sale at the counter, and a collection slot is provided for outgoing mail. The University switchboard is located in the Information Center, which is just inside the main entrance to the library on the concourse level.

International Student Center
Students on campus from countries of Central and South America, Asia, Africa and Europe share their cultures with each other and with Americans through International Student Center activities which include the publication of a newsletter. The Center coordinator is available to answer questions, handle problems, and help to organize special events, and the Center’s lounge is open during the day for relaxation, conversation, and reading. A small library of foreign language periodicals is maintained.

Placement and Career Development
Staff members in the Placement and Career Development Office can help students to clarify career goals and learn about employment trends. Counselors are available to assist students in making choices about careers as well as helping them as they pursue career goals. The Placement Office maintains an extensive career resource library.

Other services include help in writing resumes and preparing for interviews, distributing job vacancy bulletins, scheduling interviews with prospective employers, and maintaining files of graduates’ credentials and placement histories. Students can meet UWGB alumni employed in a variety of fields through the Career Information Network. A computer-assisted career exploration program (SIGI) provides immediate feedback to help students in decision making. Students should explore the resources of the Placement Office early in their college careers.

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.

Student Life Programs
The Office of Student Life Programs coordinates activities on campus. Students have opportunities to learn valuable life skills through volunteering in student organizations. Professional staff members work with student organizations to provide leadership training and advice.

Student Activities
Art, Music, Theater
All qualified students can participate in courses and programs in the visual and performing arts, 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, Show Choir, Wind Ensemble, and Collegium Musicum. Students with appropriate musical skills can audition for the Green Bay Community Choir, the Green Bay Symphony Orchestra, or the Commemorium, and have the experience of performing with musicians of all ages from the wider community.

In the信贷 theater program, auditions are open for roles in 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 theatrical production. Interested students are invited to participate in set construction, scene painting, lighting, costume design, publicity and other tasks.

Media
The Fourth Estate, a weekly campus newspaper, keeps students informed of events and issues that affect them and provides experience in practical journalism for members of the staff. Students are responsible for almost every aspect of publication—writing, editing, photography, artwork, layout, and advertising sales. Staff members can earn academic credit for work on the paper.

Student poems, short stories, essays, photographs and other examples of visual art may be submitted for publication in the Sheepshead Review, a literary magazine published each year. Student editors, with the help of faculty advisors, select material for each issue on the basis of quality and balanced content. Some of the best student short stories have been selected for publication in a book, Sheepshead Fiction.

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 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. A complete list of active student organizations is available from the Office of Student Life.

Student Governance
Students share in University governance through the Student Association and its component groups, whose activities are coordinated by the Association’s executive board.

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 (SUFAF), manages the allocation and expenditure of student fees in support of student organizations, programs, athletics, and other activities.

The Student Union Policy Board helps to create and review policies, programs, operations, and contracted services affecting students through the Student Union.

Housing Council serves residents who live in apartments and residence halls on campus. The Council organizes events for on-campus residents and works with University administrators to find and enforce policies affecting campus housing. Good Times Programming Board schedules social, cultural, recreational, and educational programs for the entire campus community.

**Living Arrangements**

**Housing**

Students who do not live at home may choose to live in residence halls or furnished apartments on campus, or in an apartment or house off campus. Most of the University Village Apartments are designed for four students and include a living room, kitchen, dining area, two bedrooms, and bathroom. A few two-person and one-person units are available. Residence hall rooms are designed for two students and each room is furnished with beds, study desks, chairs, and bookcases. Each room has its own bathroom.

On-campus housing is assigned on a first-come, first-served basis, with applications for the fall semester accepted after October 1 of the preceding year. University housing is usually filled to capacity well before the beginning of each semester.

Resident assistants live in each building. They are selected and trained by the University’s housing staff and are familiar with campus and community resources and Red Cross first aid procedures. Resident assistants serve as information resources, help to resolve problems, and coordinate group activities. Housing Council, an elected student group, is the governing, advising, and programming body for on-campus residents.

Students who choose to live off campus in private housing can usually find furnished or unfurnished accommodations at reasonable rents. Lists of apartments, houses, and facilties to share are available from the Housing Office or Dean of Students Office.

**Food**

During the fall and spring semesters, the Student Union Nicolet Room provides full food service from 7:15 a.m. to 6:30 p.m., Monday through Friday. Hours vary during the January interim and summer session. The Rathskeller, also in the Student Union, serves a grill menu, afternoons, evenings and weekends. 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 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 softball and volleyball for women. Sailing is open to both men and women. Intercollegiate sailing competition and women’s basketball is also at the Division I level of the NCAA. Women compete through the NAIA in 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 interest. 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 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 a half block of the mall, and the central business district. Most retail stores in and outside the downtown 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 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.
Special Learning Opportunities

Here is an overview of special learning opportunities at the University. More details on some of these opportunities are available in the Student Handbook. Complete information is available from the appropriate campus offices listed here:


Exchange programs in the U.S., Extended Degree programs, personal major, Credit for Prior Learning—Individualized Learning Programs Office.

International exchange, January travel abroad—Vice Chancellor for Academic Affairs.

Independent studies, internships, practice, research, senior honors, student-initiated and student-led courses—faculty adviser or Academic Advising Office.

Noncredit courses—Office of Outreach.

Credit by Examination—Extended Degree program.

Advanced placement—Registrar’s Office.

Academic Support Program

The Academic Support Program offers nondegree credit courses in reading, writing, study skills, 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. In addition, individual and small-group tutoring is available. Tutoring is scheduled on the initiative and at the convenience of the student.

The program is described more fully in the academic programs section of this catalog.

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 three schools in the UW System participating in the National Student Exchange, under which regularly enrolled students may apply for exchange to one of 78 colleges and universities in 37 states, the Virgin Islands, and Puerto Rico. Exchange students from UWGB have recently been enrolled at institutions including the University of South Carolina, University of Idaho, University of Massachusetts-Boston, University of Montana, New Mexico State, California State at Bakersfield, and Oregon State. Men and women from Ft. Hays State in Kansas, the University of Maine, Montana State, State University of New York College at Potsdam, University of Idaho, University of Maryland, and Georgia State are among exchange students who have recently attended UWGB.

To participate in an exchange program, a student should be a sophomore or junior in good academic standing, and have a cumulative grade point average of at least 2.5. An exchange student pays normal fees at the home campus and is responsible for transmitting transcripts back to the home campus at the end of the exchange. In general, exchange students continue to receive any financial aids for which they are eligible from their home institutions.

International Exchange

The University’s first international exchange agreement was concluded in 1980 with Linkoping University in Sweden. Programs initiated since then provide for exchange of both students and faculty members with three additional institutions: Aalborg University in Denmark, the University of Kassel, West Germany, and the University of Yucatan, Mexico.

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

The Extended Degree Program (Bachelor of General Studies)
The bachelor of general studies degree incorporates elements of problem solving, communications, a broad range of disciplines, and lifelong learning. Designed particularly for the working adult who is unable to participate in full-time on-campus study, it is primarily accomplished through independent study. Limited campus based activities such as weekend seminars and individual appointments with faculty are its cornerstones. Credit toward graduation may also be earned on campus, transferred from other accredited institutions, earned through examination, or through approved off-the-job training programs, military training programs, or a prior learning portfolio.

Independent Studies, Internships, Practice

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 in advance on campus or with an enterprise in the community. It must offer instruction, guidance, experience, and evaluation in an appropriate professional context, in keeping with an internship agreement which replaces a syllabus and acts as a job description. Typical on-campus internships have included work in personnel, news writing, graphic design, museum anthropology, and art gallery management.

Off campus, interns have worked in settings of wide diversity: in social services units of hospitals and mental health centers, at daily newspapers and commercial radio and television stations, and in private
and public agencies concerned with recreation, fitness and leisure programs. Interns in public administration have found places in city and county government offices and in nonprofit organizations such as the Red Cross and Unicef. 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. The personal major is described in more detail in the academic programs section of this book.

Research
Students have frequent opportunities to take part in research—opportunities that can enhance their qualifications for graduate or professional school. Many gain such experience by working with faculty members who are engaged in research. Recent or ongoing projects involving student workers include studies of water quality, marsh ecology, human responses to cold, approach-avoidance conflicts in spatial behavior, PCBs and lactation in rats, thermal and economic evaluation of solar heating systems, the ethno-history of Indian removal, and development of a training program for child day care.

The student who is interested in research may also enroll in research-oriented courses or engage in research through independent study or a senior honors project.

Senior Honors
Eligible students can individualize their academic experiences by choosing an in-depth, significant, senior honors project that can serve as the culmination of an educational program. A senior honors project is one of the requirements for graduation summa cum laude.

Senior honors projects can be as varied as the imagination, energy, and expertise of the students who complete them. Students of the arts can work for honors by giving music recitals, theater performances, or preparing individual shows in the visual arts. Students in other areas can engage in projects that result in written papers and other documentation and in oral or electronic media presentations.

Graduating with honors is explained in more detail in the general academic information in this catalog.

Student-Initiated Courses
The student who wishes to initiate a course must first determine that the topic is not covered in any existing UWGB course. Then the student writes a description of the course, locates a faculty member who is willing to teach it, and determines whether enough students are interested in taking such a course to justify adding it to the course list for a given semester or January interim.

If the course is approved, it will be offered as an experimental course. Such courses are offered once; after that they are subject to review and may become part of the permanent curriculum.

More information on student-initiated courses can be found in the description of courses with variable content in the course descriptions section of this catalog.

Student-Led Courses
Students have the opportunity to develop and lead courses, under sponsorship of an academic unit and with the guidance of a faculty advisor. Such courses are generally on topics of contemporary concern not covered in regular courses.

Student-led courses are listed in the Time Table 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, bird watching 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 non-accredited 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 (AP) 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.

Students who have taken French, German, or Spanish in high school or who have acquired a knowledge of one of those languages elsewhere may earn up to 16 additional credits for their previous foreign language study by completing a foreign language course beyond the 101 level. With a grade of "B" or better, credit will be given for all foreign language courses preceding the one in which the student is enrolled, to a maximum of 16 credits. With a grade of "BC" or "C," half credit will be given for the courses preceding the one in which the student is enrolled, to a maximum of eight credits. Students seeking retroactive foreign language credit should read the appropriate foreign language description in this catalog.

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.

Admission, Costs, 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
High school graduates may qualify for admission as degree candidates by completing these requirements. (Fulfillment of these criteria does not guarantee admission, however.)

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 elective work. Unit distribution must be:
   - English: minimum of 3 units
   - Mathematics: minimum of 1 unit
   - Science: minimum of 1 unit
   - Social studies: minimum of 1 unit
   - Academic electives: minimum of 6 units
   - From the areas of English, Speech, Foreign language, Social studies, and history

New Requirements
New requirements for the distribution of high school credits will go into effect in 1988. Beginning with the fall 1988 semester, required distribution of high school credits will be:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Minimum Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>minimum of 3 units</td>
</tr>
<tr>
<td>Mathematics</td>
<td>minimum of 2 units</td>
</tr>
<tr>
<td>Science</td>
<td>minimum of 2 units</td>
</tr>
<tr>
<td>Social studies</td>
<td>minimum of 2 units</td>
</tr>
<tr>
<td>Academic electives</td>
<td>minimum of 4 units</td>
</tr>
<tr>
<td>Other electives</td>
<td>minimum of 4 units</td>
</tr>
<tr>
<td>Total</td>
<td>16 units</td>
</tr>
</tbody>
</table>

Sciences Subtotal: 12 high school units
Academic and elective total: 16 high school units
ACT Scores
Students applying for admission must take the American College Test (ACT) and have the scores sent to UWGB. These scores and other test information will be used by advisors and counselors to assist students with course placement, and academic and career planning.

Students not meeting admission requirements may be required to take an on-campus admission qualification test.

Students who hold General Educational Development (GED) diplomas must have an official score report for the GED and a partial transcript from any regular high school attended sent directly to UWGB by the agency of 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 calculating the grade point average for determining admisissibility.

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 if they would not have obtained 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 Wisconsin undergraduate application. This application is available through counseling offices of Wisconsin high schools, 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. Transfer students must request that official transcripts be sent directly to UWGB from all schools attended since high school. Transfer students with fewer than 15 transferable credits or less than a 2.0 grade point average must also have a high school transcript sent directly to UWGB.

   C. All students who have attended nursing, business, and vocational and technical schools must submit those transcripts as well. (Transcripts from training schools attended as part of military services are not required.) Students must submit the records whether or not the work was completed and regardless of their desire to request UWGB credit for the courses. Credits earned in a noncollege parallel program at a vocational-technical institute are not transferable to UWGB. Students who took general education and/or liberal arts courses from such institutions are encouraged to seek credit through examination at UWGB.

   3. Application dates for admission to UWGB are:
      Fall Semester: October 1 through August 10
      January Interim: October 1 through December 15
      Spring Semester: January 1 through January 10
      Summer Session: October 1 through May 30

   4. A non-refundable $10 application fee is required of any student applying for admission as a new freshman or as a transfer student from an institution outside the University of Wisconsin System. Applicants previously enrolled at a University of Wisconsin System school at nondegree-seeking students must also pay the application fee.

Information for Transfer Students

Credit evaluations. Transfer students will have an official credit evaluation to determine what courses and credits can be accepted to fulfill UWGB requirements. The accreditation status of the previous institution or institutions attended and the quality of a student's achievement are factors for determining course and credit transferability.

Credit evaluations will be started after all transcripts have arrived at UWGB and the student has been admitted. If a student is enrolled at another college when accepted at UWGB, a tentative evaluation will be completed and transmitted; the final evaluation will be held until a final transcript showing grades from the last term is received. Then the evaluation will be completed and mailed directly to the student.

A student who has taken independent study courses at other institutions must supply titles and descriptions for these courses when applying to UWGB so that these can be evaluated.

All-University requirements. 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 taken at other colleges that are 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. Transfer students should read the description of all-University requirements in the section of this catalog on general academic information.

Transferable coursework. Students coming to UWGB from two-year institutions may transfer up to 72 credits of 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.
2. The course must be successfully completed at a regionally accredited college or university.
3. Each course must have a "D" grade or better if the student is transferring within the UW System; all such courses are granted degree credit.
4. Courses taken at colleges outside the UW System are accepted as course credit if a grade of "D" or better has been earned; degree credits are calculated by the number of transferable credits which would be covered by a "C" average.
5. UWGB policies applying to currently enrolled students are also 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 is assigned using normal UWGB academic standards applied to the transfer record.

Transfer students begin with a new grade point average at UWGB.

The academic plan form is an individual's graduation contract at UWGB. It is essential for all junior and senior transfer students to complete this form as soon as possible. The completed form specifies courses a student must take to satisfy graduation requirements at UWGB. The form is available from the Academic Advising Office.

Other requirements. Transfer students must meet the residence requirements described in the section of this book on academic programs and in the current Timetable.

Specific questions on transfer credit evaluation may be directed to the Registrar's Office. Incoming transfer students should meet with an adviser in the office of Academic Advising to learn about general requirements for a degree. The office can refer students to faculty advisers in their areas of academic interest.

Special Students
(Students Not Seeking Degree)

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 identified as a nonmatriculated student but he or she may earn regular credit which is permanently recorded for possible future use. Special students should be prudent in their course selections and the number of credits accumulated. For example, an excessive number of electives may not apply to degree requirements if the student decides to change to degree-seeking status in the future. Certain opportunities, such as financial aids, for which degree-seeking students may be eligible, are available only on a limited basis to special students. Special students are subject to all normal academic regulations and Regent's policies.

Normally, a student must have graduated from a high school at least two years prior to the semester for which he or she is seeking special student admission. Exceptions are described in the categories below.

A student who has been denied degree-seeking status for a given semester at UWGB may not enroll as a special student for that semester.

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 students must be juniors or seniors 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 their 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. Usually this is the only information required; however some individuals may be asked to submit additional records based upon individual circumstances.

2. High School Special students must submit the following materials in addition to the application:
   A. an official high school transcript
   B. the high school special student statement form, and

C. the principal/counselor recommendation form.

(Forms "B" and "C" are available from the Office of Admissions.)

3. Summer Session Only students must submit an official high school transcript if they are current year high school graduates.

4. No application fee is required of special students.

Admissions Appeals
A student who has been denied admission may appeal that decision by appearing in person before the Admissions Appeals Committee. This committee meets approximately two weeks before the beginning of each semester. Students may contact the Office of Admissions for exact dates and times.

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. Early application is essential.

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 elsewhere in this catalog.

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 those placement results. Information about these tests is available 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 its availability is usually available at American embassies and consulates, offices of the U.S. Information Service, and 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 summarized in the section of this catalog on academic programs. A separate catalog is available describing the program in detail.

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 is available in the Timetable or a fee information sheet for the current semester.

Fees for UWGB students are determined by an undergraduate and graduate level fee schedule and by state residency classification as determined by the Registrar's Office. 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 1985-86, Wisconsin undergraduate students paid $54.00 and graduate students paid $93.25 per credit. Nonresidents paid $163.50 and graduate students paid $265.25 per credit for part-time enrollment. Minnesota undergraduate students paid $64.00 per credit and graduate level students paid $91.50 per credit. The actual costs for each academic year are announced in advance and are available on request from the Office of the Registrar.

1985-86 Semester Fees for Full-Time Students

<table>
<thead>
<tr>
<th>Level</th>
<th>Wis Res</th>
<th>Non Res</th>
<th>Minn Res</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>$597.00</td>
<td>$1,963.50</td>
<td>$758.50</td>
</tr>
<tr>
<td>Graduate</td>
<td>$826.00</td>
<td>$2,373.50</td>
<td>$805.50</td>
</tr>
</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.

January Interim
Students enrolling for the January interim do not pay additional fees if they are registered full time in the preceding or following semester. If enrolled for less than full time, fees are assessed at the regular per-credit rate.

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 separate fee information sheet.

Financial Aids
The primary objective of the Student Financial Aid Office is to ensure that no academically qualified student is denied an education for lack of financial resources. Financial assistance in a variety of forms is available to students who have financial need. By completing the necessary applications, students are automatically considered for scholarships, grants, loans, or work-study for which they may qualify. The Financial Aid Office can provide detailed information about 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.

**Estimated Expenses for Academic Year**

<table>
<thead>
<tr>
<th>Commuter Student</th>
<th>Resident Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living at Home</td>
<td>Living On or Off</td>
</tr>
<tr>
<td>Books &amp; Supplies $350</td>
<td>Books &amp; Supplies $350</td>
</tr>
<tr>
<td>Room &amp; Board</td>
<td>Room &amp; Board</td>
</tr>
<tr>
<td>Travel, Personal, &amp; Misc.</td>
<td>Travel, Personal, &amp; Misc.</td>
</tr>
<tr>
<td>Total costs to be added to tuition $2,750</td>
<td>Total costs to be added to tuition $3,850</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 $1,650. 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 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 admission application 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 the College Scholarship Service. All aid applicants must 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.

3. In addition to these forms, all transfer students must submit a financial aid transcript from each institution previously attended in order to notify the University of the types and amounts of aid received.

Additional forms may be requested of certain students such as 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 be admitted before UWGB can make an offer of aid.

**Deadlines.** The application priority date for all financial aid is April 15. Students whose aid files are complete by the priority date are generally notified between May 1 and June 15 of their aid award or denial.

The University cannot guarantee, 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 fall term. Students applying after the priority date will be notified of 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 employment.

**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 be used for housing, transportation, 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 many 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 educational loan, owe a refund, or show unwillingness to repay any educational loan.

**Standards of Academic Progress.** The individual student is responsible for being aware of the academic standards of progress required in order to continue eligibility for financial aid at the University. Eligibility is based upon a total number of semesters for which students may receive aid and on successfully completing a minimum number of credit hours within a given time span. A complete description of the University’s policy and scales showing the number of credits required to continue eligibility for aid are located in the Appendix to this catalog.

**Student Responsibility.** By accepting the offer of financial aid, a student assumes responsibility for the use of these funds. A student who signs the award offer agrees to use the funds provided for education-related costs when attending the University. If a student’s enrollment status changes during the refund and repayment period, it is that person’s responsibility to repay aid funds received which cannot reasonably be attributed to meeting educational costs at UWGB. Students receiving aid who are considering withdrawing from classes should see the refund and repayment schedules in the Appendix to this book.

**Types of Financial Aid.** In general, financial aid can be divided into three main categories: scholarships and grants, student loans, and employment.

**Scholarships**

**UWGB Merit and Talent Scholarships**

These awards, not based on financial need, are awarded to students on a competitive basis. In general, the criteria depend upon the purpose of the scholarships.
but may consist of:
- academic ability
- leadership and activities
- special skills or talents
- enrollment in a specific program or activity at UWGB
- recommendations or auditions
- special needs
- completion of a separate application

Following are the main scholarship programs available at UWGB. Information and application forms are available through the Financial Aid Office or the sponsoring department.

**Founders Association Leadership and Academic Excellence Scholarship.** Awards of $600 to $950 based on academic excellence and service activities. For new students.

**Science and Mathematics Scholarship.** Up to $500 per year for majors in the field with records of academic excellence. For new students.

**Theater Scholarships.** Awards of up to $400 per year, based on academic excellence and recommendations. For new and continuing students.

**Music Scholarships.** Up to $500 awarded to music majors enrolled in specific performance courses. For new and continuing students.

**Business Scholarships.** Up to $400 for women business majors with records of academic or other achievement. For new students.

**Athletics Scholarships.** Available for men in basketball and soccer and for women in basketball and swimming/diving. For new and continuing students.

**Alumni Association Scholarships.** Up to $500 to an applicant selected from the Leadership and Academic Excellence Awards. For new students.

**University League Scholarships.** Awards of $400 based on scholastic record and financial need. For new and continuing students.

**Founders Association Scholarships for Adult Learners.** Awards of $200 for students over age 25, based on need. For new and continuing students.

**ROTC Scholarships.** Awards of tuition and books and $100 per month. For second or third year students.

**Wisconsin Rural Rehabilitation Corporation Scholarships.** Awards of $500 for students from operating farm families who are enrolled in UWGB-Bellin College nursing program. For new students.

**First Northern Corporation Scholarships.** Award of $500 for business majors with preference for aptitude in finance. May include internship. Usually given to junior or senior.

**Arline B. Walter Scholarships.** Awards of $500 for students with leadership qualities and good grade point average. For continuing students.

**Herbert Fisk Johnson Awards for Excellence.** Grants of $400 for undergraduate research project related to academic emphasis. For continuing students only.

**Graduate Assistantships.** These awards may cover tuition, fees, and provide stipend for teaching. For new and continuing graduate students.

**UWGB Nonresident Fee Remission Scholarship.** This award provides partial or full 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 full remission of the nonresident portion of fees. Awarded to international students selected on the basis of academic excellence and financial need.

**Grants**

Grants, like scholarships, consist of gift aid, which is not repayable. The main criteria for grants are financial need.

**Pell Grant (PELL).** Federally funded grants to needy students range from $200 to $2,100 (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 of 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.

**Wisconsin Indian Student Assistance Grant.** Grants of up to $3,000 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 Minority Undergraduate Grants.** This grant, available to sophomore, junior, or senior Black, Hispanic, or Native American students, has an annual maximum of $2,000 and a cumulative maximum of $8,000. The award is based on need and is intended to help reduce student indebtedness. The minority affairs coordinator assists in identifying eligible students.

**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 Commission, Suite 400, Capitol Square, 500 Cedar Street, St. Paul, MN 55101.

**Viet Nam Era Veterans Grant.** Made available to eligible Wisconsin veterans who served in the armed forces between August 5, 1964, and July 1, 1975. The yearly grant of up to $200 for single and $400 for married veterans is determined by a special application form.

**Vocational Rehabilitation Grant.** This aid covering tuition and books is provided to students with some disability as determined by the Department of Vocational Rehabilitation. The amount is generally included with other financial aid. Students with disabilities should contact their regional Department of Vocational Rehabilitation.

**Loans**

In order to meet the full financial need, students may wish to borrow funds for their educational expenses and repay these loans with future earnings. In general, student loans are interest-free while the student is enrolled at least half time. Repayment of the loan and interest begins 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 $5,000 for the first two years with a $6,000 cumulative undergraduate maximum. Interest is currently five percent and both interest and payments are deferred until six months after the student leaves school.

A borrower has up to 10 years 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 teachers of the handicapped and mentally retarded, teachers employed in schools in low-income areas, and preschool teachers in Head Start programs. Determinations of up to three years may be obtained while serving as a Peace Corps/Vista volunteer or on active duty in the Armed Forces of the United States. NDSL program regulations may be changed by Congress.

Wisconsin State Student Loans. Wisconsin residents with financial need may be eligible to borrow from this program. Wisconsin residents who have previously borrowed from the Wisconsin State Loan Program may continue to do so. However, at this time, the state is not accepting any new applicants into the state program. Transfer students, who have had a Wisconsin State Loan from another school, must provide a letter of denial from a commercial lender 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 $17,500. 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 an annual repayment of $600 plus interest. Determinations of up to three years may be obtained for active duty service with the Armed Forces or at 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 eight percent interest. After he/she has permanently left school, undergraduates 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 paid in full 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. Brabener 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-Tremaine 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 Aid. Students may apply any time during the year but they cannot be referred to job openings until they have registered for classes. 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 Aid Office.

The rate of pay for student jobs on and off campus generally ranges from $3.35 to $5.50 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:

- 10 hours $1,138
- 12 hours $1,366
- 15 hours $1,708

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' serves 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 transmission to the Veterans Administration regional office. A special section on the first 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 a stipend of about $5,000 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 aid are encouraged to make use of this service. Call 414/465-2075 for an appointment.
The Academic Program

General Information

Degrees Offered

UWGB offers a Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree, a Bachelor of Social Work (B.S.W.), Bachelor of Science Nursing (B.S.N.), Bachelor of General Studies (B.G.S.), a two-year Associate of Arts (A.A.) degree, and a graduate program leading to a Master of Science (M.S.) or Master of Arts (M.A.) in Environmental Studies.

The bachelor's degree requires a minimum of 124 semester hours of degree credit and a cumulative grade point average of at least 2.0.

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.

Academic 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.
Honors List

UWGB recognizes high scholastic achievement for full-time undergraduate students each semester by compiling an honors list based on a minimum of 12 credits taken for a regular grade. 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 Honors

The senior honors program identifies students who have achieved a consistently high level of excellence in the course of their academic careers. A student's 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 distinction, completion of a senior honors 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 interdisciplinary major or minor. Eligible students should consult their interdisciplinary program adviser for more information.

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 is also 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 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 fee. Students are expected to pay their own expenses for off-campus programs. Some financial aids may be available for these programs.

January course offerings include:

- Developmental or extra elementary level work — especially in mathematics, English, and foreign languages, and particularly for freshmen and sophomores;
- Independent study — individualized instruction, study or research (in courses numbered 208, 498, and 798) under faculty supervision;
- Intensive on-campus courses — providing total immersion experiences, such as in foreign language speaking skills;
- Internships — actual on-the-job experience for credit (in courses numbered 497);
- Other-culture experiences — study or research in a community observation situation or in national and international study tours;
- Practica — small group programs (in courses numbered 195, 295, 395 and 495) focused on special problems and the practical application of skill and knowledge;
- Special courses — innovative courses (numbered 285X, 483X and 795) designed by faculty and students around a variety of themes from interdisciplinary perspectives.

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 inservice 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." 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 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. 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. Noncredit programs as well as credit courses are available.

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

During the summer a number of noncredit camps and workshops are offered for junior high and high school students and include such activities as art, music, dance, basic college skills, computer science, basketball, volleyball, soccer, and swimming. Many students commute to these clinics and workshops, but University housing is 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 is available from the Registrar's Office. Publications and announcements about the coming summer's programs are available in advance.
Planning a Program

Goals of the Academic Plan

All programs of study at UWGB are treated as liberal arts programs; they are aimed at providing students with a broad and comprehensive education. Two essential elements are:
1. fulfillment of general education through all-University requirements, and
2. an interdisciplinary, problem-focused component.

These are the distinctive elements of our academic plan.

Undergraduates, in most universities, master a discipline such as history or mathematics; or achieve a high degree of competence in a professional program such as managerial accounting; or prepare themselves for further study in law or medicine. All these things can be done at UWGB. In addition, however, students must learn how to effectively apply the knowledge gained, and this opportunity is what sets UWGB apart. Effective application of knowledge is the purpose of our general education requirements, problem focus, and interdisciplinary. These elements allow students to apply what they are learning to "real" issues and enable them to see how all knowledge is interrelated.

Choosing a Major

It is not necessary to choose a major before coming to college; the freshman year is best spent in general education anyway. Students will have to satisfy a requirement in writing and perhaps also in mathematics, and they will have to choose three-credit courses each in the humanities and fine arts, the social sciences, and the natural sciences. These courses are specifically identified as all-University requirements courses. In the senior year, students will complete the general education requirement by taking a three-credit senior seminar, which is a small discussion course where students bring all of their education to bear on a single problem.

At UWGB, students can choose an interdisciplinary major such as Business Administration, Science and Environmental Change, Human Development, or Humanistic Studies. There are 13 such majors, each drawing from many disciplines. Or, students can choose a disciplinary major—English, mathematics, or sociology, for example. There are 21 of these majors. In either case, students will have to take at least 30 credits in their chosen major, of which 24 must be at the junior or senior level. Additionally, students who choose a disciplinary major must select an interdisciplinary minor of 18 credits, 12 of which must be taken at the junior-senior level. Of course, many majors impose prerequisites beyond these minimum requirements, so students should see an adviser early.

Finally, some students may want to pursue professional preparation. Those who want to be certified in Education will take a course of study appropriate to their chosen certification. There also are programs leading to a bachelor of social work degree, and students who already have an R.N. qualification can pursue a degree completion program in nursing. Students who want to prepare for law or medicine will need to consult advisers in these areas early, to ensure that they choose appropriate undergraduate courses. The same is true for preparation for graduate or professional schools in other fields.

Components of a Degree

<table>
<thead>
<tr>
<th>Component I</th>
<th>All-University Requirements</th>
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<tbody>
<tr>
<td>30 credits</td>
<td>27 credits of distribution consisting of:</td>
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<tr>
<td></td>
<td>9 credits of Humanities and Fine Arts</td>
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<tr>
<td></td>
<td>9 credits of Social Sciences</td>
</tr>
<tr>
<td></td>
<td>3 credits of Natural Sciences and Mathematics</td>
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<td></td>
<td>3 credits of Senior Seminar</td>
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<tr>
<th>Component II</th>
<th>Supporting Courses</th>
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<tbody>
<tr>
<td>credits vary with major</td>
<td>Preparatory and methods courses appropriate to the major (usually lower-level courses)</td>
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<tr>
<th>Component III</th>
<th>Major</th>
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<tbody>
<tr>
<td>30-48 credits minimum</td>
<td>The major is flexible; students choose:</td>
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<tr>
<td></td>
<td>1. Interdisciplinary major (minimum of 30 credits in the major; 24 of these credits must be at the junior-senior level)</td>
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<tr>
<td></td>
<td>OR</td>
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<td></td>
<td>2. Disciplinary major (minimum of 30 credits in the major; 24 of these credits must be at the junior-senior level)</td>
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<tr>
<td></td>
<td>PLUS</td>
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<tr>
<td></td>
<td>Interdisciplinary minor (minimum of 18 credits; 12 of these credits must be at the junior-senior level)</td>
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<tr>
<th>Component IV</th>
<th>Other Options</th>
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<tr>
<td>credits vary</td>
<td>Courses to bring total credits to minimum of 124 degree credits required for graduation such as:</td>
</tr>
<tr>
<td></td>
<td>1. Minor or additional minor in disciplinary or interdisciplinary program</td>
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<td></td>
<td>2. Teaching certification program</td>
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<td></td>
<td>3. Other specific professional program</td>
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<td></td>
<td>4. Electives</td>
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<td>5. Other possibilities to be designed with an adviser</td>
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</table>

Total 124 credits (minimum requirement)
Programs of Study

● Disciplinary Majors and Minors

**Humanities and Fine Arts**
- Art
- Communication Processes (mass communication, photography, speech, linguistics)
- History
- Literature-Language: English
- Literature-Language: French
- Literature-Language: German
- Literature-Language: Spanish
- Music
- Philosophy
- Theater

**Natural Sciences and Mathematics**
- Biology
- Chemistry
- Earth Science
- Mathematics
- Physics

**Social Sciences**
- Anthropology (minor only)
- Economics
- Geography
- Political Science
- Psychology
- Sociology

**Professional Studies**
- Managerial Accounting

● Interdepartmental Majors and Minors

- Environmental Planning
- Information and Computing Science (major only)
- International Studies (minor only)
- Women's Studies (minor only)

● Areas of Emphasis

By choosing areas of emphasis offered through several of the interdisciplinary and disciplinary majors, students can develop significant components of their education in areas such as computer science, social gerontology, science communication, environmental design, energy science and technology, regional planning, and many others. Students can learn about these emphases by reading descriptions in this catalog of the major and minor programs in their interest area and by consulting advisers.

● Personal Major

Students whose goals are not met by any of the University's majors, may, with the help of advisers, design a personal major. This is a rigorous process, described in more detail elsewhere in this catalog.

● Professional Studies

These are specific career preparation programs taken in addition to the major. Professional programs at UWGB are:
- Education (teaching certification)
- Military Science
- Nursing
- Social Work and Social Services

● Preprofessional Programs

Such programs are prepared for through UWGB majors and minors either by completing a four-year degree in preparation for entering a professional school, or by completing two or three years of preparatory work at UWGB and transferring to a professional school. Examples of preprofessional programs include:
- Agriculture
- Architecture
- City Planning and Community Development
- Dentistry
- Engineering
- Journalism
- Law
- Medicine
- Nursing
- Pharmacy
- Social Work
- Theology
- Veterinary Medicine

● Other Options

External Degree Programs

Students unable to complete a degree through a regular on-campus program, or persons who already have some college credits, may wish to explore the University Without Walls program of the Extended Degree in General Studies. Both are described elsewhere in this catalog.

Associate of Arts Degree

A two-year program of study leading to an Associate of Arts degree may be completed at UWGB. Interested students should read the description in this catalog and consult an adviser.

Graduate Studies

Students may continue their studies at UWGB beyond the bachelor's degree in specific master's degree tracks. These are described briefly in this catalog; a graduate studies catalog is available.

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Academic Advice

The best advice is to get advice. Students should see an academic adviser early, and as soon as they have chosen a major, they should see the faculty adviser for that major. (Faculty advisers for the academic areas are listed in each fall and spring semester Timetable.) Students who seek advice will be surprised how quickly all the elements of their degree fall together in a coherent pattern. Advisers also will help in making particular decisions, such as whether or not to pursue a double major, or what supporting courses are needed to prepare for a major, and what special opportunities exist to enable students to pursue their own interests.

For students transferring into UWGB from another university, it is doubly important to see an adviser. Most, if not all, of their credits will count toward a UWGB degree. To avoid duplication, it is important that transfer students understand which requirements their previous courses fulfill.
Residence Requirement

To graduate from UWGB, at least one year of residence work (31 credits) at the junior or senior level is required, including at least half the advanced work in the student’s major. Students who choose minors must also complete half of the advanced work in the minor at UWGB. 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 the 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 chairperson of the student’s major and, if necessary, by the director of general education.

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 and types of courses 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.

English Proficiency Requirement

All students must demonstrate mastery of basic writing skills by either achieving a specified minimum score on the ACT (freshmen) or on the UWGB English Placement Test (other entering students). Performance on one of these tests is used to place students in one of four categories:

- In need of substantial development—Student must complete 553-003, Fundamentals of Writing, which is a noncredit course, and then successfully complete 552-100, College Writing, a credit course.
- In need of further development—Student takes 552-100, 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.
- Adequate—Student is not required to take a writing course, but is encouraged to continue to develop writing ability, perhaps by taking 552-105, Expository Writing.
- Quite good—No writing courses required, but such students also are encouraged to continue developing their abilities by taking Expository Writing or one of the more advanced writing courses.

All-University Requirements

All-University requirements total 30 credits 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 among 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 at UWGB. They may satisfy the 27-credit general education and distribution requirements by either transferring or completing nine credits each in the humanities and fine arts, social sciences, and natural sciences. Advance planning and selection of specific applicable courses before transfer is helpful in fulfilling the general education requirement.

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 their credit evaluation is completed.
General Education and Distribution

The general education and distribution requirement gives students opportunities to learn the distinctive approaches or procedures of each broad area of knowledge—humanities, 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.

Students choose the first three-credit course in each area of knowledge from a list of courses which provide both an overview and a foundation for a deeper examination of values and particular fields of study within that area of knowledge. Students then select the second three-credit course from an approved list of courses which focus in greater depth on the problems and value issues raised by the subject matter of the foundation course. The last three-credit course in each area is a distinctive and fine arts, social sciences, and natural sciences.

There is a time limit policy for fulfilling general degree requirements including the 27-credit general education requirement and the English proficiency requirement. Students must complete these requirements within five years from the date they enroll as matriculated degree candidates. Students who fail their academic papers before June 1, 1985, must complete these requirements by 1989.

Following are some examples of combinations of courses which may be taken to meet general education requirements. These are by no means the only possibilities. Students should consult the Academic Advising Handbook, the Timetable, and other registration information to find current all-University requirement course offerings. Some sample all-University requirements course combinations are:

**Humanities and Fine Arts**

**Example 1:**
- 242-261 Foundations of Aesthetic Experience
  **AND**
- 493-340 Perspectives on Human Values: Classical
  **AND**
- 552-214 Introduction to English Literature

**Example 2:**
- 448-208 Development of Modern Science in Western Society
  **AND**
- 493-333 Utopia and Anti-Utopia
  **AND**
- 242-160 Introduction to Language

**Example 3:**
- 495-101 Foundations of Western Culture I
  **AND**
- 552-206 Women in Literature
  **AND**
- 242-121 Masters and Masterpieces of Music

**Example 4:**
- 552-106 Great Books
  **AND**
- 736-104 Freedom and Individuality
  **AND**
- 246-102 Introduction to Mass Communication

**Natural Sciences**

**Example 1:**
- 478-102 Introduction to Human Biology
  **AND**
- 478-206 Fertility, Reproduction and Family Planning
  **AND**
- 862-102 Introduction to Environmental Sciences

**Example 2:**
- 754-103 Fundamentals of Physics I
  **AND**
- 862-192 Technology and Society
  **AND**
- 156-110 Introduction to Physical Anthropology

**Example 3:**
- 862-102 Introduction to Environmental Science
  **AND**
- 862-236 Forest Vegetation of Wisconsin
  **AND**
- 204-202 Principles of Biology I

**Example 4:**
- 204-202 Principles of Biology I
  **AND**
- 479-250 World Food and Population Issues
  **AND**
- 296-202 The Earth's Physical Environment

**Social Sciences**

**Example 1:**
- 156-100 Varieties of World Culture
  **AND**
- 875-203 Prejudice and the Human Condition
  **AND**
- 834-220 Introduction to Regional Analysis

**Example 2:**
- 156-202 Macro Economic Analysis
  **AND**
- 875-270 Third World: Development or Despair
  **AND**
- 944-200 Introduction to Urban Studies

**Example 3:**
- 481-210 Introduction to Human Development
  **AND**
- 875-235 Sex and Society
  **AND**
- 778-100 Introduction to Political Science

**Example 4:**
- 900-202 Introduction to Sociology
  **AND**
- 156-220 Myth, Ritual and Religion
  **AND**
- 875-241 Women and Changing Values

**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 interdisciplinary courses to the broad fundamental concepts and issues that make up 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 environmental, 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 such concepts as freedom, progress, imagination, myth, ecological systems, various educational and intellectual theories, and the like.
Humanities and Fine Arts

Art

Associate Professors: Ronald Baba, design methodology, environmental design; David Damkoehler, design methodology, drawing, design, sculpture, environmental design; American culture; Jerry Dell, photography; Curt Hauer (chairperson), ceramics, design, drawing, oriental art; Robert Plum, art metals, drawing; art education, aesthetic awareness; Thomas Tasch, sculpture, drawing, contemporary arts; Karen Winzenz (curator of art), textiles, arts, painting, mixed media, contemporary arts.

Assistant Professors: Elizabeth Jones, art history, film; Evelyn Teikari, graphic communication, graphic history.

Academic Staff: Marjorie Mau (assistant to the curator), gallery management; Robert Ratczak, art specialist.

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

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

Requirements for the Major

The major in art may be taken with one of three possible emphases: studio, art management or art education, each with slightly different requirements.

Major With Studio Emphasis

Supporting Courses

Nine credits required:
242-102 History of Visual Arts I: Ancient to Medieval
242-103 History of Visual Arts II: Renaissance to French Revolution
242-202 Issues and Concepts in Modern Art

Freshman-Sophomore-Level Requirements

Design Core (6 credits required):
168-105 Drawing
168-106 Design Methods
168-107 Two-Dimensional Design

Introductory Studios

(6 credits required from the two-dimensional group and 6 credits required from the three-dimensional group; 12 credits total required):

Two-dimensional introductory studios:
168-200 Introduction to Mixed Media on Paper
168-210 Introduction to Painting
168-243 Introduction to Photography

Three-dimensional introductory studios:
168-220 Introduction to Sculpture
168-230 Introduction to Ceramics
168-250 Introduction to Experimental Textiles
168-260 Introduction to Art Metals

A sample schedule for freshmen and sophomore years would include:

Freshman Year:
6 credits supportive background courses
6 credits design core
15-18 credits all-University requirements and interdisciplinary minor coursework

Sophomore Year:
3 credits supportive background courses
3 credits design core
6 credits introductory studios
15-18 credits all-University requirements and interdisciplinary coursework

Junior-Senior-Level Requirements

Students majoring in art are required to complete a minimum of 24 credits of junior-senior-level coursework distributed as follows:

Art History (6 credits required):
168-390 19th and 20th Century Art
168-490 Contemporary Art: 1945-present

Studio (18 credits minimum required):
Eighteen junior-senior-level studio credits in one or two studio areas, but no fewer than nine credits nor more than 12 credits in any one studio area. Students seeking careers in art or preparing for graduate study are advised to take as many and as varied art courses as possible. Juniors will complete an academic plan with an academic advisor and select upper-level studio courses to meet requirements and individual interests. The following are sample 18-credit course groups for individual fields of study.

Sample Fields of Study

Painting:
168-301 Life Drawing and Anatomy
168-311 Intermediate Painting
168-314 Watercolor Painting
168-343 Photography II
168-401 Advanced Life Drawing
168-410 Advanced Painting

Drawing:
168-301 Life Drawing and Anatomy
168-311 Intermediate Painting
168-373 Intaglio Printing
168-377 Lithography
168-401 Advanced Life Drawing (6 credits)

Sculpture:
168-301 Life Drawing and Anatomy
168-321 Intermediate Sculpture
168-332 Intermediate Ceramics: Moldwork
168-364 Art Metals: Casting
168-421 Advanced Sculpture (6 credits)

Ceramics:
168-301 Life Drawing and Anatomy
168-321 Intermediate Sculpture
168-331 Intermediate Ceramics
168-332 Intermediate Ceramics: Moldwork
168-343 Photography II
168-431 Advanced Ceramics

Photography:
168-301 Life Drawing and Anatomy
168-311 Intermediate Painting
168-343 Photography II
168-344 Photography II
168-375 Screen Printing
168-443 Advanced Problems in Photography

Art Metals:
168-301 Life Drawing and Anatomy
168-321 Intermediate Sculpture
168-343 Photography II
168-364 Art Metals: Casting
168-453 Advanced Art Metals (6 credits)

Fiber/Textile:
168-301 Life Drawing and Anatomy
168-311 Intermediate Painting
168-343 Photography II
168-353 Intermediate Textiles: Fiber
168-355 Intermediate Textiles: Papermaking
168-453 Advanced Textiles

Printmaking:
168-301 Life Drawing and Anatomy
168-311 Intermediate Painting

Requirements for the Major
Major With Art Management Emphasis

Students majoring in art may elect to complete an emphasis in art management.

Supporting Courses

Nine credits required:
242-102 History of Visual Arts I: Ancient to Medieval
242-103 History of Visual Arts II: Renaissance to French Revolution
242-202 Issues and Concepts in Modern Art

Freshman-Sophomore-Level Requirements

Design Core (9 credits required):
168-105 Drawing
168-106 Design Methods
168-107 Two-Dimensional Design

Introductory Studios
(6 credits required from the two-dimensional group and 6 credits required from the three-dimensional group; 12 credits total required)

Two-dimensional introductory studios:
168-200 Introduction to Mixed Media on Paper
168-210 Introduction to Painting
168-243 Introduction to Photography

Three-dimensional introductory studios:
168-220 Introduction to Sculpture
168-230 Introduction to Ceramics
168-250 Introduction to Experimental Textiles
168-260 Introduction to Art Metals

A sample schedule for freshman and sophomore years would be the same as the major with studio emphasis.

Junior-Senior-Level Requirements

Students majoring in art with an emphasis in art management are required to complete a minimum of 27 credits of junior-senior-level course work distributed in this way:

Art History (6 credits required):
168-390 19th and 20th Century Art
168-490 Contemporary Art: 1945-Present

Studio
(12 credits required with no more than 9 credits from any one studio area)

Arts Management Core
(9 credits required):
168-395 Exhibition Design and Development, 2 cr.
168-396 Gallery Practice, 1-3 cr. (may be repeated twice up to a maximum of 9 credits)
168-497 Internships in Arts Management, 3-9 cr.

Recommended Supporting Electives
(9 credits recommended, 3 credits from each of the following areas):

Communication skills:
246-133 Fundamentals of Public Address
552-105 Introduction to Expository Writing
552-304 Advanced Expository Writing

Anthropology:
156-210 Introduction to Cultural Anthropology (all-University requirement credit)
156-330 Aesthetic Anthropology

Management:
575-395 Management of the Nonprofit Organization

• Option 2
(Special permission of Education adviser and certification officer required)
481-332 Human Development II: Middle Childhood and Adolescence
AND
302-406 Evaluation and Testing in Education
OR
481-431 Cognitive Development

Other professional courses:
302-301 Introduction to Education and Teaching, 3 cr.
302-303 Principles and Methods of Teaching Art in Elementary School, 2 cr. (required for elementary school level certification)
302-316 Principles and Methods of Teaching Secondary School Art, 3 cr. (required for secondary school level certification)
302-318 Reading and Study Skills in the Secondary School, 2 cr.
302-402 Student Teaching or Internship at the Elementary School in Art, 6-12 cr. *
302-403 Student Teaching or Internship at the Secondary School in Art, 6-12 cr. *
302-410 Introduction to Education of Exceptional Children, 3 cr.

* A minimum of 8 credits of student teaching in art is required if certification is only at one level, e.g., elementary or secondary. Students who are being certified in grades K-12 must take a minimum of six credits of student teaching at each level.

Art Course Requirements

To satisfy requirements for the major with art education emphasis a minimum of 54 art credits to include the following competencies:

Required supporting courses (6 credits):
242-102 History of Visual Arts I: Ancient to Medieval
242-103 History of Visual Arts II: Renaissance to French Revolution

Art history (a minimum of 2 semesters required):
168-390 19th and 20th Century Art, 3 cr.
168-490 Contemporary Art (1945-present), 3 cr.

Basic design studios (a minimum of 3 semesters of introduction and fundamentals required):
168-105 Drawing, 3 cr.
168-106 Design Methods, 3 cr.
168-107 Two-Dimensional Design, 3 cr.

Photography (a minimum of 1 semester required):
168-243 Introduction to Photography, 3 cr.
Careers and Advanced Study

Students completing the major in art might choose to go on to graduate studies in art, studio (any medium), art education, architecture, urban planning, design, illustration or art history as a possible focus.

Students not seeking advanced study find employment in graphic design, display design, public and private art teaching, independent studio work and art-related retailing. Students with a minor in art management find management and curatorial positions in museums, art centers, galleries, and nonprofit art organizations.

Requirements for the Minor

The minor in art serves three types of students. First, those fulfilling a personal interest in art without professional aspirations. Second, those seeking to add the visual skills of a disciplinary minor in art to their career preparations, such as interdisciplinary majors in Communication and the Arts (particularly graphic communicators, aesthetic awareness and environmental design), Humanistic Studies, Urban Studies, and Environmental Planning. Third, those who intend the minor as a component of their professional studies, most particularly Education, but also business (advertising and marketing) and nursing.

Students in any field may find the visual skills of the art minor an appropriate supplement to their academic preparation in the context of our visually oriented, media-driven culture.

Employment fields in which the art minor would be appropriate include education, communications, marketing, advertising, publishing and journalism, retailing and therapy.

Minor With Three-Dimensional Emphasis

Freshman-Sophomore-Level Requirements

- Background Course (3 credits required): 242-202 Issues and Concepts in Modern Art
- Design Core (6 credits required): 168-105 Drawing 168-106 Design Methods
- Introductory Studios (6 credits required, selected from the following group): 168-220 Introduction to Sculpture 168-290 Introduction to Experimental Textiles 168-260 Introduction to Art Metals

Junior-Senior-Level Requirements

Select 6 credits, for which the student has the appropriate prerequisites, from the following group:

- 168-300 Intermediate Drawing
- 168-310 Life Drawing and Anatomy/Advanced Life Drawing
- 168-314 Intermediate Painting/Advanced Painting
- 168-315 Intermediate Ceramic/Advanced Ceramics
- 168-343 Photography I
- 168-344 Photography II
- 168-371 Studio Elective
- 168-375 Advanced Drawing

Minor With Two-Dimensional Emphasis

Freshman-Sophomore-Level Requirements

- Background Course (3 credits required): 242-202 Issues and Concepts in Modern Art
- Design Core (6 credits required): 168-105 Drawing 168-106 Design Methods
- Introductory Studios (6 credits required, selected from the following group): 168-220 Introduction to Sculpture 168-290 Introduction to Experimental Textiles 168-260 Introduction to Art Metals

Junior-Senior-Level Requirements

Select 6 credits, for which the student has the appropriate prerequisites, from the following group:

- 168-300 Intermediate Drawing
- 168-310 Life Drawing and Anatomy/Advanced Life Drawing
- 168-314 Intermediate Painting/Advanced Painting
- 168-315 Intermediate Ceramic/Advanced Ceramics
- 168-343 Photography I
- 168-344 Photography II
- 168-371 Studio Elective
- 168-375 Advanced Drawing
Minor With Art History Emphasis

Freshman-Sophomore-Level Requirements

Fifteen credits required:
168-105 Drawing
168-107 Two-Dimensional Design
242-102 History of Visual Arts: Ancient to Medieval
242-103 History of Visual Arts: Renaissance to French Revolution
242-202 Issues and Concepts in Modern Art

Junior-Senior-Level Requirements

Six credits required:
168-390 19th and 20th Century Art
168-490 Contemporary Art: 1945-Present

Communication and the Arts

Professors: Robert Bauer, director of bands, flute, music education; Trinidad Chavez, director of choral activities, voice, choir and vocal ensembles, conducting, music education; Arthur Cohrs (Chair), keyboard, music theory, aesthetic awareness; Jack Frisch, interpersonal communication, theater history, directing; Donald Larmouth, linguistics; Timothy Meyer, electronic media; Richard Sherrill, theater history and criticism, aesthetic awareness.

Associate Professors: Clifford Abbott, linguistics; Jerome Abraham, low brass, music appreciation; Margaret Channon, keyboard, piano pedagogy; David Dankoehler, environmental design, drawing and design, graphics, sculpture; Jerry Dell, photography, graphics, electronic media; Curtis Heuer, ceramics, drawing and design, aesthetic awareness; Lovell Ivie, jazz studies, arranging, trumpet; Wayne Jaeckel, jazz studies, woodwinds; Charles Matter, aesthetic perception, human information processing, cognitive psychology; Dean O'Brien, journalism, mass media; Terence O'Grady, music theory and history; Robert Purn, art metal, jewelry design, drawing, art education, aesthetic awareness; Patricia Ridge, acting, directing, stage movement; Karin Wilczynski (Curator of Art), textile arts, painting, drawing.

Assistant Professors: Phillip Clampitt, communication theory, organizational communication, public address; Jeffrey Entwistle, technical theater, stage and lighting design; Mark Fonder, low brass ensembles, music education; Raymond Gabica, technical theater, costume design; Patricia Johnson, linguistics, English as a second language; Elizabeth Jones, art history, film; Susan Matthews, voice, vocal ensembles, women and minorities in music; Evelyn Tolikari, graphic communication.

Lecturer: Michael Mills, technical theater.

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

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

Requirements for the Major and Minor

The Major. An interdisciplinary major in Communication and the Arts requires a minimum of 12 credits at the freshman-sophomore level and a minimum of 24 credits at the junior-senior level. In some programs the minimum requirements will be higher. The major is offered with an emphasis in aesthetic awareness or in broadfield communication, along with programs in environmental design, science communication and women's studies, offered in association with other concentrations at UWGB.

The Minor. An interdisciplinary minor in Communication and the Arts is combined with another major, usually a disciplinary program such as art, theater, music or communication processes. There is a nine credit freshman-sophomore requirement and a 12 credit junior-senior minimum requirement. The minor is offered in four programs of emphasis, including aesthetic awareness, graphic communication, broadfield communication, and arts awareness.

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.

The emphasis in aesthetic awareness focuses on a broad understanding and appreciation of art and aesthetic perception. It may be combined with one or two minor programs, especially those in art disciplines. The major requires a minimum of 12 credits at the freshman-sophomore level and 24 credits at the junior-senior level. Up to six credits at the lower level, and nine credits at the upper level may be chosen from related disciplines, but the credits cannot be simultaneously applied to a major or minor program in that discipline.

Freshman-Sophomore Courses

242-261 Aesthetic Awareness: Foundations (required)
242-102 History of the Visual Arts: Ancient to Modern
242-103 History of the Visual Arts: Renaissance to French Revolution
242-121 Masters and Masterpieces of Music
242-141 Introduction to the Performing Arts: Theater and Music
242-142 Performing Arts Perspectives: Experience and Evaluation
242-202 Concepts and Issues of Modern Art
242-210 Film and Society
242-221 Popular Music Since 1955
242-222 The Arts in the U.S.
242-272 Women in the Visual and Performing Arts

Junior-Senior Courses

Four of the following courses are required in the program:

242-361 Aesthetic Awareness: Interpretation
242-362 Aesthetic Awareness: Psychology of Aesthetic Perception
242-364 Aesthetic Awareness: Creation
242-462 Aesthetic Awareness: Research
242-463 Aesthetic Awareness: Evaluation

The remaining courses may be chosen from the following:

242-310 Criticism of the Performing Arts
242-329 Expressive Traditions (American Show Music; Ethnomusicology; Jazz History, or Art of India and Japan)
242-370 Modern American Culture
242-372 Aesthetic Awareness: Traditional Art Styles
242-373 Aesthetic Awareness: Avant-garde Art Styles
242-380 The Arts: London
242-430 Mass Media and Society
242-477 Women as Creative Agents

The minor in aesthetic awareness requires a minimum of nine credits at the freshman-sophomore level (including the foundations course), and a minimum of 12 credits
at the junior-senior level. At least six credits of the lower level courses must be in areas of study outside the student's disciplinary focus to ensure that all students have a general exposure to the arts and the background necessary to complete the core courses in aesthetic awareness successfully. At the upper level, at least two courses must be taken from the core courses.

**Broadfield Communication**

The concentration program in broadfield communication integrates several different dimensions, depending upon the individual student's academic direction. It includes coursework 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, or mathematics, among others.

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

The minor in broadfield communication, usually combined with one or two disciplinary minors, requires a minimum of 12 credits at the freshman-senior level and 24 credits at the junior-senior level, of which 12 credits must be taken from the core courses.

**Freshman-Sophomore Courses**

- 242-160 Introduction to Language (required)
- 242-210 Film and Society
- 242-221 Popular Music Since 1955
- 242-243 Native American Cultures: Film and Performance I
- 242-244 Native American Cultures: Film and Performance II
- 242-331 Introduction to Graphic Communication
- 246-102 Introduction to Mass Communication

**Junior-Senior Core Courses**

- 242-332 Language and Human Conflict
- 242-370 Modern American Culture

- 242-375 Communication Skills: The Language of Metaphor
- 242-430 Mass Media and Society
- 242-450 Construction of Public Images

**Other Junior-Senior Courses**

- 242-329 Expressive Traditions (Jazz, History, or American Show Music)
- 242-331 Graphic Communication Studio I
- 242-332 Graphic Communication Studio II
- 242-362 Aesthetic Awareness: Psychology of Aesthetic Perception
- 242-483 Communications: London

The minor in broadfield communication, combined with a disciplinary major, requires a minimum of nine credits at the freshman-senior level (including the introduction to Language course), and 12 credits at the junior-senior level. At least six credits at the upper level must be taken from the core courses.

**Graphic Communication**

An interdisciplinary minor course of study in graphic communication is available in association with disciplinary programs in communication processes, art, or chemistry. A professional program in business also is recommended. The 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 business administration to pursue as an outside minor area of study.

All students in the graphic communication emphasis must complete a minimum of nine credits at the freshman-senior level, of which six credits must be in areas of study outside the student's disciplinary focus. A minimum of 12 credits must be taken at the junior-senior level, including at least six credits from the core courses.

**Freshman-Sophomore Courses**

- 242-231 Introduction to Graphic Communication (required)
- 242-102, 103 History of the Visual Arts I, II
- 242-160 Introduction to Language
- 242-102 History of the Visual Arts I, II
- 242-107 Introduction to Mass Communication
- 552-105 Introduction to Expository Writing

Students enrolling in business or chemistry are advised to enroll 242-231, 246-102, and 246-243 Introduction to Photography, and 165-106 Design Methods, for their lower level courses.

**Junior-Senior Core Courses**

- 242-331 Graphic Communication Studio I
- 242-332 Graphic Communication Studio II
- 242-432 Graphic Communication Workshop

**Other Junior-Senior Courses**

- 242-370 Modern American Culture
- 242-430 Mass Media and Society
- 242-483 History of Graphic Communication
- 246-346 Photographic Design for Print Media

All students pursuing a program in graphic communication are advised to enroll additional coursework in computer science and chemistry.

**Arts Awareness**

An interdisciplinary minor program in arts awareness is available to students desiring a broad exposure to the arts. For students pursuing a major in an arts discipline, this program provides a comparative, historical and critical study of all the arts, to help them place their discipline in better focus. For students majoring in areas outside the arts, this curriculum provides a breadth of approach for proper appreciation of the arts, without requiring the technical or artistic ability necessary in the specific disciplines.

There is a nine credit freshman-senior requirement and a 12 credit junior-senior requirement, which includes at least six credits chosen from among the core courses. The remaining six credits may be chosen from related upper level courses in consultation with a concentration adviser.

**Freshman-Sophomore Courses**

- 242-261 Aesthetic Awareness: Foundations
- 242-102, 103 History of the Visual Arts I, II
- 242-121 Masters and Masterpieces of Music
- 242-141 Introduction to the Performing Arts: Theater and Music
- 242-142 Performing Arts Perspectives: Experience and Evaluation
- 242-202 Concepts and Issues of Modern Art
- 242-210 Film and Society
- 242-221 Popular Music Since 1955
- 242-222 The Arts in the U.S.

**Junior-Senior Courses**

- 242-310 Criticism of the Performing Arts
- 242-329 Expressive Traditions (American Show Music; Ethnomusicology, or Jazz History; Art of India and Japan)
- 242-372 Aesthetic Awareness: Traditional Art Styles
- 242-373 Aesthetic Awareness: Avant garde Art Styles
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. The purpose of the program is to prepare students for careers in fields such as architecture, interior design, urban design, industrial design, and urban planning.

A variety of background courses are suggested which provide the student with skills in drawing, design, and communication. These lead to advanced coursework in urban planning, urban technological design, environmental psychology, and communication. At the core of the program are four workshops courses which function as interdisciplinary design teams. The student design team accepts design projects from the surrounding community ranging in scale from the needs of the individual to those of whole communities.

The program is cosponsored by the concentrations in Urban Studies and Communication and the Arts, and students complete a program in environmental design within one of these concentrations. The description here emphasizes preparation in design principles and communication, an alternative program is located in the Urban Studies program description. The program in Communication and the Arts is:

Freshman-Sophomore Courses
(12 credits minimum)
168-105 Drawing
168-106 Design Methods (required)
242-231 Introduction to Graphic Communication
862-102 Elements of Descriptive Geometry
944-210 Drawing Systems for the Designer

Junior-Senior Courses
(21 credits minimum)
242-331 Graphic Communication Studio I
242-332 Graphic Communication Studio II
242-405 Urban Technological Design
246-335 Organizational Communication
834-325 Behavior in Designed Environments I
834-326 Behavior in Designed Environments II
944-421 Urban Planning I
944-490 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)

Science Communication

In cooperation with the concentration in Science and Environmental Change, Communication and the Arts has articulated a 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 an emphasis on science is described under Science and Environmental Change.

The basic outline of this program is:

Freshman-Sophomore Courses
Requirements in communication courses (15 credits minimum):
242-231 Introduction to Graphic Communication
246-102 Introduction to Mass Communication
246-133 Fundamentals of Public Address
246-200 Communication Processes: An Introduction
246-243 Introduction to Photography
352-103 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: 225-211, 212 Principles of Chemistry I, II
- Physics: 754-103, 104 Fundamentals of Physics I, II
- Earth Science: 296-202 Earth's Physical Environment
- Geologic Evolution of the Earth
- Geologic Field Methods
- Soil Environment
- Environmental Geology
- Mathematics

(choose one of three combinations):
600-202, 203 Calculus and Analytic Geometry I, II
600-290 Elementary Statistics
One of the following:
600-364 Biometrics
600-456 Business and Industrial Statistics
600-155 Computers and Microcomputers
600-256 Introduction to Computer Science I

Junior-Senior Courses
(30 credits minimum)

Requirements in communication courses (18 credits minimum):
242-331 Graphic Communication Studio I
242-332 Graphic Communication Studio II
242-430 Mass Media and Society
246-303 Feature Writing
246-305 Elements of Electronic Media
246-306 Radio Broadcast Practice
246-333 Argumentation and Persuasion
246-335 Organizational Communication
246-343 Photography II
246-345 Designing Multi-Media Applications of Photography
246-346 Photographic Design for Print Media
246-380 Communication Law
246-390 Scientific and Technical Communication
246-497 Internship in Communication Processes
575-425 Promotional Strategy

Requirements in environmental science courses (12 credits minimum):
- Ecology (3 credits minimum): 862-302 Principles of Ecology
- Resource Management (3 credits minimum): 862-303 Conservation of Natural Resources
- Solid Waste Management (3 credits minimum): 862-320 The Soil Environment
- Soil and Water Management Strategy
- Vegetation Management

Field Specialty (2 courses minimum)

There are several possible field specializations within this program including aquatic studies, soil waste management, air quality, natural resources, and land use, among others. What follows is a sample field specialty.

Solid Waste Management
Two courses from the following:
204-302 Principles of Microbiology
204-405 Microbial Physiology
225-311 Analytical Chemistry
862-320 The Soil Environment
862-330 Descriptive Hydrology
862-342 Environmental Geology
862-434 Water Chemistry

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

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

**Women's Studies**

Communication and the Arts is one of four concentrations supporting an area of emphasis 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 variety of traditional and non-traditional fields. Upon graduation, the final transcript of students meeting the requirements will indicate completion of a major program of studies in the women's studies area.

**Interdisciplinary Major With Women's Studies Emphasis**

**Freshman-Sophomore Courses**
(12 credits minimum):
242-272 Women in the Visual and Performing Arts (required)
875-241 Women and Changing Values (required)
242-102, 103 History of the Visual Arts I, II
242-121 Major and Masterpieces of Music
242-141 Introduction to the Performing Arts: Theater and Music
242-142 Performing Arts Perspectives: Experience and Evaluation
242-210 Film and Society
242-231 Introduction to Graphic Communication

**Junior-Senior Core Courses**
(15 credits minimum):
242-477 Women as Creative Agents (required)
875-345 Women in Cross-Cultural Perspective (required)
944-345 Women in American Perspective (required)
242-395 Images of Women in Contemporary Art
483-336 Sex Role Development in Contemporary Society
552-333 Women in 19th and 20th Century French Literature
875-340 Women as Worker
875-542 Women, Myth and Identity
875-348 Women and the Law
875-440 Women in Religion
944-375 Women: Strategies for Change

**Junior-Senior Related Courses**
(12 credits minimum):
242-561 Aesthetic Awareness: Interpretation
242-364 Aesthetic Awareness: Creation
242-372 Aesthetic Awareness: Traditional Art Styles
242-373 Aesthetic Awareness: Avant-garde Art Styles
242-463 Aesthetic Awareness: Evaluation

**Interdisciplinary Minor**

Students wishing a minor program in women's studies should consult one of the advisers for that program. A description of the program is provided in the section on Interdepartmental Programs.

**Communication Processes**

**Professors:** Jack Frisch, interpersonal communication, theater history, directing; Donald Larmouth (Chairperson), linguistics, scientific and technical communication; Timothy Meyer, electronic media.

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

**Assistant Professors:** Phillip Clappett, communication theory, organizational communication, public address; Patricia Johnson, applied linguistics; English as a second language.

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 construct those social contexts.

Students make use of the course work in this program in several ways:
- to complete a major or minor in Communication Processes as part of their academic and professional preparation, usually including work in journalism, electronic media, language, information processing and retrieval, photography, organizational communication, and communication theory.
- to satisfy requirements set by other University programs in basic skills areas such as public speaking, writing, interpersonal communication, photography, or information storage and retrieval.
- to satisfy requirements in combined program areas such as public relations (with the business administration major in Managerial Systems), Information and Computing Science (with programs in mathematics, science and Environmental Change, Regional Analysis, and others), graphic communication (with Communication and the Arts), science communication (with Science and Environmental Change), language development (with Human Development), or broad-field communication (with Communication and the Arts).
- to satisfy requirements for teacher certification in English-communication arts, journalism/media, speech/oratorical communication, and English as a second language (with the professional program in Education). Students seeking teacher certification should consult with the Communication Processes advisor and an adviser in Education early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

**Careers and Advanced Study**

Graduates from the program in Communication Processes have entered a wide variety of academic and professional areas: news reporting, photojournalism, broadcast journalism, television production, printing and publications, advertising and marketing, management consulting, teaching English as a second language in public schools and universities, technical writing and editing, public relations, and government service, as well as graduate study in photography, linguistics, information science, library science, and English as a second language.

**Requirements for the Major and Minor**

The major and minor in Communication Processes are designed to integrate a comprehensive range of coursework in various communications media—print journalism, photography, language, electronic media, and organizational communication—while also providing the opportunity to emphasize a particular field of study. This design is consistent with the goals of
liberal education as well as the best academic and professional preparation because overly narrow specializations are often less marketable in the long run.

Accordingly, students with a major in Communication Processes will complete a minimum of 15 credits in freshman-sophomore level courses designed to acquaint them with both the unity and diversity of the various forms of communication. Communication Processes majors will choose in addition an interdisciplinary minor appropriate to their particular emphasis.

Students with a minor in Communication Processes also require sufficient breadth of preparation and must complete a minimum of 12 credits in freshman-sophomore level courses. (Note that students with an emphasis in linguistics or public relations must meet additional requirements at the freshman-sophomore level, as indicated in the sample programs below.) These requirements are met from the following courses (but note that courses from Communication and the Arts and other programs cannot be double-counted; for example, if 242-231 is included as part of the major in Communication Processes, it cannot also be included as part of an interdisciplinary minor in Communication and the Arts).

**Freshman-Sophomore Courses**
- 168-105 Two-Dimensional Design
- 168-106 Design Methods
- 242-160 Introduction to Language
- 242-231 Introduction to Graphic Communication
- 246-102 Introduction to Mass Communication
- 246-133 Fundamentals of Public Address
- 246-166 Fundamentals of Interpersonal Communication
- 246-200 Communication Processes: An Introduction (required)
- 246-201 Human Information Processing (required for majors)
- 246-203 Newswriting Laboratory
- 246-205 Intercultural Communication
- 246-220 Bibliographic Organization and Control of Information
- 246-243 Introduction to Photography
- 246-283 Practicum in Print Journalism
- 552-105 Expository Writing

Students in Communication Processes are strongly encouraged to enroll coursework in computer science because of its many applications in communications. Foreign language background is required in linguistics and English as a second language. Statistics is important for students in organizational communication, while a good background in the social sciences is essential for students with an emphasis in journalism. Students in photography should have a good background in design and art history. Regardless of their special interests, all students in Communication Processes must be proficient in writing and editing.

A major in Communication Processes also requires successful completion of at least 24 junior- and senior-level credits. (Students in public relations must complete a minimum of 30 upper-level credits.) A minor requires a minimum of 12 junior- and senior-level credits. Specific courses to meet these minimum requirements are selected with the help of a faculty advisor.

A major or minor in Communication Processes usually develops an emphasis in one of the following areas: linguistics, English as a second language, electronic media, print journalism, photography, organizational communication, or public relations. Each area of emphasis requires a somewhat different set of junior-senior-level courses, but each is also designed to include sufficient breadth in complementary areas of study.

The sample programs of study presented below are intended to suggest typical course selections for different areas of emphasis, but they are not intended to impose inappropriate limits on the possibilities within the major or minor in Communication Processes, because the field is very diverse and offers many different opportunities for professional careers or advanced study.

**Print Journalism**

Students pursuing an emphasis in print journalism will probably do less work in traditional journalism courses than they would in conventional journalism programs and more work in related areas such as electronic media, graphics, publications management, and public relations. A strong liberal education, achieved through wise choice of electives, is essential preparation for professional work or advanced study. Practical experience is available to students in print journalism through a student newspaper and a professional internship program which places selected students with area newspapers, publications, marketing agencies, etc.

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. The sample program shows a typical array of upper-level courses for an emphasis in print journalism.

Students pursuing this kind of program are likely to enroll the broad-field communication curriculum in Communication and the Arts, although some may enroll the graphic communication curriculum instead. Other good choices for interdisciplinary programs are Humanities Studies, Urban Studies, and Social Change and Development, all of which enhance their preparation for professional careers in journalism. Managerial Systems also offers some good possibilities, especially marketing, and the program in Public and Environmental Administration is another good choice for students with a strong interest in public affairs reporting. Students interested in certifying as teachers in English and communication arts or journalism/mass media must complete an additional program in Education and will need further course work in literature and linguistics.

**Sample Program in Print Journalism**

(1 = required for majors; * = required for minors)

- 246-102 Introduction to Mass Communication*
- 246-200 Communication Processes: An Introduction*
- 246-201 Human Information Processing
- 246-203 Newswriting Laboratory
- 246-243 Introduction to Photography
- 246-253 Practicum in Print Journalism
- 246-303 Feature Writing
- 246-305 Elements of Electronic Media
- 246-343 Photography II
- 246-344 Photography III
- 246-353 Practicum in Print Journalism II*
- 246-380 Communication Law
- 246-390 Scientific Technical Communication
- 246-403 Advanced Reporting
- 246-445 Human Communication Theory
- 246-460 Publications Management
- 246-497 Internship in Communication Processes

**Electronic Media**

Students pursuing an emphasis in electronic media will enroll courses across a broad spectrum of systems and applications, rather than narrowly specializing in studio production. Professional work in electronic media involves much more than a "failing head" role: professional advancement requires skill in writing, editing, advertising and promotion, market research, audience analysis; it also requires understanding of new communication systems and technologies and their impact on society as well as the cultural context for their images. The scope of the program in electronic media is reflected in the sample program below.

As in print journalism, students pursuing an electronic media emphasis are likely to enroll the broad-field communication curriculum in Communication and the Arts or the
interdisciplinary programs in Humanistic Studies or Social Change and Development. Students with an interest in the advertising and marketing aspects of electronic media should consider a minor in business administration, and those interested in teaching in the public schools will need a professional program in Education as well as further coursework in linguistics and literature.

Sample Program in Electronic Media
(† = required for majors and minors; * = required for majors)
246-102 Introduction to Mass Communication
246-133 Fundamentals of Public Address
246-200 Communication Processes: An Introduction
246-201 Human Information Processing*†
246-203 Newswriting Laboratory*†
246-243 Introduction to Photography
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 Electronic Media Commercial Campaign†
246-300 Communication Law†
246-403 Advanced Reporting
246-444 Time Duration Visual Media
246-445 Human Communication Theory*†
246-447 Internship in Communication Processes.

Photography

The photography emphasis includes course work in photography and related studies to prepare students for diverse applications of photographic skills. Graduates have found positions in newspapers, commercial studios, advertising, marketing, public information, television and graphics, several have gone on to graduate programs and to teach in universities and work with galleries and museums.

Photographers should understand small and large format cameras work, printing, lighting, and portfolio preparation, and the practices of exhibition, journalism, publishing, graphics, film, and video. Contemporary photographers provide more than photographs; they find photographic solutions to problems and use knowledge from many disciplines in the process. Emphasizing theoretical concepts and practical experience, Communication Processes attempts to provide a program suitable for contemporary work in photography.

Students pursuing an emphasis in photography have a wide range of choices for interdisciplinary studies. In Communication and the Arts, students with a fine art photography orientation will probably enroll courses in the aesthetic awareness curriculum, while students interested in photojournalism or publications will enroll courses in graphic communication and/or broad-field communication courses in Communication and the Arts. But some students have combined an emphasis in photography with course work in Science and Environmental Change, while others have enrolled photography courses in conjunction with a program in Regional Analysis.

Sample Program in Photography
(† = required for majors and minors; * = required for majors)
168-105 Two-Dimensional Design
168-106 Design Methods
246-102 Introduction to Mass Communication
246-200 Communication Processes: An Introduction†
246-201 Human Information Processing†
246-203 Newswriting Laboratory†
246-243 Introduction to Photography†
246-253 Practicum in Print Journalism I
246-305 Elements of Electronic Media†
246-307 Television Production Techniques
246-308 Telecommunications Delivery Systems: Cable and Satellite
246-345 Photography II†
246-345 Designing Multiple Media Applications of Photography
246-346 Photography Design for Print Media
246-353 Practicum in Print Journalism II
246-443 Advanced Problems in Photography†
246-444 Time Duration Visual Media
246-445 Human Communication Theory†
246-460 Publications Management
246-447 Internship in Communication Processes.

Organizational Communication

An emphasis in organizational communication involves a broad range of skills, including interviewing, small group communication, communication audits, persuasion, and management. Many students will enroll courses in management, personnel management and labor relations, organizational psychology, statistics, communication theory, or computer science; some will need further work at the graduate level.

Students in this area of Communication Processes have conducted studies for area business organizations in evaluating communication effectiveness and in making recommendations for better communication practices and systems, and graduates have gone on to careers in management, personnel, private consulting firms, nonprofit organizations, and government agencies; some are working on company publications. This kind of program is much more comprehensive than traditional speech or public address curricula and offers many more opportunities for professional careers.

Students pursuing an emphasis in organizational communication are very likely to enroll management courses and a broad-field business administration curriculum in Management Systems. Those interested in government organizations enroll the program in Public and Environmental Administration. The broad-field communication curriculum in Communication and the Arts is another frequent choice for students who are more interested in mass media, language, and communication theory. Students who are interested in the teacher certification program in speech/organizational communication will enroll a professional program in Education.

Sample Program in Organizational Communication
(† = required for majors and minors; * = required for majors)
246-102 Introduction to Mass Communication
246-133 Fundamentals of Public Address
246-156 Fundamentals of Interpersonal Communication
246-200 Communication Processes: An Introduction†
246-201 Human Information Processing†
246-203 Newswriting Laboratory†
246-243 Introduction to Photography†
246-253 Practicum in Print Journalism I
246-305 Elements of Electronic Media†
246-308 Telecommunications Delivery Systems: Cable and Satellite
246-345 Photography II†
246-345 Designing Multiple Media Applications of Photography
246-346 Photography Design for Print Media
246-353 Practicum in Print Journalism II
246-443 Advanced Problems in Photography†
246-444 Time Duration Visual Media
246-445 Human Communication Theory†
246-460 Publications Management
246-447 Internship in Communication Processes.

Linguistics/Teaching English as a Second Language

An emphasis in linguistics includes course work in linguistics as well as related courses in foreign language, anthropology, logic, psychology, human development, mathematics, and computer science. 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 for providing a linguistic component for teacher certification programs in foreign languages and English-communication arts.

Linguistics is a highly diversified, interdisciplinary field, as 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.

Students intending to certify as teachers of English as a second language will concentrate more heavily upon linguistics courses and related courses in education, while students preparing for graduate study will pursue a more diversified curriculum to develop the broad background necessary for advanced work. Students in linguistics are also likely to do extensive work in information sciences and communication theory.

Linguistics is related to many other areas of study, and this is reflected in the wide variety of interdisciplinary programs chosen by students in linguistics or English as a second language. A frequent choice is the broad-field communication curriculum in Communication and the Arts, with courses in language, social policy, and the language of metaphor, but other students enroll in an interdisciplinary curriculum in Humantarian Studies. Those interested in language development in children will probably enroll in interdisciplinary programs in Human Adaptability or Human Development, while those interested in language and social problems look to the program in Social Change and Development. Students interested in teacher certification in English-communication arts or English as a second language will be required to take an additional minor in Education.

Sample Program in Linguistics/ESL

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<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
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<td>246-200</td>
<td>Communication Processes: An Introduction</td>
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<tr>
<td>246-201</td>
<td>Human Information Processing*</td>
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<td>246-205</td>
<td>Intercultural Communication†</td>
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<td>246-207</td>
<td>First-year French/German/Spaish or other approved foreign language†</td>
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<tr>
<td>246-360</td>
<td>History of the English Language</td>
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<td>249-321</td>
<td>Sociolinguistics†</td>
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<td>249-322</td>
<td>Modern Linguistics†</td>
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<td>249-324</td>
<td>Psycholinguistics</td>
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<td>249-325</td>
<td>Applied Linguistics*</td>
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<td>249-326</td>
<td>Modern Semantics</td>
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<td>249-327</td>
<td>Contrastive Linguistics and Error Analysis</td>
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<td>249-445</td>
<td>Human Communication Theory*</td>
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<td>249-497</td>
<td>Internship in Communication Processes</td>
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<td>242-301</td>
<td>Oneida Language Project</td>
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<td>302-315</td>
<td>Principles and Methods in Teaching English as a Second Language*</td>
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<td>481-431</td>
<td>Cognitive Development</td>
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<td>481-495</td>
<td>Language Acquisition in Childhood</td>
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<td>820-417</td>
<td>Psychology of Cognitive Processes</td>
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Sample Program in Public Relations

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<td>246-203</td>
<td>Information Processing*</td>
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<td>246-207</td>
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<td>246-360</td>
<td>History of the English Language</td>
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<td>249-321</td>
<td>Sociolinguistics†</td>
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<td>Modern Linguistics†</td>
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<td>Applied Linguistics*</td>
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<td>Oneida Language Project</td>
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<tr>
<td>302-315</td>
<td>Principles and Methods in Teaching English as a Second Language*</td>
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History

Professors: James A. Clifton, cultural anthropology, ethno-history, Martin H. Greenberg, international and regional politics, contemporary history; Anthony M. Galt, social anthropology, Italian history.

Associate Professors: Paul P. Abraham, U.S. history, economic history; David H. Galaty, history of science; Norbert H. Gworek, modern Europe, Central and East Europe; Harvey J. Kaye, Latin America, modern Britain, historical social change; Peter J. Kellogg, U.S. history; Craig A. Lockard, Southeast Asia, East Africa, modern and comparative world history; Jerrold C. Rodesch, U.S. history; Joyce E. Salisbury, western civilization, ancient and medieval history.

Community Lecturers: Ross Fullam, American studies; James McHale, U.S. history, U.S. economic and foreign policy; Ronald A. Pascale, ancient near Eastern civilization and history, Hellenistic civilization.

History is a method of inquiry and a body of knowledge. It systematically studies the cultural, social, and political aspirations, achievements and failures of humanity. Though history we enhance our understanding of the changes that have occurred in peoples and societies. History helps us appreciate the commonality and diversity of cultures and societies and leads us to greater awareness of the complexities of our heritage. Our judgments in the present and our plans for the future are invariably based on our understanding of the past.

History students pursuing a liberal arts education are expected to develop an awareness of the social and cultural differences in their own and other countries; to recognize how problems are defined and how their solutions emerge from the context of culture and society; to improve their
oral and written communication, and to become skilled in research and analysis.

**Careers and Advanced Study**

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, and business and social services. Indeed, in all areas in which social and humanistic research and analysis are important. History provides the indispensable core for many areas of study, particularly in the humanities and social sciences. History is valuable to students who plan to continue their education in graduate school in a broad variety of professional studies.

**Special Opportunities**

Special resources of the history disciplinary program at UWGB include internships for credit at libraries, museums, historical parks and historical publications so that students can gain practical experience. The history faculty and the Brown County Historical Society cooperate in publishing a twice-yearly historical review, Voyageur. History students may join the History Club which sponsors a variety of activities in cooperation with the Student Council for the Humanities; they also publish the Shantytown Chronicle.

**Requirements for the Major**

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

For a major each student must take a minimum of 36 credits — 12 credits from the freshman-sophomore core, and the remaining 24 credits from junior-senior-level courses. All history majors must enroll in the history seminar (448-480).

**Supporting Subjects**

Verbal and written analysis and presentation are fundamental to historical study.

Students are required to complete the following study or present evidence of equivalent competencies:

- 552-105 Expository Writing
- Study of a foreign language through the fourth semester (202 level course)

Other tools and methodologies are needed by students who have special interests that require, for example, numerical analysis and presentation. Such students may be advised to take in places of or in addition to foreign language study, Social Science Statistics (225-235) or Foundations of Social Research (225-301). Others might have a particular interest in the creative interpretation of the past through historical fiction or drama and would take creative writing courses. Similar kinds of preparation would be essential for students interested in the historical application of photography, cartography, anthropology, et cetera.

In addition to tool subjects, a student's program may require specialized background study in subject matter such as economics, political science, and others.

**Distribution of Credits**

History majors are required to take three credits in each of three area tracks and at least three credits in each thematic track. Students seeking teacher certification in history must include course work in ancient, medieval and modern European history (nine credits minimum), non-Western history (six credits minimum), and U.S. history (nine credits minimum). The courses selected must be approved by the history advisor as well as by the social studies education advisor.

**The Core Program**

*Freshman and sophomore courses (12 credits)*

At least 6 of the 12 credits must be taken from the following:

- 448-100 History of the Modern World
- 448-205 History of the United States
- 493-101, 102 Foundations of Western Culture I and II
- OR
- 448-203, 204 History of Europe, I and II

Other appropriate courses include:

- 448-201 Ancient Civilization
- 448-202 The Middle Ages
- 448-207 Roots of Black America

**Upper Level Program**

Students must consult an adviser to determine which courses best serve their interests and professional plans.

**U.S.A. Area Track**

**Socio-Political Thematic Track:**
- 448-310 American Colonial History
- 448-311 History of Wisconsin
- 448-320 U.S. Military History
- 448-322 Economic and Business History of the United States from 1786 to the Present
- 448-324 History of American Foreign Relations, 1865 to the Present
- 448-367 World Wars I and II
- 448-375 Great Decisions: Issues and Options in International Affairs
- 448-403 Political and Social History of Modern America

**Cultural-Intellectual Thematic Track:**
- 448-302, 303 History of American Thought and Culture I, II
- 448-309 History of Science in Modern Times
- 448-343 America's Urban Past
- 448-405 History of Technological Change

**Europe Area Track**

**Socio-Political Thematic Track:**
- 448-314 History of the Russian Empire
- 448-315 The Soviet Union from 1917 to the Present
- 448-325 History of Modern Germany
- 448-350 Social History of Europe
- 448-367 World Wars I and II
- 448-375 Great Decisions: Issues and Options in International Affairs
- 448-404 Political and Social History of Modern Europe

**Cultural-Intellectual Thematic Track:**
- 448-306, 307 History of European Thought and Culture I, II
- 448-309 History of Science in Modern Times
- 448-406 History of Technological Change

**Comparative Area Track**

**Socio-Political Thematic Track:**
- 448-314 History of the Russian Empire
- 448-315 The Soviet Union from 1917 to the Present
448-352 History of Modern China
448-354 History of Modern Southeast Asia
448-356 History of Africa
448-358 Aspects of Latin American History
448-375 Great Decisions: Issues and Options in International Affairs

Other junior and senior courses appropriate for the major:
493-332 Art and Social Thought
493-341 Perspectives on Human Values: The Medieval World
493-374 Wisconsin's Indians
775-360 International Politics
834-368 Geopolitics of World Regions
875-320 Constitutional Law
875-333 Social Change in a Selected Area
875-361 Historical Perspectives of Social Change
944-313 City Through Space and Time
944-345 Women in American Perspective

All majors must take the History Seminar, 448-480.

Requirements for the Minor

Because the history minor will be supplementary to or integrated with a student's major program, the basic requirements for the student's work will be defined by the major. The mix of history courses to make a history minor should be determined in consultation with the history program adviser and will vary considerably among students. In all cases it will consist of a minimum of 21 credits, of which at least 12 must be chosen from the list of junior and senior courses. No more than two courses (six credits) should be selected from courses that do not carry the 448 prefix. The History Seminar is not required for minors. Students seeking teacher certification with a minor in history will have to meet additional requirements; they should consult with the history and social studies advisers.

Academic Preparation

The history program seeks to attract students who value participation in a variety of activities in which they can gain experiences not offered in classes and to which they can contribute.

Students in history should have a strong academic high school preparation, including four years of English and Social Studies and at least two years of a foreign language. Students coming to UWGB without these high school credits or equivalent proficiency should make sure that their program of study here includes at least six credits of social science outside history, three credits of literature as well as Introduction to Expository Writing (552-155), and two years of foreign language (Spanish, French or German). It is possible to get college credit for some high school foreign language work. Students should see an adviser regarding this possibility.

History and Other Programs

Students majoring in history will also choose an interdisciplinary minor. Several of UWGB's interdisciplinary concentrations provide logical support for a program in history. Depending on their future goals, a student might choose an interdisciplinary program in Humanistic Studies, Social Change and Development, Urban Studies, Regional Analysis, or Communication and The Arts. Business Administration might also be a useful combination.

Students combining the study of history with other programs should plan their studies with the help of advisers from the appropriate programs. Those seeking teacher certification should consult with the history adviser and an adviser in the Education professional program early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Humanistic Studies

Professors: James Clifton, cultural anthropology, ethnic history, North American Indians, personality and culture, religion, myth and folklore; Elmer Havens, American literature, English novel, religious studies; Frederick Kersten, humanities, phenomenology, value theory, ontology; Raquel Kersten, Spanish and Latin American literature, language, and culture; Estella Lauter, British and American literature, literary criticism, aesthetic awareness, women and the arts; Werner Prange, German language, literature, and culture; Irwin Sonnenfeld, 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 Witherrill, French language, literature, and culture.

Associate Professors: Paul Abermas, United States literature, 20th century, economic; Thomas Churchhill, creative writing, fiction, literature; Orville Clark, philosophy of art, aesthetics, American Indian art; Kenneth Fleurant (chairperson), French language, literature, and culture, French-Canadian studies, comparative literature; David Galely, history of science and technology, epistemology, African science, social services, Norbert Gaworek, modern European history, central and eastern Europe, Russia and the Soviet Union, Soviet-Western relations; Gary Greif, social and political philosophy;

Walter Herrsch, American literature, expository writing, American short story, American nature writing; Peter Kellogg, modern U.S. history, Afro-American history, urban history, social and political history of the U.S., Michael Murphy, modern English, Irish, and American literature; Gilbert Null, history of philosophy, philosophy of the sciences, phenomenology, existentialism; Jerold Roesch, American history, intellectual and cultural history, history of Wisconsin, the arts and social thought; Joyce Salisbury, ancient, medieval and religious history; Peter Stambler, creative writing: poetry, English Renaissance literature, playwriting, and theater literature; Thomas Tost, visual arts, sculpture, drawing, Martha Wallace, German language, literature, and culture, Polish language.

The humanities are concerned with personal and social values. They seek a deeper understanding of the ideas that shape our lives as they have shaped the lives of people throughout recorded history. The interdisciplinary program in Humanistic Studies is based on the conviction that contemporary society needs people who are well-versed in the major intellectual and imaginative achievements of western society, who are sensitive to other cultures and who possess the skills to think and express themselves clearly. Both analytical skills and imaginative creativity contribute to the quality of life for individuals and society.

The faculty in Humanistic Studies represent the traditional academic areas of the humanities: history, literature, philosophy, modern languages, creative writing and the fine arts in addition to several areas of the social sciences. The interdisciplinary program they have developed views knowledge not in terms of separate disciplines but rather in terms of essential connections and interrelationships, and it applies an interdisciplinary perspective to problems of society and individuals.

Both major and minor programs in Humanistic Studies emphasize the importance of breadth of knowledge and depth of perspective. Students are expected to develop the intellectual skills needed to carefully analyze and articulate a point of view, to analyze sentences and argue logically, to write, speak and analyze are hallmarks of an well-educated person as well as critical skills for a successful career in practically every professional field.
Careers and Advanced Study

Humanistic Studies is an ideal liberal arts major and, in combination with another academic area, is an excellent preprofessional minor. The following possibilities are examples based on actual programs of students with a Humanistic Studies minor, other combinations make equally good sense:

- with history, English, modern languages or philosophy for teaching, research, religion, library science, public service or the media;
- with political science or history for law;
- with business administration for management and international business;
- with sociology or anthropology for human service positions;
- with an appropriate scientific discipline for the health professions, including medical school.

Humanistic Studies and Other Programs

Either as a major or as a minor program, Humanistic Studies fulfills the UGSR graduation requirement for an interdisciplinary program. Students choosing to major in Humanistic Studies do not need to have any other major or minor. Students choosing to minor in Humanistic Studies also need a major in a complementary discipline such as in the examples listed in the preceding section. A Humanistic Studies advisor should be consulted as early as possible to assure that any specialized needs or interests are taken into consideration in the actual application of the following requirements.

Requirements for the Major

Background Expectations

Because of the importance of communication skills, students pursuing the interdisciplinary major in Humanistic Studies are expected to have completed four years of English in high school and three years of foreign language study. Deficiencies in these areas can be made up through the following courses: 552-106 Expository Writing, 3 cr.; Foreign language through the 201 level, 4-12 credits.

Freshman-Sophomore-Level Requirements

Twelve credits are required. Either A or B will provide adequate background for upper-division humanities courses.

Alternative A — 12 credits consisting of the following courses:
493-101, 102: Foundations of Western Culture I, II, 6 cr.
493-201 Introduction to Humanities I, 3 cr. OR
493-205 Art and Ideas in Western Civilization
493-302 Introduction to Humanities II, 3 cr. OR
Any history, literature, philosophy, or Humanistic Studies course

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

Students who choose option B must include four of the following courses in their upper-level programs:
493-340 Perspectives on Human Values: The Classical World
493-341 Perspectives on Human Values: The Medieval World
493-342 Perspectives on Human Values: Renaissance to Rationalism
493-343 Perspectives on Human Values: Romanticism to Naturalism
493-344 Perspectives on Human Values: The Modern World

By either route (A or B) students will receive an appropriate introduction to the humanities and an overall view of the major ideas, events and creative accomplishments in the history of western civilization.

Junior-Senior-Level Requirements

Thirty credits of course work are required on the junior-senior level in Humanistic Studies and in related disciplines (literature, language, history, philosophy).

A minimum of 15 upper-level credits must be in Humanistic Studies. This means that up to 15 credits from related humanities disciplines such as history, English, languages or philosophy may apply toward the major. This allows students, with the help of the adviser, to develop a meaningful and coherent program of courses to match their interests. Six of the Humanistic Studies credits must be from the Perspectives on Human Values series (493-340 to 344). In the senior year, all majors take 493-480, the Seminar in Humanistic Studies (three credits).

The other Humanistic Studies courses (minimum six credits) are taken from the following list, which is divided into the four general areas of study represented by the concentration. Although courses may be selected from throughout this list, students are encouraged to develop a strong, integrated focus on one or two of the four areas:

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 on Human Values: The Classical World
493-341 Perspectives on Human Values: The Medieval World
493-342 Perspectives on Human Values: Renaissance to Rationalism
493-343 Perspectives on Human Values: Romanticism to Naturalism
493-344 Perspectives on Human Values: The Modern World

Other Culture Studies
493-354 France Today
493-356 Contemporary German Culture
493-358 Latin America Today
493-359 The Americas Look at Each Other
493-361 January Abroad: German Culture
493-363 January Abroad: Mexico
493-365 January Abroad: England and its Heritage
493-374 Wisconsin Indians: Historical and Cultural Perspectives
493-376 Cultural Conflict in French Canada

Religious Studies
493-333 The Literature 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
493-394 Women and Religion

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

Requirements for the Minor

Students choosing to minor in Humanistic Studies may select one of four areas of emphasis. The first, Perspectives on Human Values, is the principal minor program, provides a broad survey of the humanities, and is intended to serve all students. The second program, The History and Foundations of Science, is designed for students majoring in the natural or social sciences who wish to complement their disciplinary major with a broad-based...
study of science as a historical and cultural phenomenon of society. The third and fourth minor programs are designed exclusively for students majoring in business.

**Background Expectations**

Students pursuing the interdisciplinary minor in Humanistic Studies are expected to have completed four years of English and (with the exception of the Business Executive area of emphasis) three years of foreign language study in high school. Students who are deficient in these areas are expected to make up the deficiency through the following core work:

- Foreign language through the 201 level, 4-12 cr.
- 552-105 Expository Writing, 3 cr.

**Perspectives on Human Values, Area of Emphasis I**

**Freshman-Sophomore Requirements** (12 credits):
- A minimum of 9 credits from the following courses:
  - 493-101 Foundations of Western Culture I: Origins to 1700
  - 493-102 Foundations of Western Culture II: 1700 to the Present
  - 493-201 Introduction to Humanities I: Art and Music
  - 493-202 Introduction to Humanities II: Literature, History, Philosophy
  - 493-295 Art and Ideas in Western Culture

Three additional credits are required in literature or history or philosophy or art history, music history, or theater history.

**Junior-Senior Requirements** (12 credits):
- A minimum of 5 credits from the following courses:
  - 493-340 Perspectives on Human Values: The Classical World
  - 493-341 Perspectives on Human Values: The Medieval World
  - 493-342 Perspectives on Human Values: Renaissance to Rationalism
  - 493-343 Perspectives on Human Values: Romanticism to Naturalism
  - 493-344 Perspectives on Human Values: The Modern World

The remaining 6 credits may be selected from the list above or from the following courses, arranged to show their relationship.

**Perspectives on Continuity and Change in Values**
- 493-302 Human Identity
- 493-305 Value Theory and the Humanities
- 493-315 Theories of Creativity
- 493-322 Art and Social Thought
- 493-333 Utopia and Anti-Utopia
- 493-480 Humanities Seminar

**Perspectives on Other Cultures**
- 493-354 France Today
- 493-356 Contemporary German Culture
- 493-358 Latin America Today
- 493-359 The Americas Look at Each Other
- 493-361 January Abroad: German Culture
- 493-362 January Abroad: Mexico
- 493-365 January Abroad: England and its Heritage

**Perspectives on Religion**
- 493-323 The Literature 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

**History and Foundations of Science, Area of Emphasis II**

**Freshman-Sophomore Requirements** (12 credits):
- Twelve credits comprised of the following four courses:
  - 493-101, 102 Foundations of Western Culture I, II
  - 493-206 The Development of Modern Science in Western Society
  - 736-206 Science and Human Values

**Senior-Senior Requirements** (12 credits):
- NOTE: Certain upper-level history and philosophy courses may be used as a substitute for 493-101 or 493-102 in consultation with the program adviser.

**Business Executive Area of Emphasis III**

**Freshman-Sophomore Requirements** (12 credits):
- 493-102 Foundations of Western Culture II
- 493-201 Introduction to Humanities I: Art and Music
- 493-202 Introduction to Humanities II: Literature, History and Philosophy

**Junior-Senior Requirements** (12 credits):
- 493-251 Business and American Life OR
- 493-250 European Economy and Society

**International Business Area of Emphasis IV**

**Freshman-Sophomore Requirements** (12-23 credits):
- 493-102 Foundations of Western Culture II
- 493-201 Introduction to Humanities I: Art and Music
- 493-202 Introduction to Humanities II: Literature, History and Philosophy

**Junior-Senior Requirements** (12 credits):
- A course dealing with other cultures

**Literature and Language**

**Programs in English, French, German, Spanish**

**Professors:** Elmer Havens, American Literature, English prose fiction; Raquel Kersten, Spanish and Latin American literature, language, and culture; Estella Lauter, literary theory, criticism, modern and contemporary poetry, women and the arts; Werner Prange, German language and literature; E. Michael Thron, English literature, Shakespeare; Louise Witherell, French language and literature.

**Associate Professors:** Sidney Bremer, American literature, women in literature, urban studies; Julie Brickley, mythology, contemporary novel, women writers; Tom Churchill, creative writing, fiction; Ken Fleuran, French language and literature, Canadian studies; Walter Herrschel (chairperson), American literature, the short story; Michael Murphy, English literature, Irish literature, Peter Stambler, creative writing, poetry, Shakespeare, British literature; Martha Wallach, German language and literature.
The literature and language disciplinary program offers majors and minors in English, French, German and Spanish.

English

Courses offered in English are intended to develop students' understanding of important works of American and English literature, to give them an awareness of — and appreciation for — our literary heritage, to provide them with a historical perspective from which to evaluate works written in their own time, and to deepen their insight into their own experience, inherent in the achievement of these aims is the development of the students' ability to express their ideas orally and in writing.

Although students frequently choose to study English primarily for personal growth and intellectual enrichment, the program is intended to prepare students for graduate work, teaching, and professional training as well as for a variety of occupations in business, industry, and government. Graduates in English have found satisfying careers in personnel work, public relations, business management, journalism, politics, free-lance writing, publishing, and other fields requiring communication skills combined with a broad humanities background.

Students majoring in English will also choose an interdisciplinary component. The English 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 arts or the performing arts usually choose Communication and the Arts. Depending on their personal preferences and career goals, students may find other interdisciplinary programs appropriate, such as Human Development or Social Change and Development.

Students desiring teaching certification in English must combine their program of English with a professional program in Education in addition to their interdisciplinary program. Such students should consult with the literature and language adviser and an adviser in Education early in their studies to insure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Requirements for the Major

Freshman-Sophomore-Level Requirements (9-12 credits)
552-105 Expository Writing (waived for qualified students)

A minimum of 9 credits from the following courses:
552-104 Introduction to Literature
552-212 Introduction to Creative Writing: Fiction
552-213 Introduction to Creative Writing: Poetry
552-214 Introduction to English Literature I
552-215 Introduction to English Literature II
552-216 Introduction to American Literature I
552-217 Introduction to American Literature II

Junior-Senior-Level Requirements (24 credits in upper division literature, language, or writing courses distributed this way)

Required courses, 6 credits:
552-323 Approaches to Literature
552-431 Shakespeare

A minimum of 3 credits in pre-1800 literature, chosen from courses such as these:
552-310 Major English Drama (before 1800)
552-315 The English Novel from 1700 to 1860
552-335 Literary Eras: The Renaissance in England

A minimum of 3 credits in literature in translation, chosen from courses such as these:
552-350 Major French Drama
552-351 Major German Prose Fiction
552-438 Major Spanish Writer

Electives in literature, language, or writing, totaling 12 credits, such as these:
246-320 History of the English Language
552-302 Fiction Writing Workshop
552-304 Advanced Expository Writing
552-316 English Novel: 1850-Present
552-331 Major American Prose Fiction
552-333 Literary Themes
552-490 Seminar in Literature
552-498 Poetry: Advanced Tutorial

Creative Writing

Students interested in creative writing may count 12 credits of writing courses towards their English major. The creative writing workshops (such as 552-302, Fiction Writing Workshop), may be taken twice for credit towards the major. Here is a sample program for students interested in an English major with a creative writing emphasis

552-212 Introduction to Creative Writing: Fiction
552-213 Introduction to Creative Writing: Poetry
552-214 Introduction to English Literature I

552-217 Introduction to American Literature I
552-220 Fiction Writing Workshop (may be repeated once)
552-310 Major British Drama
552-323 Approaches to Literature
552-351 Major Foreign Fiction
552-431 Shakespeare
552-498 Poetry Writing

Requirements for the Minor

Freshman-Sophomore-Level Requirements (9-12 credits)
552-105 Expository Writing (waived for qualified students)

A minimum of 9 credits from the following literature courses:
552-212 Introduction to Creative Writing: Fiction
552-213 Introduction to Creative Writing: Poetry
552-214 Introduction to English Literature I
552-215 Introduction to English Literature II
552-216 Introduction to American Literature I
552-217 Introduction to American Literature II

Junior-Senior-Level Requirements (12 credits in upper division literature, language, or writing courses distributed this way)

552-431 Shakespeare, 3 cr. (required)

A minimum of 3 credits in pre-1800 literature, chosen from courses such as these:
552-310 Major English Drama (before 1800)
552-315 The English Novel from 1700 to 1860
552-335 Literary Eras: The Renaissance in England

Electives in literature, language, or writing, totaling 6 credits, such as these:
246-320 History of the English Language
552-302 Fiction Writing Workshop
552-304 Advanced Expository Writing
552-316 English Novel: 1850-Present
552-331 Major American Prose Fiction
552-333 Literary Themes
552-490 Seminar in Literature

Creative Writing

Students interested in creative writing may count 12 credits of writing courses towards their English major. The creative writing workshops (such as 552-302, Fiction Writing Workshop), may be taken twice for credit towards the major. Here is a sample program for students interested in an English major with a creative writing emphasis

552-212 Introduction to Creative Writing: Fiction
552-213 Introduction to Creative Writing: Poetry
552-214 Introduction to English Literature I

552-217 Introduction to American Literature I
552-220 Fiction Writing Workshop (may be repeated once)
552-310 Major British Drama
552-323 Approaches to Literature
552-351 Major Foreign Fiction
552-431 Shakespeare
552-498 Poetry Writing

The English adviser can provide further information about all aspects of the program, as well as personal assistance in helping students plan programs to meet their individual needs and interests.
French/German/Spanish Language, Literature and Culture

Language Courses for Students in All Academic Areas

A proficiency in a foreign language and an understanding of other cultures are essential to the well-being of contemporary society. Numerous professional organizations and governmental agencies recommend that foreign language study be a part of every student's program. While studying a foreign 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.

Knowledge of a second language and the cultural sensitivity that accompanies it are of great value in many academic fields such as linguistics, communications, music, art, history, anthropology, international business, sociology, political science, law, and theology. In addition, studies have shown that English skills are often enhanced by the study of a foreign language.

All foreign language courses at UWGB stress the development of practical communication skills and students are encouraged to achieve the highest level of proficiency they can. Opportunities are available for travel and study abroad (see following sections for individual languages) and advanced work in literature and cultural studies is offered for all students whether or not they actually specialize in the language program.

Students who begin their study of French, German or Spanish at UWGB should enroll in introductory courses numbered 554-101 for French, 556-101 for German, and 558-101 for Spanish. The sequence of general language courses is:

101 Introduction to French, German, or Spanish
102 Introduction to French, German, or Spanish
201 Intermediate French, German, or Spanish
202 Intermediate French, German, or Spanish
225 French, German, or Spanish Conversation and Composition
325 Advanced Oral and Written Conversation and Composition

Students who have studied a language in high school should select courses appropriate to their abilities by counting a year of high school work as roughly equivalent to a semester of college work. Retroactive credit is available for previous language study.

Retroactive Credit for Previous Language Study

Students who have taken French, German, or Spanish in high school or who have acquired a knowledge of one of those languages elsewhere may earn up to 16 additional credits for their previous foreign language study by completing a foreign language course beyond the 101 level. With a grade of "B" or better, credit will be given for all foreign language courses preceding the one in which the student has enrolled, to a maximum of 15 credits; with a grade of "BC" or "C," half credit will be given for the courses preceding the one in which the student has enrolled, to a maximum of eight credits. For example, students who have taken four years of French in high school who complete 556-225 French Conversation and Composition with a grade of "B" will receive 16 retroactive credits for French 101, 102, 201, and 202 in addition to the three credits for French 225; students who complete the course with a "C" will receive eight retroactive credits in addition to the three credits for the course.

French

The program in French provides students with the opportunity to develop practical communication skills in French along with an understanding of and appreciation for the literature, culture and people of France and the rest of the French-speaking world. The major and minor programs differ in the number of junior-senior level credits required.

In addition to regularly scheduled courses in French language, literature and culture, the French program provides opportunities for students to study with their professors individually or in small groups, and to participate in a semester in France sponsored each spring by the University of Wisconsin Urban Corridor Universities (Green Bay, Milwaukee, Oshkosh, Parkside). Credit for summer study in France and Canada is also possible.

Students who major in French will also choose interdisciplinary studies and may select any interdisciplinary minor to complement their programs. Students interested in the humanities most frequently minor in Humanistic Studies. Depending on personal interests and goals, other disciplinary minors may be appropriate, such as Human Development, Communication and the Arts, Social Change and Development, Regional Analysis or Business Administration. Students interested in teaching French should contact the Education Office early in their studies for information about teacher certification requirements.

Requirements for the Major

Freshman-Sophomore-Level Requirements (7 credits)
Retroactive credit available; see policy above.
554-202 Intermediate French II, 4 cr.
554-225 French Conversation and Composition, 3 cr.

Junior-Senior-Level Requirements (24 credits)
Required courses, 9 credits:
554-325 Advanced Oral and Written Expression in French
554-354 France Today
495-376 Cultural Conflict in French Canada

A minimum of 6 credits from the following French literature courses:
554-329 Representative French Authors
554-333 French Literary Themes
554-335 French Literary Eras
554-350 Major French Drama
554-351 Major French Fiction

A minimum of 9 credits from the following courses:
448-356 History of Africa*
493-342 Perspectives on Human Values, Renaissance to Rationalism*
493-344 Perspectives on Human Values, Romanticism to Naturalism*
552-332 Approaches to Literature
554-329 Representative French Authors
554-333 French Literary Themes
554-335 French Literary Eras
554-350 Major French Drama
554-351 Major French Fiction
554-498 French Phonetics (required for teacher certification)
554-498 Business French
554-498 Conversational French Pracicum
554-498 Readings in French Literature
554-498 Topics in French Literature

*NOTE: Course content varies; approval of adviser is required to count these courses for the French major.

Requirements for the Minor

A minor in French provides practical language skills and an introduction to French culture. It is thus an effective way to expand future career possibilities as well as a source of personal growth and satisfaction.

Freshman-Sophomore-Level Requirements (7 credits)
554-204 Intermediate French II, 4 cr.
554-225 Conversation and Composition, 3 cr.

Junior-Senior-Level Requirements (12 credits)
Required courses, 6 credits:
554-325 Advanced Oral and Written Expression in French
554-339 Representative French Authors
A minimum of 6 credits from the following courses:
493-375 Cultural Conflict in French Canada (required for certification)
554-333 French Literary Themes
554-335 French Literary Eras
554-380 French Drama
554-351 Major French Fiction
554-354 France Today (required for teacher certification)
554-398 French Phonetics (required for teacher certification)
554-398 Readings in French Literature
554-398 Topics in French Literature

The French adviser can provide further information about all aspects of the French program as well as personal assistance in helping students plan programs to meet their individual needs and interests.

**German**

The German literature and language program provides students with communication skills in both written and spoken German and with an understanding of and appreciation for German literature and culture. Graduates in German have found satisfying careers in international business, translating and interpreting, teaching, government service, and other fields in which a knowledge of German is useful or essential. German may also be used as a preprofessional major, providing students with a sound liberal arts background for further study in graduate school or for professional training.

In addition to regularly scheduled courses in German language and literature, the German program offers students the opportunity to study with their professors individually or in small groups. Students are also encouraged to enroll in January Abroad: Germany, which provides four weeks of travel and instruction in Germany during the interim period, and to spend a semester or a year in Germany as exchange students at the University of Kassel.

Students beginning the study of German may enroll in the intensive German workshop offered during the fall semester. The aim of the workshop is to develop German communication competency in one semester, completing the workshop is equivalent to completing 16 credits in introductory and intermediate German language courses. The workshop meets six hours a day, four days a week for 16 weeks. Students who complete the workshop in fall are encouraged to take the January trip to Germany and to spend the spring semester as exchange students at the University of Kassel to refine their language skills.

Students who major in German will also choose an interdisciplinary minor. They may select any interdisciplinary minor to complement their program. Students interested in the humanities usually minor in Humanities Studies; students interested in international studies frequently minor in Social Change and Development. Students interested in teaching German must combine their German program with a professional program in Education in addition to their interdisciplinary program. Such students should consult an Education adviser early in their studies to insure that their programs meet certification requirements.

**Requirements for the Major**

**Freshman-Sophomore Requirements**
(7 credits)
556-202 Intermediate German II, 4 cr.
OR
556-289 Intensive German Workshop, 16 cr. (see above)
556-225 German Composition and Conversation, 3 cr.

**Junior-Senior Level Requirements**
(24 credits)
Required courses, 3 credits:
556-325 Advanced Written and Oral Expression in German
A minimum of 6 credits from the following courses:
448-325 History of Modern Germany
493-351 January Abroad: German Culture (meets teacher certification requirements)
556-356 Contemporary German Culture (meets teacher certification requirements)

A minimum of 6 credits from the following courses:
556-329 Representative German Authors
556-333 German Literary Themes
556-335 German Literary Eras
556-350 Major German Drama
556-351 Major German Fiction
556-352 Major German Poetry
556-359 Contemporary German Culture (meets teacher certification requirement)

**Requirements for the Minor**
A minor in German provides practical language skills and an introduction to German culture. It is thus an effective way to expand future career possibilities as well as a source of personal growth and satisfaction.

**Freshman-Sophomore Level Requirements**
(7 credits)
556-202 Intermediate German II, 4 cr.
OR
556-289 Intensive German Workshop, 16 cr. (see above)
556-225 German Composition and Conversation, 3 cr.

**Junior-Senior Level Requirements**
(12 credits)
Required courses, 6 credits:
556-325 Advanced Written and Oral Expression in German
556-333 German Literary Themes
556-335 German Literary Eras
556-350 Major German Drama
556-351 Major German Fiction
556-352 Major German Poetry
556-359 Contemporary German Culture (meets teacher certification requirement)

A minimum of 6 credits from the following courses:
493-351 January Abroad: German Culture (meets teacher certification requirement)
556-333 German Literary Themes
556-335 German Literary Eras
556-350 Major German Drama
556-351 Major German Fiction
556-352 Major German Poetry
556-359 Contemporary German Culture (meets teacher certification requirement)

The German adviser can provide further information about all aspects of the German program, as well as personal assistance in helping students plan programs to meet their individual needs and interests.

**Spanish**

The Spanish literature and language program provides students with communication skills in both written and spoken Spanish and with an understanding of and appreciation for Spanish literature and culture. The growing number of Spanish-speaking people in the U.S. has significantly increased the need for teachers and speakers of Spanish. Graduates in Spanish have found satisfying careers in teaching international business, translating and interpreting, personnel work, public relations, business management, social work, government service, and other fields in which a knowledge of Spanish is useful or essential. Spanish may also be used as a preprofessional major, providing students with a sound liberal arts background for further study in graduate school or for professional training.

In addition to regularly scheduled courses...
in Spanish language and literature, the Spanish program offers students the
opportunity to study with their professors indi-
vividly or in small groups. Students are also
couraged to enroll in the January Abroad: Mexico course, which provides
four weeks of travel and instruction in Yuca-
tan during the interim period, and to take
advantage of specially-arranged plans
which allow students to spend a semester
or year at a university in Spain or Mexico as
exchange students.

Students who major in Spanish will also
choose an interdisciplinary component,
and may select any interdisciplinary con-
centration to complement their program.
Students interested in the humanities usu-
ally choose the Humanistic Studies Inter-
disciplinary program; students interested
in international studies frequently minor in
Social Change and Development. Students
desiring teaching certification in Spanish
must combine their Spanish program with a
professional program in Education in addi-
tion to their interdisciplinary program. They
should consult an Education adviser early in
their studies to make sure their programs
meet all certification requirements.

Requirements for the Major

**Freshman-Sophomore-Level Requirements (7 credits)**
- 558-202 Intermediate Spanish II, 4 cr.
- 558-225 Spanish Composition and Conversation, 3 cr.

**Junior-Senior-Level Requirements (24 credits)**
- Required courses, 15 credits:
  - 558-325 Advanced Written and Oral Expression in Spanish
  - 558-351 Major Spanish Fiction: The Narrative Art in Latin America
  - 558-358 Latin America Today
  - 558-359 The Americas Look at Each Other
  - 558-438 Major Spanish Writer: Cervantes

A minimum of 9 credits from the following courses:
- 448-358 Aspects of Latin American History*
- 558-350 Major Spanish Drama
- 558-352 Major Spanish Poetry
- 558-385 January Abroad: Mexico
- 558-496 Spanish Phonetics (required for teacher certification)
- 558-496 Advanced Spanish Grammar
- 558-498 Business Spanish
- 558-498 Writers of the Hispanic World
- 558-498 The Adolescent in Hispanic Literature
- 675-333 Social Change in a Selected Area*

*NOTE: Course content varies; approval of the adviser is required to count these courses towards a Spanish major.

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). Stu-
dents are normally expected to show profi-
ciency in at least one foreign language and
take appropriate introductory courses. A
sample program might include:

- 552-105 Expository Writing
- 552-325 Approaches to Literature
- 554-325 Advanced Written and Oral Expression in French
- 552-335 Literary Eras (Enlish)
- 554-333 Literary Eras (French)
- 554-351 Major French Prose Fiction
- 552-431 Shakespeare

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

Music

**Professors:**
- Robert Bauer, flute, director of bands, music education; Trinidad
  Chavez, director of choral activities, music education, voice, conducting; Arthur
  Cohra, piano theory; Irwin Sonenberg, theory, composition.

**Associate Professors:**
- Jerome Abraham (chairstperson), theory, history; Margaret
  Chamon, piano, accompanying, theory; Llewellyn James, jazz, trumpet, arranging;
  Wayne Jacoek, woodwinds, music history, jazz; Terence O’Grady, theory, history,
  New Music Ensemble, Collegium Musicum.

**Assistant Professors:**
- Mark Fonder, assistant director of bands, low brass, music education; Susan
  Matthews, voice, vocal ensemble.

**Lecturers:**
- Michael Arendt, horn; Nancy Glidewell, flute; Cheryl Gross, percussion;
  Lois Hall, strings; Linda Halin, piano; Scott Hunziker, voice; John
  Kolar, guitar; Vadim Mazo, strings; Jackie
  Martin, voice; Judy Poh, piano; Ruth
  Tweeten, organ. Donald Westby, tuba.

The discipline program in music is ac-
ccredited by the National Association of
Schools of Music (NASM) and offers a
major with an emphasis in applied perform-
ance or music education leading to instru-
mental, choral and general music certification, as well as a minor in music. The pro-
gram emphasizes quality training in vocal and instrumental music combined with a
broadly based general education.

Applied instruction is available in four year
sequences in piano, organ, voice, flute,
oboe, clarinet, saxophone, bassoon, horn,
trumpet, trombone, euphonium, tuba, percu-
sion, guitar, violin, viola, cello, and
string bass. Junior and senior recitals are
required of applied performance majors.
Junior recitals are required of music edu-
cation majors.

The music student has many opportunities
for solo and group performance both on
and in the community. Ensembles
providing opportunities include Marching
Band, Concert Band, Wind Ensemble,
Concert Choir, Oratorio Chorus, Jazz En-
semble, Show/Jazz Choir, New Music En-
semble, Vocal Ensemble, Collegium Musi-
cum as well as ensembles for woodwinds,
brass, string and percussion. UWGB string
students may also receive credit for per-
forming with the Green Bay Symphony
Orchestra. There is the opportunity for stu-
dents to be involved with music, dance and
drama in musical theater.

Programs for the four areas of emphasis for
music majors (applied performance, instrumental education, choral education, and general music education) and the minor in music are described in detail in the music discipline Advising Guide available from the music faculty adviser. Special requirements for certification in music education are available from UWGB's Education Office. Music students should meet with a music faculty adviser to design their specific program.

**Program Entry**

Students who wish to major in music take a placement exam in basic musicianship, covering musical notation and fundamental skills of constructing and aurally identifying scales, intervals and chords. Students who do not demonstrate the necessary skills are advised to take 705-101, Basic Musicianship, before enrolling in the music theory/literature sequence. Students also audition for placement in applied instruction and the keyboard musicianship sequence.

**Music and Other Programs**

Aside from coursework in the music discipline, music majors select a minor in an interdisciplinary concentration and take courses from the all-University requirements sequence to complete the degree program leading to a bachelor of arts or bachelor of science in music. Students should plan their coursework with a concentration adviser.

Music majors usually choose an interdisciplinary minor in Communication and the Arts. To complete the interdisciplinary minor students must take 21 credits in one of four emphases:

- **Aesthetic awareness**
- **Graphic communication**
- **Broadfield communication**
- **Arts awareness**

Upon choosing an area of emphasis, students take nine credits of freshman-sophomore concentration courses and 12 credits of junior-senior concentration courses. The lower division requirement includes three credits of a selected core course and six credits of related courses. The upper division requirements include six credits of core courses and six credits of related courses.

**Careers and Advanced Study**

Since 1971, nearly 100 percent of UWGB's graduates in music have been placed in public education, music business, or graduate study. The music discipline has one of the finest placement records in the University.

**Requirements for the Major**

**Freshman-Sophomore-Level Courses**

(required of all music majors)

- 242-121 Masters and Masterpieces of Music
- 705-115, 116 Ear Training and Sight Singing I, II
- 705-151, 152 Materials and Values in Music I, II
- 705-251, 252 Literature and Styles in Music I, II
- 707-100, 200 Applied Lessons

**Ensemble requirements:**

Concurrent enrollment in a major ensemble (directly related to the area of applied lessons) is mandatory when studying at the 100- and 200-level of applied lessons.

**Major ensembles:**

- 707-151 Orchestra (strings only)
- 707-161 Concert Choir
- 707-162 Oratorio Choir
- 707-241 Concert Band
- 707-242 Marching Band

**Keyboard musicianship requirement:**

1-4 semesters depending on placement auditions.

**Junior-Senior-Level Courses**

(required of all music majors)

- 705-316 Instrumental Arranging (keyboard, wind and percussion majors only)
- 705-351, 352 Literature and Styles I, IV
- 705-331 Choral Conducting
- OR
- 705-332 Instrumental Conducting

**Applied Emphasis**

707-300, 400 Applied Lessons

Ensemble requirements:

Concurrent enrollment in a major ensemble is mandatory when studying at the 300-level of applied lessons. Students may elect to fulfill the requirement for the 400-level with a major or minor ensemble. See listing of upper level major ensembles and minor ensembles below.

A minimum of six credits from the following is required:

- 705-325 Diction for the Voice: German
- 705-326 Diction for the Voice: French
- 705-327 Diction for the Voice: Italian
- 705-411, 412 Composition I, II
- 705-423 Seminar in Music Literature
- 705-498 Independent Study

**Choral Music Education Emphasis**

705-318 Choral Literature
- 705-344 Choral Techniques
- 705-346, 347 Keyboard Accompaniment I, II
- 707-300 Applied Lessons (wind, keyboard, string and percussion may be used as major instrument only if choral certification is being sought in conjunction with instrumental or general certification).

Ensemble requirements:

Concurrent enrollment in a major ensemble is required when studying at the 300-level of applied lessons. If student's major instrument is wind, keyboard, string or percussion, then a minimum of four semesters of choral performing groups are required, two of which must be major ensembles:

- 707-362 Oratorio Choir
- 707-461 Concert Choir

Electives:

Two semesters of enrollment in a minor ensemble are recommended. See list of minor ensembles below. If major instrument is not voice then two semesters of applied voice are required.

Education requirements:

See below.

**Instrumental Music Education Emphasis**

- 705-318 Instrumental Arranging
- 705-341 Woodwind Techniques
- 705-342 Brass Techniques
- 705-343 String Techniques
705-345 Percussion Techniques
707-300 Applied Lessons (keyboard or voice may be used as the major instrument only if instrumental certification is being sought in conjunction with choral or general music certification).

Ensemble requirements:
Two semesters of concurrent enrollment with the 300-level of applied study is required. If the major instrument is keyboard or voice, a minimum of four semesters of instrumental performing groups are required, two of which must be major ensembles.

707-351 Orchestra (strings only)
707-441 Concert Band
OR
707-442 Marching Band

See list of minor ensembles below.

Electives:
If major instrument is voice or keyboard then two semesters of applied study in wind, string or percussion is required.

Education requirements:
See below.

**General Music Education Emphasis**

705-316 Instrumental Arranging
(recommended but not required)
705-346/347 Keyboard Accompanying I and II
707-300 Applied Lessons

Ensemble requirements: Two semesters of concurrent enrollment in a major ensemble when studying at the 300-level of applied lessons is required. See list of upper-division major ensembles below.

Electives:
Two semesters of a minor ensemble are recommended. See list of minor ensembles below. If major instrument is wind, string, keyboard or percussion, then voice proficiency through Q46 level of applied music is required. One semester of applied voice (707-105) is recommended.

Major ensembles: upper division
707-351 Orchestra (strings only)
707-362 Oratorio Choir
707-441 Concert Choir
707-442 Marching Band
707-461 Concert Choir

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

**Education Requirements**

Courses required of all music education majors: Human relations requirement information for teacher certification available from the Office of Education.

**Professional Education Requirements**

Educational psychology:
• Option 1
  820-315 Educational Psychology
  AND
  481-210 Introduction to Human Development
  OR
  820-102 Introduction to Psychology
• Option 2
  (special permission of Education adviser and certification officer required)
  481-332 Human Development II: Middle Childhood and Adolescence
  AND
  302-406 Evaluation and Testing in Education
  OR
  481-431 Cognitive Development

Other Education Courses
302-301 Introduction to Education and Teaching
302-318 Reading and Study Skills in the Secondary School
302-410 Introduction to the Education of Exceptional Children

Courses required for choral certification only:
302-317 Principles and Methods of Teaching Instrumental or Choral Music
302-403 Student Teaching or Internship at the Secondary School in Music

Courses required for instrumental certification only:
302-317 Principles and Methods of Teaching Instrumental or Choral Music
302-402 Student Teaching or Internship at the Secondary School in Music (required for certification below grade 7)
302-403 Student Teaching or Internship at the Secondary School in Music

Courses required for general certification only:
302-334 Principles and Methods of Teaching General Music in the Elementary School (for certification grades K-8)
302-335 Principles and Methods of Teaching General Music in the Secondary School (for certification grades 7-12)
302-402 Student Teaching or Internship at the Elementary School in Music (for certification grades K-8)
302-403 Student Teaching or Internship at the Secondary School in Music (for certification grades 7-12)

**Requirements for the Minor**

**Freshman-Sophomore-Level Requirements**

242-121 Masters and Masterpieces in Music
705-115, 116 Ear Training and Sight Singing I, II
705-151, 152 Materials and Values in Music I, II
707-100 Applied lessons (two semesters)

Ensemble requirements: Concurrent enrollment in a major ensemble is required when studying applied lessons.

Major ensembles:
707-151 Orchestra (strings only)
707-162 Oratorio Choir
707-241 Concert Choir
707-242 Marching Band (two semesters)
707-261 Concert Choir

Keyboard requirement: 1-2 semesters depending on placement audition.

**Junior-Senior-Level Requirements**

705-331 or 332 Choral or Instrumental Conducting

Cross-cultural requirement (one of the following):
242-329 Ethnomusicology
242-339 American Show Music
242-329 Jazz History
Philosophy

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

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

Philosophy students deal with issues such as what knowledge is and under what conditions knowledge is valid or invalid, what value is and how value can be examined and established, what it means to be human and to have a history, culture, and society. Courses in philosophy thus address basic concerns with the natural and social environments. These concerns form the core of the interdisciplinary contributions by the disciplinary programs in philosophy to the programs in Humanistic Studies as well as programs that deal with social and political issues. Likewise, the courses in philosophy dealing with aesthetics contribute to programs which focus on the fine arts and communications. Courses in philosophy dealing with knowledge and learning in the sciences contribute to other programs emphasizing psychology and the natural sciences.

Careers and Advanced Study

The undergraduate study of philosophy is valuable as preparation for a wide range of postgraduate endeavors, including law, business and graduate study in disciplines other than philosophy. For example, in 1981-82, philosophy students scored 8.7 percent above the mean on the Law School Admissions Test, 11 percent above the mean on the Graduate Management Admissions Test, 7.6 percent above the mean on the verbal portion, and 4.6 percent above the mean on the quantitative portion of the Graduate Record Examination.

Requirements for the Major

The principal areas of study offered are aesthetics, social and political philosophy, history of philosophy, epistemology and metaphysics, logic, ontology, and value theory. These areas are studied in interdisciplinary applications such as the philosophy of sciences: of mathematics; of history; of politics; of law, of literature, of art, and the like. The disciplinary major in philosophy requires 30 credits.

Freshman-Sophomore-Level Requirements

A minimum of 6 credits from the following courses:
736-101 Introduction to Philosophy
736-102 Problems in Ethics
736-111 Elementary Logic
736-201 Language and Consciousness
736-208 Science and Human Values
736-210 Civilization and Culture
736-211 The Arts and Human Existence

Junior-Senior-Level Requirements (24 credits)
736-302 History of Philosophy I
736-314 History of Philosophy II
736-404 Major Philosophical Figure
A minimum of 6 credits from the following courses:
736-405 Major Philosophical Issues
736-406 Philosophical Problems in the Sciences

A minimum of 6 credits from the following courses:
736-304 American Philosophy
736-324 Contemporary Philosophical Movements
736-325 Marxist Humanism

A minimum of 3 credits from the following courses:
736-301 Criticism of Values
736-315 Philosophy of Work and Leisure
736-322 Aesthetics
736-326 Philosophy, Politics and Law
*Courses which have variable content, and which may be repeated (with different content) for credit.

Requirements for the Minor

Freshman-Sophomore Requirements (6 credits)
736-101 Introduction to Philosophy
736-102 Problems in Ethics
736-104 Freedom and Individuality
736-106 Pacifism and Violence
736-111 Elementary Logic
736-201 Language and Consciousness
736-208 Science and Human Values
736-210 Civilization and Culture
736-211 The Arts and Human Existence

Junior-Senior Requirements (12 credits):
736-302 History of Philosophy I
736-314 History of Philosophy II
736-404 Major Philosophical Figures
A minimum of 3 credits from the following courses:
736-301 Criticism of Values
736-304 American Philosophy
736-315 Philosophy of Work and Leisure
736-322 Aesthetics
736-324 Contemporary Philosophical Movements
736-326 Philosophy, Politics and Law
*Courses which have variable content, and which may be repeated (with different content) for credit.

Philosophy and Other Programs

Students majoring in philosophy will also choose an interdisciplinary program. Philosophy is inherently interdisciplinary, and will work well in conjunction with several interdisciplinary minors depending upon an individual student's goals. Especially appropriate interdisciplinary programs include Humanistic Studies, Science and Environmental Change, Communication and the Arts, Human Development, Social Change and Development, or others chosen with the help of the philosophy adviser to meet special needs.

Theater

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

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

Assistant Professors: Jeffrey Entwistle, scenic and lighting design; Raymond Gablica, costume design.

Lecturers: Carol Hoehn, dance; Michael Mills, technical director.

The theater discipline prepares students to be competent in the whole realm of theater arts by developing critical and philosophical faculties as well as expanding student capabilities for artistic expression. There are opportunities for taking either a major or minor in theater.

The theater program provides a rigorous artistic/academic environment for the study
and production of all forms of theater. A balanced approach to classical, modern and experimental theater allows students to keep in touch with the traditions of the past while looking to the future for new theater forms.

University Theatre faculty members believe that the best way to learn theater is to do theater. Students are encouraged to take advantage of the four mainstage productions offered each year and to become a part of the student Alternate Theatre organization that also produces several productions each year.

Facilities available are the 485-seat University Theatre, the smaller Experimental Theatre, the acting studio, dance studio and scene and costume shops. All facilities are well equipped for production. Casting is open and by audition. No previous experience is required in order to be considered for any roles. Many opportunities exist for backstage work. Credit can be earned for participating in productions in any capacity. Involvement in the many opportunities to experience theater will enrich students' understanding of theater and help to fully develop their own creative processes.

Careers and Advanced Study

UWGB theater graduates typically go on to accomplish distinction in graduate programs in various theater studies and activities. Students are also finding gainful employment in professional theater by working in resident theater companies, children's theater, community theater, film companies and summer stock theaters.

Theater and Other Programs

Students majoring in theater will also select an interdisciplinary program. Typically, theater students choose the interdisciplinary program in Communication and the Arts, although other concentrations may be appropriate, depending upon a particular student's goals. Students seeking teacher certification should consult with the theater program advisor and an advisor in the Education Professional program early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Requirements for the Major

Students majoring in theater are required to complete 31 credits at the freshman-sophomore level and a minimum of 30 credits at the junior-senior level. All students are required to pass the lower-division play reading comprehensive examination by spring semester of their sophomore year, and to pass the upper-division play reading comprehensive examination by spring semester of their senior year.

Performance Emphasis

Supporting Courses (6 credits required)
242-141 Introduction to Performing Arts
242-142 Performing Arts Perspectives

Freshman-Sophomore-Level Requirements

Acting core (15 credits):
709-131, 132 Beginning Acting I, II
709-231, 232 Intermediate Acting I, II
709-235 Theater Performance in the Community (acting)

Technical theater core (6 credits):
709-221 Theater Production Techniques I
709-222 Theater Production Techniques II: Costume/Make-up
709-245 Lighting Design
709-351 Directing I
709-353 Directing II

Dance core (4 credits required):
709-128 Beginning Jazz Dance
709-137 Beginning Ballet
709-141 Movement for Theater
709-145 Beginning Modern Dance

Electives (to strengthen lower-division preparation)
709-223, 234 Voice for the Actor I, II

Junior-Senior-Level Requirements

History/criticism (6 credits required):
709-309, 310 Theater History I, II

Acting/directing (15 credits required):
709-331, 332 Advanced Acting I, II
709-345, 352 Directing I, II
709-335 Theater Performance in the Community (acting or directing)

Design (9 credits required):
709-321 Scene Design
709-322 Costume Design
709-323 Lighting Design

Electives (to strengthen upper-division preparation)
709-403, 404 Seminar in Theater Arts (selected subjects)
709-498 Independent Study

Design/Technical Theater Emphasis

Supporting Courses (6 credits required)
242-141 Introduction to the Performing Arts
242-142 Performing Arts Perspectives

Freshman-Sophomore-Level Requirements:

Design/technical theater core (15 credits):
709-220 Stage Management
709-221 Theater Production Techniques I: Stagecraft
709-222 Theater Production Techniques II: Costume/Make-up
709-235 Theater Performance in the Community (technical theater)

168-105 Drawing
OR
168-106 Design Methods

Acting core (6 credits required):
709-131, 132 Beginning Acting I, II

Dance core (4 credits required):
709-128 Beginning Jazz Dance
709-137 Beginning Ballet
709-141 Movement for Theater
709-145 Beginning Modern Dance

Junior-Senior-Level Requirements

History/criticism (6 credits required):
709-309, 310 Theater History I, II

Design/technical theater courses (12 credits required):
709-321 Scene Design
709-322 Costume Design
709-323 Lighting Design
709-351 Directing I

Electives (an additional 12 credits are required from the following courses):
168-301 Life Drawing and Anatomy
709-325 Three Dimensional Stage Makeup
709-403, 404 Seminar in Theater Arts I, II
709-405 Theater Management
709-423 Advanced Stage Lighting
709-424 Advanced Technical Practices
709-498 Independent Study

Requirements for the Minor

Students taking a minor are required to complete a total of 21 credits in theater. These are specifically designated courses which will provide basic skills in a particular area of theater study and activity.
All students take:
709-131 Beginning Acting I, 3 cr. (required)

Other requirements for the minor are completed through either program A or program B below:

**Program A**

For students choosing to minor in theater history, performance or design, the following coursework is required:

**Freshman-Sophomore-Level Requirements** (12 credits required)
709-132 Beginning Acting II
709-221 Theater Production Techniques I: Stagcraft
709-222 Theater Production Techniques II: Costume/Makeup
709-235 Theater Performance in the Community

**Junior-Senior-Level Requirements**

Six credits chosen from one of the following areas:
Performance
709-351 Directing I
709-352 Directing II

History/criticism
709-300 Theater History I
709-310 Theater History II

Design/technical theater
709-321 Scene Design
709-322 Costume Design
709-323 Lighting Design

**Program B**

For students choosing to minor in theater/ dance.

**Freshman-Sophomore Requirements** (12 credits required)
709-128 Beginning Jazz Dance
709-145 Beginning Modern Dance
709-137 Beginning Ballet (2 semesters)
709-141 Movement for Theater
709-228 Intermediate Jazz Dance
709-245 Intermediate Modern Dance
709-237 Intermediate Ballet

**Junior-Senior Requirements** (6 credits required)
709-335 Theater Performance in the Community (dance)
709-340 Dance Techniques
709-440 Choreography

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**Natural Sciences and Mathematics**

**Biology**

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

**Associate Professors:** Alice Goldsby, microbiology, parasitology; Charles Ihre, genetics; Michael Morgan, plant ecology, plant physiology; Dorothea Sager, reproductive biology, embryology; Richard Stevens, human neurophysiology.

**Assistant Professor:** Robert Howe, vertebrate zoology, ornithology, mammalogy.

The biology disciplinary program prepares students for careers in traditional areas such as ecology, field biology, genetics, microbiology and physiology. Students can select biology coursework 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**

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, Toll Point, Peninsula Sanctuary, 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, micrometeorological equipment, boats and other aquatic studies equipment, instrumental and organic chemistry laboratories, and computer facilities.

**Requirements for the Major**

Two introductory courses totaling eight credits are required for the major. 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. All students are required to take a common core of upper division coursework in microbiology, genetics, physiology, and ecology.

These core courses are:
204-302 Microbiology
204-303 Genetics
204-311 Plant Physiology
204-346 Comparative Physiology
862-302 Principles of Ecology
862-472, 473 Ecosystem Analysis I, II
To complete the biology major requirement of a minimum of 32 credits, the remaining credits can be elected from courses in one of the following emphasis areas. Career goals and other interests will influence which emphasis areas students select. For teacher certification in the biology major, the minimum number of credits is 34. In consultation with a biology advisor, students may choose more than one emphasis area to complete the 34 credits.

**Emphasis Areas**

**Botany**
- 204-305 Biological Microtechnique
- 204-310 Plant Taxonomy
- 204-312 Mycology
- 204-315 Biology of Lower Green Plants
- 204-317 Structure of Seed Plants
- 204-320 Field Botany
- 479-401 Agricultural Genetics
- 862-363 Forest and Plant Pathology

**Zoology**
- 204-305 Biological Microtechnique
- 204-340 Comparative Anatomy of Vertebrates
- 204-341 Ichthyology
- 204-342 Ornithology
- 204-343 Mammalogy
- 204-345 Animal Behavior
- 204-347 Developmental Biology
- 204-355 Principles of Entomology
- 478-312 Evolutionary Processes
- 478-318 Mammalian Reproduction
- 478-404 Animal Physiology Laboratory
- 478-412 Parasitology
- 478-413 Neurophysiology

**Field Biology and Ecology**
- 204-310 Plant Taxonomy
- 204-320 Field Botany
- 204-341 Ichthyology
- 204-342 Ornithology
- 204-343 Mammalogy
- 204-355 Principles of Entomology
- 204-363 Forest and Plant Pathology
- 862-401 Stream Ecology
- 862-403 Limnology

**Organismal Biology**
- 204-304 Genetics Laboratory
- 204-317 Structure of Seed Plants
- 204-340 Comparative Anatomy of Vertebrates
- 234-345 Animal Behavior
- 234-347 Developmental Biology
- 478-318 Mammalian Reproduction
- 478-402 Human Physiology
- 478-404 Animal Physiology Laboratory
- 478-413 Neurophysiology
- 478-446 Human Histology

**Microbiology**
- 204-312 Mycology
- 204-315 Biology of Lower Green Plants
- 204-402 Advanced Microbiology
- 204-405 Microbial Physiology
- 478-412 Parasitology
- 862-363 Forest and Plant Pathology

**Supporting Courses**

Biology majors also are required to take supporting coursework in chemistry, mathematics, and composition. These supporting course requirements are:

- 225-211, 212 Principles of Chemistry I, II
- 600-260 Introductory Statistics

A minimum of three additional credits of mathematics from the following courses:
- 600-155 Computers and Microcomputers
- 600-205 Calculus and Analytic Geometry I
- 600-242 Discrete Mathematics
- 600-255 FORTRAN
- 600-256 Introduction to Computer Science I

Three credits of writing from one of the following:
- 486-390 Scientific and Technical Communications
- 478-370 Scientific Writing and Discourse
- 552-105 Expository Writing

Students are also strongly advised to take either Organic Chemistry (225-302, 303, 304, 305) or Bio-organic Chemistry (225-300, 301). One year of physics (753-103, 104 or 754-201, 222) is also strongly recommended, especially for students planning to pursue graduate and professional studies.

**Special Opportunities**

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 are also 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. Students are encouraged to explore opportunities available in the National Student Exchange Program through this program, students can study for one or two semesters at one of over 70 universities.

**Biological and Other Programs**

A biology major combines disciplinary work with an interdisciplinary minor. Biology students interested in such areas as aquatic studies, biological resource management, solid waste management, or science communication will normally take an interdisciplinary minor in Science and Environmental Change.

Human Biology is usually the interdisciplinary minor selected by biology majors with an interest in human adaptability or nutritional sciences. Biology students with an interest in land use planning may select an interdisciplinary minor in Regional Analysis. A growing area of interaction is between biology and psychology; biology students with such an interest may select an interdisciplinary minor in Human Development.

As an alternative to a disciplinary minor in biology, some students with an interest in biology may choose to develop an interdisciplinary major in areas such as Human Biology, Science and Environmental Change, or Regional Analysis. These 30-credit majors focus on a problem area by drawing together coursework 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.

**Careers and Advanced Study**

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. Bureau of Land Management, 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 pursue advanced degrees in 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. Those seeking teacher certification should consult with the biology advisor and an adviser in the Education professional program early in their studies to ensure that their programs meet all of the requirements for certification of the Wisconsin Department of Public Instruction. Students aiming for biology-related administrative positions may prepare by combining coursework in biology with a minor either in Business Administration or Public and Environmental Administration.
Requirements for the Minor

Students with an interdisciplinary major in Regional Analysis, Public and Environmental Administration, or Business Administration may wish to broaden and strengthen their academic background by earning a minor in biology. Likewise some students with a major in such disciplines as chemistry or earth science will find it valuable to obtain a minor in biology. The biology minor requires 21 credits of coursework. For teacher certification in the biology minor, the minimum number of credits is 22.

Freshman-Sophomore-Level Requirements (8 credits)
204-202 Principles of Biology I
204-203 Principles of Biology II

Junior-Senior-Level Requirements (13-19 credits)
204-302 Microbiology
204-303 Genetics
204-311 Plant Physiology
OR
204-348 Comparative Physiology
862-302 Principles of Ecology
OR
862-472/473 Ecosystems Analysis I, II

Chemistry

Associate Professors: Dawson Deese, biochemistry; Jack C. Norman, physical chemistry and radiochemistry; Ronald Starkey, organic chemistry and chemical ecology; Thomas E. Van Kooi, general chemistry and inorganic chemistry; James Wiersma, analytical chemistry and water chemistry.

Assistant Professor: Donna Randall, general chemistry.

Chemistry has been called the central science because of its position relative to the other sciences. Chemistry provides the link between the fundamental structure of matter and the functioning of living organisms. Since chemistry is the investigation of the structure and behavior of matter, it makes major contributions to many other areas of scientific study. Chemistry provides a significant bridge between the biological and the physical/mathematical sciences.

Special Opportunities

The University of Wisconsin-Green Bay offers a traditional chemistry disciplinary major with added breadth available in some currently relevant areas related to chemistry. The program is accredited by the American Chemical Society (ACS). Chemistry students have the opportunity to either pursue a UWGB chemistry major, or a sequence of courses that lead to an American Chemical Society certified chemistry major. The certified major requires a more rigorous program of study and is particularly appropriate for those who wish to pursue postgraduate studies in chemistry.

Careers and Advanced Study

An individual can design a chemistry program to meet several different goals. Included among them are preparation for graduate study in chemistry, immediate employment in industry, governmental agencies, or secondary education. A chemistry major can also serve as a base for professional study in medicine, dentistry, pharmacology, or veterinary medicine. Chemistry provides an excellent background for the environmental sciences.

Facilities

In addition to the regular classrooms and laboratories, chemistry facilities include several small laboratories suitable for student research projects. Major equipment used in both regular class and independent study include infrared spectrophotometer, visible-ultraviolet spectrophotometer, atomic absorption spectrophotometer, nuclear magnetic resonance spectrometer, X-ray diffraction spectrometer, liquid scintillation counter, high pressure liquid chromatographs, gas chromatographs, X-ray fluorescence spectrometer, gamma ray spectrometer, voltmeter analyzers, and automatic analyzers.

Chemistry and Other Programs

Many chemistry majors find complimentary interdisciplinary minors in Science and Environmental Change (Environmental Science), Human Adaptability, or Nutritional Science. Others have combined chemistry with the professional program in Education to prepare for teacher certification in chemistry.

Students combining the study of chemistry with other programs should plan their studies with the help of advisors from the appropriate programs. Those seeking teacher certification should consult with the chemistry advisor and an adviser in the Education professional program early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Requirements for the Major

The two programs of study leading to a major, as well as a chemistry minor program, are outlined below.

The UWGB Major

Supporting Courses
Math
500-202 Calculus and Analytic Geometry I
500-203 Calculus and Analytic Geometry II
Physics
754-201 Principles of Physics I
754-202 Principles of Physics II

Freshman-Sophomore-Level Requirements
Introductory Chemistry
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II

Junior-Senior-Level Requirements
Organic Chemistry
225-302 Organic Chemistry I
225-304 Organic Chemistry Lab I
225-303 Organic Chemistry II
225-305 Organic Chemistry Lab II

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

Additional Courses
(A minimum of 4 credits from the following)
225-330 Biochemistry, 3 cr.
225-351 Biochemistry Lab 1 cr.
225-402 Advanced Organic Chemistry, 3 cr.
225-403 Advanced Organic Chemistry Lab 1 cr.
225-410 Inorganic Chemistry, 3 cr.
225-413 Instrumental Analysis, 4 cr.
225-417 Nuclear Physics and Radiochemistry, 3 cr.
225-418 Nuclear Physics and Radiochemistry Lab, 1 cr.
The ACS-Certified Major

Supporting Courses
Math and Computer Science
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II
600-305 Differential Equations
600-255 FORTRAN/Scientific Programming Language*

*Another computer language may be substituted for FORTRAN.

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

Freshman-Sophomore-Level Requirements
Introductory Chemistry
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II

Junior-Senior-Level Requirements
Organic Chemistry
225-302 Organic Chemistry I
225-303 Organic Chemistry II
225-305 Organic Chemistry Lab II
Analytical Chemistry
225-311 Analytical Chemistry
225-413 Instrumental Analysis
Physical Chemistry
225-320 Thermodynamics and Kinetics
225-322 Thermodynamics and Kinetics Lab
225-321 Structure of Matter
225-323 Structure of Matter Lab
Inorganic Chemistry
225-410 Inorganic Chemistry

Additional Courses
A minimum of 8 credits including at least one laboratory course from the following:
225-330 Biochemistry, 3 cr.
225-331 Biochemistry Lab, 1 cr.
225-402 Advanced Organic Chemistry, 3 cr.
225-403 Advanced Organic Chemistry Lab, 1 cr.
225-417 Nuclear Physics and Radiochemistry, 3 cr.
225-418 Nuclear Physics and Radiochemistry Lab, 1 cr.

Chemistry Research Project
225-498 Directed Study

Junior-Senior-Level Requirements
Organic Chemistry
225-302 Organic Chemistry I
225-303 Organic Chemistry II
225-305 Organic Chemistry Lab II

The organic chemistry requirement may also be satisfied by the following courses:
225-302 Organic Chemistry I
225-304 Organic Chemistry Lab I
225-303 Organic Chemistry II
225-305 Organic Chemistry Lab II

Analytical Chemistry
225-311 Analytical Chemistry

Additional Courses
(A minimum of 4 credits from the following)
225-320 Thermodynamics and Kinetics, 3 cr.
225-322 Thermodynamics and Kinetics Lab, 1 cr.
225-321 Structure of Matter, 3 cr.
225-323 Structure of Matter Lab, 1 cr.
225-330 Biochemistry, 3 cr.
225-331 Biochemistry Lab, 1 cr.
225-410 Inorganic Chemistry, 3 cr.
225-413 Instrumental Analysis, 4 cr.
479-521 Physiological Chemistry, 3 cr.
479-409 Chemical Analysis of Food, 2 cr.
479-485 Advanced Human Nutrition, 3 cr.
682-318 Industrial Pollution Control Techniques, 2 cr.
682-378 Chemical Ecology, 2 cr.
682-419 Industrial Chemistry, 3 cr.
682-424 Environmental Biochemistry, 3 cr.
682-434 Water Chemistry, 4 cr.

Earth Science

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

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

Earth science is the study of materials such as air, water, soil and rocks, forces and processes such as volcanic action and weather that shape the earth, and the impacts that these physical elements have upon living organisms. Earth science is an integrative science that requires a solid foundation in the basic sciences and mathematics.

Facilities

Facilities available to the earth science disciplinary program include well-equipped teaching laboratories, the University weather station, extensive collections of high quality rock, mineral, and fossil specimens, and field equipment for surveying and mapping.

Careers

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 continue to hire earth scientists. People who know something about the finiteness of earth's resources and who can convey the need for a new conservation ethic are needed at all levels of formal education. Similarly, resource conservation agencies need people who can bridge the gap between the scientific aspect of wise land use and public awareness and understanding of issues involved. Waste disposal, water quality, and soil erosion are examples of areas to which earth scientists can contribute invaluable assistance.

Earth Science and Other Programs

Earth science students interested in regional planning, resource management or land management typically select interdisciplinary minors in Science and Environmental Change or Regional Analysis, and to a lesser degree, Environmental Planning or Public and Environmental Administration.

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.

Additional programs are also in place for students who want to couple some earth science training with detailed work in another area. Teacher certification can be obtained with both the earth science major and minor. Students seeking teacher certification should consult with the earth science adviser and an advisor in the Education professional program early in their studies to ensure that their programs meet all of the specific requirements of the Wisconsin Department of Public Instruction. An Associate of Arts degree requiring 16 credits of earth science and 15-21 supporting mathematics, science and skills credits is also available.
Requirements for the Major

Students majoring in earth science have usually followed one of two separate paths: 1) those who are preparing for scientific and technical careers requiring advanced work at the graduate level, and 2) those who plan to obtain the major to support another area of study or simply for personal satisfaction. Therefore, two areas of emphasis are provided for earth science students.

Pre-Graduate Emphasis

Professional earth scientists must become familiar with a wide variety of subjects during their training. A thorough understanding of mathematics, physics, and chemistry are essential. Calculus, basic inorganic chemistry, and basic physics are important courses in geology, meteorology, hydrology, or soil science. Advanced courses in mathematics, computer science, physics, and chemistry are desirable. In some areas of earth science, advanced training in biology is required.

Earth scientists must be able to communicate with others, many of whom lack scientific training. Language skills enhance the chances for a successful career. Knowledge of foreign languages, history, and cultures provides access to foreign technical literature and makes it easier to work in other regions. In addition, other technical skills such as air photo interpretation, drafting, or a knowledge of remote sensing methods are invaluable tools for the professional earth scientist.

The pregraduate major requires 43-48 credits of course work in supporting areas of science, mathematics, and communications skills. In addition the student is required to select an area of emphasis (atmospheric science, geology, soil and land resources, or water resources) in which a specific set of courses must be completed. This focused major better prepares the student for graduate school.

Supporting Courses (43-48 credits)

Students are encouraged to take as many supporting courses as possible during the freshman and sophomore years.

Mathematics

600-202 Calculus I
600-203 Calculus II

AND

8 credits of some combination of 200-level or above mathematics, statistics, or computer science.

Basic Science

204-202 Principles of Biology I
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
754-201 Principles of Physics I
754-202 Principles of Physics II

Communication skills (one of the following)

246-133 Fundamentals of Public Address
246-390 Scientific and Technical Communication

552-105 Expository Writing
OR
Equivalent communications course with advisor’s consent
OR
One year of a foreign language

Earth Science Courses

(32 credits required)

Core Courses:

296-202 Earth’s Physical Environment
296-302 Geological Evolution of the Earth
296-303 Geological Evolution Laboratory

Area Courses:

Earth science majors preparing for professional careers or graduate school must select one of the following areas of study: atmospheric science, geology, soil and land resources, or water resources to emphasize in their program. This is intended to provide a focus for the students’ study and to insure a basic orientation in a specific area of earth science in preparation for work at the graduate level. Areas are:

Atmospheric science

662-350 Meteorology
416-325 Regional Climatology

Geology

296-350 Geologic Field Methods
296-366 Structural Geology
296-402 Stratigraphy and Sedimentation
296-441 Mineralogy

Soil and land resources

662-320 Soil Environment
662-321 Soil Environment Lab
662-382 River Basins in Transition

862-460 Resource Management Strategy

Earth Science Electives:

Students must select additional courses from the lists below to reach the minimum number of credits required for the earth science major.

Techniques Courses (1 required):

(Students emphasizing geology in their program must select a course in addition to 296-350, Geologic Field Methods)

296-350 Geologic Field Methods
416-351 Elements of Cartography
416-353 Air Photo Interpretation
416-451 Computer Cartography
862-454 Remote Sensing of the Environment by Satellite

Plus, general earth science electives at the 300 level or above.

General Emphasis

Students following the general emphasis of the earth science major might combine their major with and/or pursue advanced study in planning, resource management, business, communication, education, or other fields. Such students need science, mathematics, and technical skills but do not require the depth of background in those areas that a professional scientist does. The general emphasis degree is designed to serve students who do not intend to become scientists or to seek advanced training in any field.

The general emphasis major, while requiring less supporting work in mathematics and science (27-37 credits), still provides a firm grounding in related fields. The advanced requirements are less focused than the pregraduate major. Nine to 10 of the 24 advanced credits required must be selected from a set list of courses. The remaining required credits can be chosen from any earth science area.

Supporting Courses (25-37 credits)

Mathematics

600-104 Algebra and Trigonometry
600-155 Computers and Microcomputers

OR

600-260 Introductory Statistics

3 credits in mathematics, computer science, or statistics at the 200 level or above

Basic science

225-108 General Chemistry

OR

225-211,225-212 Principles of Chemistry I,II

754-202 Principles of Biology I
754-104 Fundamentals of Physics I
754-203 Principles of Physics II

Communication skills (one of the following)

246-133 Fundamentals of Public Address
246-390 Scientific and Technical Communication

552-105 Expository Writing
OR
One year of a foreign language
Earth Science Courses (32-33 credits)
Core Courses:
296-202 Earth’s Physical Environment
296-302 Geological Evolution of the Earth
296-302 Geological Evolution Laboratory
Electives:
Advanced courses (2 required):
296-340 Rock and Mineral Resources
416-375 Regional Climatology
862-320 The Soil Environment
862-330 Descriptive Hydrology
862-341 Intermediate Astronomy
862-342 Environmental Geology
Techniques Courses (1 required):
296-350 Geological Field Methods
416-351 Elements of Cartography
416-353 Air Photo Interpretation
416-451 Computer Cartography
862-454 Remote Sensing of the Environment by Satellite

Plus, general electives from the earth science course list at the 300 level or above to total at least 15 credits.

Requirements for the Minor
An appreciation of the earth’s physical systems is applicable to many fields and essential to an informed citizen. The earth science minor provides an introduction to the scientific investigation of the earth for students majoring in other fields. An earth science minor can be profitably combined with another science such as chemistry, physics, and biology or with a wide range of nonscientific majors. Students in the arts, communication, prelaw, economics, and many other areas may be well served by including an earth science minor in their career preparation.

Supporting Courses (10 credits)
603-104 Algebra and Trigonometry
OR
225-108 General Chemistry
OR
A 1-year (2-semester) sequence of courses in biology, chemistry, or physics
416-250 Displays of Geographic Information
OR
A course in communication, remote sensing, cartography or mathematics to include statistics and computer science (approved by an earth science advisor).

Earth Science Courses (22 credits)
Freshman-sophomore level requirements (4 credits):
296-302 Earth’s Physical Environment
Up to 6 additional credits may be taken at the 100 and 200 level.

Junior-senior-level requirements (12 credits):
296-302 Geologic Evolution of the Earth
296-340 Rock and Mineral Resources
Additional earth sciences electives to total 22 earth science credits at the lower- and upper-division levels.

Courses appropriate for the earth science program are listed by area:

General earth science:
296-110 Dinosaurs: Reise 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 Game of 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
296-432 Stratigraphy and Sedimentation
296-441 Mineralogy
296-442 Petrology
296-470 Glacial Environment and Chronology
862-342 Environmental Geology
862-345 Geology of Energy Resources

Soil and land resources:
296-420 Soil Classification and Geography
416-250 Displays of Geographic Information
416-320 Les Geosciences: Topic and Regions
416-351 Elements of Cartography
416-353 Air Photo Interpretation
416-451 Computer Cartography
416-453 Advanced Air Photo Interpretation
634-356 Environmental Impact Analysis
862-284 Husbandry of the Land
862-320 Soil Environment
862-321 Soil Environment Laboratory
862-421 Soils of Wisconsin Field Trip
862-454 Remote Sensing by Satellite
862-460 Resource Management Strategy
009-741 Land Use, Institutions and Policy

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

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

Human Biology

Programs in Human Adaptability and Nutritional Sciences

Professors: Harry G. Guilford, vertebrate anatomy, parastology; William C. Kaufman, human physiology, general physiology, temperature and circulatory physiology, Elaine N. McIntosh, community nutrition, dietetics, nutrition education.

Associate Professors: Dawson C. Deese, food science, physiological aspects of nutrition, biochemistry; Charles A. Ihrke (Chairperson), genetics, Dorotha B. Sager, reproductive physiology, developmental biology, Richard J. Stevens, neurophysiology, human physiology.

Assistant Professors: Joseph A. Mannino, physical anthropology, ethology; Donna Z. Randall, general chemistry.

The human biology interdepartment program provides a curriculum 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 students 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 preprofessional preparation for careers in medicine, dentistry, public health, genetic counseling, and health service administration, and it offers a foundation for advanced study in the biological sciences.
Programs of Study

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

1. A student may select an interdisciplinary major of 30 upper-level credits in Human Adaptability or Nutritional Science.

OR

2. A student may select a minor combining a core of no less than 12 upper-level credits in either Human Adaptability or Nutritional Sciences with a disciplinary major in such areas as biology, chemistry, psychology, anthropology, or others.

Each student in Human Biology prepares for the interdisciplinary or disciplinary major by completing introductory courses in basic biology as well as supporting courses in other areas such as chemistry. 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 each of the following four areas: evolution, genetics, nutrition, human structure/function. Minimum supporting courses required of each student are Statistics, 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 and by the area of emphasis selected within that major.

For students who decide to major in Human Adaptability, there are two emphases: health science and general human adaptation. If students choose to major in Nutritional Sciences, the areas of emphasis are community nutrition and food science.

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

The Human Adaptability Major

Majors in Human Adaptability study the biological, physiological, anthropological, and behavioral bases of the human organism’s ability to adapt and survive. 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 humans’ 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 major for students interested in health services administration, anthropology, psychology, or chemistry.

With the help of an adviser, students majoring in Human Adaptability may develop a course of study to meet their individual needs.

Health Science Emphasis

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

Sample Program

Supporting courses:
204-203 Principles of Biology I
204-203 Principles of Biology II
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
225-302 Organic Chemistry I
225-303 Organic Chemistry II
225-311 Analytical Chemistry
502-105 Expository Writing
600-104 Elementary Functions: Algebra and Trigonometry
600-202 Calculus and Analytic Geometry
600-260 Introductory Statistics
754-103 Principles of Physics I
754-104 Principles of Physics II
One course in speech or literature or foreign language. *Recommended

Core:
Genetics
204-303 Genetics
Evolution
478-342 Human Evolution
OR
478-312 Evolutionary Processes: Structure/Function
479-402 Human Physiology
Nutrition
Optional

Focus:
156-303 Cultural Ecology
204-332 Principles of Microbiology
204-340 Comparative Anatomy of Vertebrates
204-347 Developmental Biology
478-318 Mammalian Reproduction
478-364 Human Variability
478-415 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 Biology Emphasis

The general human biology program 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 applicants in secondary education, and in health-related fields such as administration of health services, public health, and fitness. It also is appropriate for students with general interests in human biology. These sample programs from this track follow; the first focuses on evolution, the second on genetics and reproduction, and the third on fitness.

Sample Program

Supporting courses:
204-203 Principles of Biology I
204-203 Principles of Biology II
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
552-105 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.
*Recommended

Sample Program

Evolution Focus

Core:
Genetics
204-303 Genetics
Evolution
478-342 Human Evolution
OR
478-312 Evolutionary Processes: Structure/Function
479-402 Human Physiology
Nutrition
Optional

Focus:
156-303 Cultural Ecology
204-332 Principles of Microbiology
204-340 Comparative Anatomy of Vertebrates
204-347 Developmental Biology
478-318 Mammalian Reproduction
478-364 Human Variability
478-415 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

Nutrition
479-302 Nutrition and Culture
Nutritional Science Major

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 facts which affect the nutritional quality of life as related to the quality, quantity, availability and utilization of food.

Students in Nutritional Science may select an area of emphasis in either community nutrition or food science. 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 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 Science can be combined with other academic programs to meet students individual career goals. 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 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 Emphasis

Sample Program

Supporting courses:

204-202 Principles of Biology I
204-203 Principles of Biology II
225-108 General Chemistry
225-300 Bio-Orgnamic Chemistry
225-301 Bio-Inorganic Chemistry Laboratory
246-133 Principles of Public Address OR
892-255 Interviewing Skills
552-105 Expository Writing
600-101 Intermediate Algebra
600-260 Introductory Statistics
820-102 Introduction to Psychology
300-202 Introduction to Sociology

Core:

Genetics
204-203 Genetics
Evolution
479-312 Evolutionary Processes Structure/Function
478-318 Mammalian Reproduction Nutrition
Optional

Focus:

204-302 Principles of Microbiology
204-347 Developmental Biology
479-310 Human Genetics
479-331 Human Development I: Infancy and Early Childhood
478-364 Human Variability
479-402 Human Physiology
479-412 Principles of Parakology

Sample Program

Adult Fitness Focus

Supporting courses:

204-202 Principles of Biology
225-108 General Chemistry
479-203,204 Anatomy and Physiology
479-253 Introduction to Adult Fitness

Core

Genetics
479-310 Human Genetics
Evolution
479-342 Human Evolution Structure/Function
478-320 Biology of Human Development and Senescence Nutrition
479-300 Nutritional Significance of Food

Focus:

478-350 Introduction to Exercise Physiology
478-351 Kinesiology
478-333 Introduction to Sports Physiology
461-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
FOCUS: 204-302 Principles of Microbiology
225-311 Analytical Chemistry
225-330 Biochemistry
225-331 Biochemistry Laboratory
225-413 Instrumental Analysis
479-302 Nutrition and Culture
479-321 Physiological Chemistry
479-404 Food Science
479-409 Analysis of Food and Food Products
479-483 Advanced Human Nutrition *Recommended

The Minor in Human Adaptability

The interdisciplinary minor in Human Adaptability provides an understanding of the basic anatomical, biological, physiological and cultural factors of human adaptation. Both the minor and the required courses contain aspects of human ecological implications of genetics, evolution, physiology and the biology of development and reproduction. The requirements include:

1) genetics courses have biological implications;
2) anthropology courses present physical and cultural aspects of human beings;
3) psychology courses incorporate the appropriate chemistry, physics and mathematics;
4) a course in human biological development or in reproduction or in nutrition has cultural as well as scientific implications in today's world.

Students will have a balance between laboratory and lecture courses and interdisciplinary material to ensure academic depth and breadth, especially when taken with an appropriate disciplinary major such as chemistry, physics, psychology or biology or an interdisciplinary major such as Human Development.

Supporting courses (8-10 credits required):
204-202 Principles of Biology I
204-203 Principles of Biology II
479-203 Anatomy and Physiology I
479-204 Anatomy and Physiology II

Junior-senior-level requirements
One course from each of the following categories:

Category I:
204-303 Genetics
204-304 Genetics Laboratory
479-310 Human Genetics

Category II:
478-310 Evolutionary Processes OR
478-330 Human Evolution OR
478-364 Human Variability

Category III:
476-350 Exercise Physiology OR
476-402 Human Physiology

Category IV:
478-318 Mammalian Reproduction OR
478-326 Biology of Human Development and Senescence OR
479-300 Nutritional Significance of Food

Adult Fitness Emphasis

The adult fitness area of emphasis in the interdisciplinary minor in Human Adaptability stresses a basic knowledge of human physiological principles, and is designed to provide a focus on adult fitness and fitness management. It is interdisciplinary because it encompasses physiology of the human along with administration and management of fitness programs. Students will learn the skills of measuring individual responses to exercises, and will develop understanding of the physical stresses on the circulatory, respiratory and musculo-skeletal system in order to assess benefits and liabilities of various types of exercise.

This minor is intended to be combined with a major in social science or sciences. It is compatible with the Human Development major, where a student would acquire a knowledge of developmental psychology and also have professional expertise in adult fitness and fitness management. This can be a demanding minor which will produce qualified personnel to work in quality fitness programs.

Supporting courses (required):
204-202 Principles of Biology I
225-108 General Chemistry
476-203 Anatomy and Physiology I
478-204 Anatomy and Physiology II

Freshman-sophomore-level requirements:
478-250 Introduction to Adult Fitness

Junior-senior-level requirements:
478-350 Introduction to Exercise Physiology
479-300 Nutritional Significance of Food

Two of the following courses:
478-333 Introduction to Sports Physiology
478-351 Kinesiology
830-311 Psychology of Sports and Exercise
The Minor in Nutritional Sciences

The interdisciplinary minor in Nutritional Sciences provides an understanding of the biochemical and physiological bases of human nutrition as well as an appreciation of many ecological factors such as the economic, cultural, and educational forces which influence eating habits and consequently nutrition. The problems and methods of achieving and maintaining good nutritional status in health and disease are addressed. The factors leading to safe and adequate food are presented as a problem focused study. To achieve these goals, the diverse fields as biology, chemistry and microbiology, with the cultural implications of food use is incorporated in this minor.

This training provides the student with an understanding of human nutritional needs, nutrient functions, food habits, food quality and food safety.

Supporting courses
9-14 credits required:
204-202 Principles of Biology
225-108 General Chemistry
OR
225-111 Principles of Chemistry I
225-112 Principles of Chemistry II

Junior-senior-level requirements:
479-300 Nutritional Significance of Foods
204-302 Microbiology
225-300 Bio-Organic Chemistry
225-301 Bio-Orgnic Chemistry Laboratory
OR
479-404,404 Food Science
479-302 Nutrition and Culture
OR
479-485 Advanced Human Nutrition

Human Biology and Other Programs

Human Biology and a Disciplinary Major

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

Human Biology and a Minor in Business Administration

Students in Human Biology may pursue a minor in Business Administration in order to gain a basic understanding of administrative processes. Knowledge of Nutritional Science or Human Adaptabletability 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 any 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 companion 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 may also 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.

Mathematics, Computer Science, Statistics

Professors: David Jowett, statistical computing, experimental design, multivariate statistical analysis; Robert B. Weaver, (Chairperson), mathematical optimization, analysis, operations research.

Associate Professors: William C. Conley, computer science, algebra; Dennis M. Girard, biometrics, multivariate statistical analysis, statistical computing, analysis, discrete mathematics; Bruce W. Mielke, computer science, algebra; Nikitas L. Petrikopoulos, applied mathematics, analysis, mathematical physics; William A. Shay, computer science, numerical analysis, algebra, topology.

Assistant Professors: Forrest B. Baulieu, computer science, lattice theory, cluster analysis, geometry; Debra A. Diny, graph theory, discrete mathematics; Mary K. Prisco, algebra, linear algebra, discrete mathematics.

Lecturers: Linda Curi, computer science; Bruce O'Neill, complex analysis, functional analysis; Gary G. Wardall, numerical analysis, statistics.

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 disciplinary program at UWGB is designed to provide opportunities for study in both the pure and applied aspects of mathematics. Depending upon educational goals and career objectives, students majoring in mathematics can select a program of study in one of five areas of emphasis: pure mathematics, applied mathematics, computer science, statistics, and mathematics education. Arithmetic in mathematics is also available to interested students.

In the pure mathematics emphasis area students select courses which develop a sense of the aesthetic quality 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 also encouraged to gain some experience with applications that inspire the development of the discipline.

The student who selects applied mathematics as an emphasis area studies mathematical methods and techniques for analyzing or solving problems which may exist in almost any field of endeavor. In earlier times applied mathematics referred almost exclusively to problems of physics or engineering but more recently, mathematical techniques have been employed in the social, industrial, and management realms.
as well. The common characteristic of applied mathematics is the construction of a mathematical model, a mathematical system which attempts to abstract 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 field of computer science has undergone great change in the past few years and will continue to experience significant growth as technology advances and educational philosophies evolve. The objective of the computer science program is to provide students with a basic knowledge of this dynamic field and a foundation upon which they may continue to grow within the profession. To achieve this objective, the computer science program is designed not only to provide background in areas such as software and language design, database management, artificial intelligence, mathematical applications, but also to create problem solving environments in which the student can be independently creative without losing sight of both the need to communicate effectively and to adhere to the rigid requirements of a problem.

The study of statistics includes three main parts: designing the appropriate protocols for the collection of data, organizing, summarizing, and presenting data, and drawing conclusions or interpreting numerical information. Courses in the statistics emphasis area include mathematical statistics, probability, experimental design, continuous and discrete multivariate statistical analysis, and business and industrial statistics. Persons trained as statisticians find employment in business, industry, and government.

The emphasis area in mathematics education provides a program of study which, when combined with appropriate coursework in professional education, is designed to meet certification requirements for teaching mathematics at the secondary level. Courses in pure mathematics are emphasized.

Mathematics and Other Programs

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

Facilities

The mathematics program is supported by excellent computing facilities on the UWGB campus. Most of the computing power is supplied by two Telefonia T-85 central processor units connected in an anonymous multiprocessor mode. This system is capable of supporting 100 single 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 24-inches 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 24 microcomputers. These microcomputers support either Apple, IBM or PDP software. Several of the microcomputers are networked with a Corvus Omninet system. There is also a DEC PDP 11/03 MINC laboratory computer used in the science laboratories and in processing data from the campus weather station. Software capabilities include the following languages: FASCA, FORTRAN, COBOL, LISP, SNOBOL, APL, assembly language, LOGO, and BASIC. Statistical packages for the social, biological and mathematical sciences include SSSS, BDWDP 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, TAOL DIGITIZER, CALCOMP incremental plotter, Tektronix graphic terminal and a Printconix electrostatric printer. Much of this development was supported by a National Science Foundation CAUSE grant (Comprehensive Assistance to Undergraduate Science Education).

Special Opportunities

Students who demonstrate superior aptitude for mathematics, statistics, or computer science may find employment opportunities on-or off-campus in capacities such as: classroom assistant, paper checker, tutor, laboratory supervisor, computer programmer/consultant, research assistant, statistics assistant, or interns. 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.

Careers and Advanced Study

Numerous career opportunities are available for persons with academic degrees in mathematics. In recent years the world has rediscovered the value of mathematical training. Those interested in using mathematics to solve on-going problems find employment in industry, government and business. In addition to mathematicians, specific jobs titles which are frequently used in this setting are systems analyst, programmer/analyst, statistician, operations researcher, applied mathematician, information scientist, and actuary. The mathematics major may also pursue graduate study in areas such as mathematics, computer science, information systems, or statistics.

Many who call themselves mathematicians are teachers by profession. There are essentially three different types of mathematical 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. Students seeking teacher certification should consult with the mathematics adviser and an adviser in the Education professional program early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

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.

Program Admission

Mathematics placement examinations are used to advise 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 may enter 400-101; performance below this level results in recommendation to enter 400-094.

Level 2, Assumes mastery of first two years of high school algebra; student may enter 400-105, 10, 201, 201, 250, 250, 291; performance below this level results in recommendation to enter 400-101.

Level 3, Assumes mastery of first two years of high school algebra and grade 12 course on functions, or mathematical analysis, including trigonometry; student may enter 400-201 or any higher level except 400-104; performance below this level results in recommendation to enter 400-104.
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 may enter 600-203 or any course cited under level three; upon earning a "C" or better in 600-203, an additional four credits for 600-202 are granted.

Requirements for the Major

General Requirements

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

Emphasis Requirements

Remaining requirements, depending upon the emphasis area selected and subject to approval of an adviser, are:

Pure Mathematics Emphasis
600-209 Multivariate Calculus
600-305 Ordinary Differential Equations
600-321 Linear Algebra II
600-328 Introduction to Algebraic Structures
600-385 Foundations of Geometry
At least six credits from the following:
600-311 Advanced Calculus
600-312 Real Analysis
600-410 Complex Analysis
At least three credits to be chosen from mathematics courses at the 300 level or above.

Applied Mathematics Emphasis
600-209 Multivariate Calculus
600-305 Ordinary Differential Equations
600-321 Linear Algebra I
An additional 15 credits at the 300 level or above will be chosen in consultation with an adviser. 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
600-455 Microprocessors and Microworld Systems
600-456 Advanced Topics in Microcomputing
Language design:
600-352 Computer Graphics
600-454 Artificial Intelligence
600-457 Compiler Theory
Business applications:
600-352 Computer Graphics
600-355 Applied Mathematical Optimization
600-450 Theory of Algorithms
600-451 Data Base Management
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
600-451 Data Base Management Systems
600-454 Artificial Intelligence

Mathematics Education Emphasis
600-209 Multivariate Calculus
600-256 Introduction to Computer Science I
600-260 Introductory Statistics
600-326 Introduction to Algebraic Structures
600-365 Foundations of Geometry
A minimum of 15 additional credits selected from the following:

Requirements for the Minor

A student choosing a minor in mathematics may select a particular area of emphasis: pure or applied mathematics, statistics, computer science or computer science education, or mathematics education. The requirements for each emphasis area are listed below:

Pure or Applied Mathematics Emphasis
600-202 Calculus and Analytic Geometry I
600-303 Calculus and Analytic Geometry II
600-320 Linear Algebra I
Nine additional credits selected from the following:

Statistics Emphasis
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II
600-260 Introductory Statistics
Twelve additional credits selected from the following:
600-360, 361, 363, 365: 008-704, 767, 768.

Computer Science or Computer Science Education Emphasis
600-242 Discrete Mathematics
600-256 Introduction to Computer Science I
600-257 Introduction to Computer Science II
Two courses from the following:
600-351 Data Structures, Storage and Retrieval
600-353 Computer Organization and Programming
600-357 Theory of Programming Languages
Six additional credits from the following:
600-350, 352, 355, 450, 451, 452, 454, 455, 456, 457, or remaining course from above list.

Mathematics Education Emphasis
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II
600-256 Introduction to Computer Science I

Statistics Emphasis
600-209 Multivariate Calculus
600-328 Introduction to Algebraic Structures
600-385 Foundations of Geometry
At least one course from the following:
600-364 Biometrics
600-465 Business and Industrial Statistics
At least one course from the following:
008-704 Discrete Multivariate Statistical Analysis
008-767 Statistical Design and Analysis of Experiments
008-768 Multivariate Statistical Analysis
Additional courses must be selected from the above two lists so that the total number of credits at the 300 level or above is at least 24.

Computer Science Emphasis
600-242 Discrete Mathematics
600-256 Introduction to Computer Science I
600-257 Introduction to Computer Science II
600-351 Data Structures, Storage and Retrieval
600-353 Computer Organization and Programming
600-357 Theory of Programming Languages
An additional 15 credits to be chosen from one or two of the following areas of interest:
Mathematical applications:
600-350 Numerical Analysis
600-355 Applied Mathematical Optimization
600-450 Theory of Algorithms
Interfacing and hardware applications:
600-352 Computer Graphics
600-455 Microprocessors and Microworld Systems
600-456 Advanced Topics in Microcomputing
Language design:
600-352 Computer Graphics
600-454 Artificial Intelligence
600-457 Compiler Theory
Business applications:
600-352 Computer Graphics
600-355 Applied Mathematical Optimization
600-450 Theory of Algorithms
600-451 Data Base Management
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
600-451 Data Base Management Systems
600-454 Artificial Intelligence
Physics and Other Programs

A physics major combines disciplinary work with an interdisciplinary minor. Minors in Science and Environmental Change (Environmental Science) and Human Adaptability are particularly useful to the physics major. Physics students can gain additional career preparation through professional programs. Students who wish to work in administrative positions can combine a physics major with a professional program in either Public and Environmental Administration or Managerial Systems. The professional program in Education prepares students for teaching certification in physics.

Students combining the study of physics with other programs should plan their studies with the help of advisers from the appropriate programs. Those seeking teacher certification should consult with the physics adviser and an adviser in the Education professional program early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Requirements for the Major

Physics majors take a minimum of 34 credits. Entrance to the program begins with two introductory courses (10 credits): 754-201 Principles of Physics I, 754-202 Principles of Physics II.

Beyond the introductory level, a minimum of 24 credits is required at the 300-400 level including at least three laboratory credits.

Core courses (required for all physics majors):
754-315 Classical Mechanics
754-317 Electromagnetic Radiation
754-321 Structure of Matter
754-404 Electricity and Magnetism
754-417 Nuclear Physics and Radiochemistry

A minimum of 9 credits are selected from the following list and must include at least 3 junior-senior-level laboratory credits:
754-306 Biophysics
754-320 Thermodynamics and Kinetics
754-322 Thermodynamics and Kinetics Laboratory
754-323 Structure of Matter Laboratory
754-341 Intermediate Astronomy
754-350 Meteorology
754-414 Conventional Energy Technology
754-415 Solar and Alternate Energy Systems
754-418 Nuclear Physics and Radiochemistry Laboratory
754-455 Microprocessors and Microcomputer Systems

Physics majors are also required to take supporting coursework in chemistry and mathematics. The course requirements are:
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II
600-305 Ordinary Differential Equations

Plus, at least 4 additional credits in mathematics at the 200 level or above.

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 minor, and electives are not included.

Freshman Year
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
600-202 Calculus and Analytic Geometry I
600-203 Calculus and Analytic Geometry II

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

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

Senior Year
754-306 Biophysics
754-350 Meteorology
754-404 Electricity and Magnetism
754-405 Electronics for Scientists
754-414 Conventional Energy Technology
Science and Environmental Change

Professors: H.J. Day, hydrology, water resource management; Hallett J. Harris, animal and wetland ecology; David Jewett, biometrics, biomathematics, ecosystems modeling; Thomas H. McIntosh, soils, agriculture, remote sensing; biogeochemistry; Anjani K. Mehra, solar and alternate energy technologies; Joseph M. Moran (Chairperson), metereology, climatology, air pollution; V.M.G. Nair, plant and forest pathology, mycology; Charles R. Rhynar, solid waste management, microcomputer based instrumentation; Paul E. Sager, limnology, aquatic biology, Leander J. Schwartz, microbiology, resource recovery; Nancy J. Sell, industrial resource recovery; Robert D. Wenger, solid waste management and mathematical optimization; Keith L. White, ecology and resource management.

Science and Environmental Change (SEC) is an interdisciplinary program of study in the natural sciences which offers students the opportunity to acquire a sound understanding of the scientific principles that govern natural processes. Through coursework, independent study, and research activities, the SEC student develops a realistic awareness of the interdependence of the various components of the environment and the nature of environmental change. SEC is structured so that students develop their analytical skills and acquire a broad base of knowledge in the biological, physical, and mathematical sciences. SEC students build on this scientific base by completing upper-level courses in ecology and resource management.

Requirements for the Major

Basic Science and Mathematics Courses (41-43 credits)

Biology (8 credits)
204-202 Principles of Biology I
204-203 Principles of Biology II

Chemistry (10 credits)
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II

and yet, each is designed to fulfill specific concerns that cross traditional disciplinary boundaries.

SEC has a formal advising program to guide students in designing all aspects of their academic programs and in making career choices. Faculty advisors 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.

Careers and Advanced 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 and Public and Environmental Administration.

Students planning to enter graduate or preprofessional 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 a solid preparation in mathematics and physics.

SEC and Other Programs

Students who major in biology, chemistry, earth science, mathematics, or physics typically minor in SEC. The SEC minor, described later in this section, provides students who major in those disciplines with an interdisciplinary perspective on the physical and biological sciences and their application to environmental problem solving.

Requirements for the Major
Earth Science (4 credits)
296-202 Earth's Physical Environment

Mathematics (9-11 credits at 200 level or above selected with the assistance of an advisor)
It is strongly suggested that students select at least two courses in one area to gain sufficient skills and confidence. These areas in which the student can develop depth are:
- Calculus and Linear Algebra:
  600-202 Calculus and Analytic Geometry I
  600-203 Calculus and Analytic Geometry II
  600-320 Linear Algebra I
- Computer Science:
  600-255 FORTRAN, A Scientific Programming Language
  600-266 Introduction to Computer Science I
  600-257 Introduction to Computer Science II
- Statistics:
  600-260 Elementary Statistics
  600-364 Biometrics
- Additional courses:
  600-209 Multivariate Calculus
  600-242 Discrete Mathematics
  600-365 Ordinary Differential Equations

Physics (10 credits)
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II
OR
754-201 Principles of Physics I (calculus-based)
754-202 Principles of Physics II (calculus-based)

Note that some interdisciplinary problem areas specify certain requirements in the basic science and mathematics course list.

Upper-Level Courses in Ecology and Resource Management (12 credits)

Ecology (3 or 8 credits)
862-362 Principles of Ecology
OR
862-472, 473 Ecosystems Analysis I, II

Choose the remaining credits from the courses listed under biological resources, physical resources, or some combination of the two.

Biological Resources (6 credit maximum)
862-393 Conservation of Natural Resources
862-397 Ecology of Fire
862-399 Ecology and Management of Endangered Species
862-366 Integrated Pest Management
862-384 Environment's Response to Human Settlement
862-466 Vegetation Management

Physical Resources
600-355 Applied Mathematical Optimization
862-318 Industrial Pollution Control Techniques
862-319 Industrial Pollution Control Field Trips
862-327 Urban Technological Design
862-334 Solid Waste Management
862-342 Environmental Geology
862-382 River Basins in Transition
862-383 River Basins in Other Regions
862-414 Conventional Energy Technology
862-415 Solar and Alternative Energy Systems
862-460 Resource Management Strategy

Note that some interdisciplinary problem areas specify certain requirements in the ecology and resource management course lists.

Junior-Senior Level Courses for the Problem Area Focus (18 credits)
See descriptions of the interdisciplinary problem areas following.

All-University Requirements (21 credits)
Note that courses for the SEC map will satisfy the 9-credit all-University requirements in the natural sciences.

Electives (30-32 credits)

Interdisciplinary Problem Areas
(Basic science and mathematics courses [41-43 credits] are required for all problem areas.)

Aquatic Studies
Aquatic studies is concerned with problems related to the supply and quality of surface waters and ground water. Programs of study may be designed to emphasize the biological, chemical, geologic or resource management aspects of aquatic problems. Students completing the aquatic studies program may find job opportunities with consulting engineering firms, state departments of natural resources, the federal Environmental Protection Agency, firms conducting environmental impact assessments, water dependent industries, or water pollution abatement equipment manufacturers. The program provides excellent background for graduate study in several areas of aquatic and marine ecology.

Ecology and Resource Management Requirements
862-392 Principles of Ecology, 3 cr.
OR
862-472, 473 Ecosystems Analysis I, II, 8 cr.

Choose a minimum of 12 credits from the following course list:
600-355 Applied Mathematical Optimization
862-303 Conservation of Natural Resources
862-318 Industrial Pollution Control Techniques
862-319 Industrial Pollution Control Field Trips
862-334 Solid Waste Management
862-342 Environmental Geology
862-383 River Basins in Transition
862-384 River Basins in Other Regions
862-460 Resource Management Strategy

Required Courses
225-311 Analytical Chemistry
630-364 Biometrics
862-403 Limnology
862-434 Water Chemistry
862-330 Descriptive Hydrology
OR
862-430 Quantitative Hydrology

Other Courses
Also, select 9 credits from the courses listed below:

Biological Sciences:
234-302 Principles of Microbiology
234-315 Biology of Lower Green Plants
234-341 Ichthyology
862-401 Stream Ecology

Chemical and Physical Sciences:
225-300, 301 Bio-Organic Chemistry with Laboratory
OR
225-302, 303, 304, 305 Organic Chemistry I, II with laboratories
825-413 Instrumental Analysis
862-320 The Soil Environment
862-331 Oceanography
862-342 Environmental Geology
862-454 Remote Sensing of the Environment by Satellite

Management of Aquatic Resources:
350-301 Environmental Politics and Administration
350-305 Regulatory Policy and Administration
834-356 Environmental Impact Analysis
862-335 Water and Waste Water Treatment
Sample Program: Aquatic Studies
Freshman Year:
204-302 Principles of Biology I
204-303 Principles of Biology II
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
602-302 Calculus I
602-303 Calculus II

Sophomore Year:
296-202 Earth's Physical Environment
602-255 FORTRAN
602-260 Elementary Statistics
754-301 Principles of Physics I
754-302 Principles of Physics II

Junior Year:
204-341 Ichthyology
225-311 Analytical Chemistry
600-364 Biometrics
862-382 River Basins in Transition
862-403 Limnology
862-430 Quantitative Hydrology

Senior Year:
862-331 Oceanography
862-401 Stream Ecology
862-434 Water Chemistry
862-460 Resource Management Strategy
862-472,473 Ecosystems Analysis I,II

Biological Resources Management
This program provides career-oriented education in the ecological aspects of biological resources management and the interactions with economic and political institutions. Based on a broad background in the sciences and using an ecosystem approach, students become familiar with the problems and potential of biological resources protection, manipulation and use consistent with environmental quality needs. Graduates are prepared for employment with biological resource management agencies and land use planning agencies, as environmental impact analysis for government agencies and industry, and as biological resource specialists with private environmental groups. Graduates acquire an excellent background for advanced study of biological resources, regional planning, biological resource administration, or biological resource economic analysis.

Ecology and Resource Management Requirements
862-302 Principles of Ecology, 3 cr.
862-462,473 Ecosystems Analysis I,II, 6 cr.

Select three of the following courses:
862-307 Ecology of Fire
882-366 Integrated Pest Management
882-466 Vegetation Management
008-749 Wetlands Ecology and Management

Required Biology Courses
204-320 Field Botany
204-342 Ornithology
OR
204-343 Mammalogy
OR
204-355 Entomology

Other Courses
Select one of the following analytical skills courses:
416-351 Elements of Cartography
416-353 Air Photo Interpretation
416-451 Computer Cartography
862-454 Remote Sensing of the Environment by Satellite

Choose three of the following economics, political science, and social science courses:
296-402 Resource Economic Policy
350-301 Environmental Politics and Administration
350-305 Regulatory Policy and Administration
350-400 Environmental Law
778-312 Community Politics
778-368 Geopolitics of World Regions
778-410 Intergovernmental Relations
834-322 Regional Planning
834-340 Economics of Land Use
834-356 Environmental Impact Analysis

Sample Program: Biological Resources Management
Freshman Year:
204-202 Principles of Biology I
204-203 Principles of Biology II
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
296-202 Earth's Physical Environment
600-260 Elementary Statistics

Sophomore Year:
234-320 Field Botany
350-301 Environmental Politics and Administration
600-364 Biometrics
754-103 Fundamentals of Physics I
754-104 Fundamentals of Physics II

Junior Year:
234-302 Ornithology
600-255 FORTRAN
834-340 Economics of Land Use
834-356 Environmental Impact Analysis
862-307 Ecology of Fire
882-466 Vegetation Management

Senior Year:
350-400 Environmental Law
862-454 Remote Sensing of the Environment by Satellite

Energy Science and Technology
The goal of this program is to provide students with an understanding of the scientific principles underlying energy production and utilization. The energy supply problem is examined through courses in alternate energy systems, energy conservation, conventional energy systems, and energy education. Emphasis is also given to the economic and management aspects of the energy problem. There are opportunities for independent study in solar energy systems. Present interests of the faculty members lie in the areas of solar and wind energy, energy conservation, biofuels and energy education. Some of the vocational opportunities for students are preparation for engineering schools, design and construction of alternate energy systems, energy education at the vocational and secondary school level, local, state and federal government jobs and international opportunities in the developing countries in alternate energy systems and appropriate technology.

Ecology and Resource Management Requirements
862-302 Principles of Ecology, 3 cr.
OR
862-472,473 Ecosystems Analysis I,II, 6 cr.

862-327 Urban Technological Design
862-414 Conventional Energy Technology
862-415 Solar and Alternate Energy Systems
862-460 Resource Management Strategy

Required Courses
754-320,322 Thermodynamics and Kinetics plus Laboratory
862-345 Geology of Energy Resources

Select at least two courses from the following:
204-325 Principles of Microbiology
296-402 Resource Economic Analysis
754-317 Electromagnetic Radiation
754-321,323 Structure of Matter plus Laboratory
754-404 Electricity and Magnetism
754-405 Electronics for Scientists
754-417,418 Nuclear Physics and Radiochemistry plus Laboratory
225-300,301 Bio-organic Chemistry plus Laboratory
OR
225-302,303,304,305 Organic Chemistry I,II plus Laboratories
Sample Program: Energy Science and Technology
Freshman Year:
- 204-202 Principles of Biology I
- 204-203 Principles of Biology II
- 225-211 Principles of Chemistry I
- 225-212 Principles of Chemistry II
- 600-202 Calculus I
- 600-203 Calculus II

Sophomore Year:
- 296-202 Earth's Physical Environment
- 600-255 FORTRAN
- 754-201 Principles of Physics I
- 754-202 Principles of Physics II
- 862-327 Urban Technology Design

Science Communication
In our technological age, there is increasing need for individuals who can effectively communicate science and scientific advances to science as well as to nonscience audiences. Recognizing the range of occupations in science communications (public information officers, science journalists, environmental interpreters, reporters and weathercasters for radio/television, and technical writing), it is important to offer at least two programs in science communications. Hence, for those students who wish to place particular emphasis on the sciences, a program in Science and Environmental Change: Science Communications is available. For those students whose primary interest is communications, a program in Communication and the Arts: Science Communications is available. That program is described in the section on Communication and the Arts.

Freshman-Sophomore-Level Requirements in Communications
Select 4 courses:
- 242-231 Introduction to Graphic Communication
- 246-102 Introduction to Mass Communication
- 246-133 Fundamentals of Public Address
- 246-200 Communication Processes: An Introduction
- 246-243 Introduction to Photography
- 552-105 Expository Writing

Ecology and Resource Management Requirements
862-302 Principles of Ecology
Select one course from the following:
- 862-303 Conservation of Natural Resources
- 862-334 Solid Waste Management
- 862-362 River Basin In Transition
- 862-460 Resource Management Strategy

Field Specialty in SEC
There are several field specializations within SEC including aquatic studies, biological resource management, energy science and technology, and solid waste management and resource recovery. The following sample field specialty is for aquatic studies.

Select 4 courses:
- 204-315 Biology of Lower Green Plants
- 204-341 Ichthyology
- 225-311 Analytical Chemistry
- 862-330 Descriptive Hydrology
- 862-331 Oceanography
- 862-401 Stream Ecology
- 862-403 Limnology
- 862-434 Water Chemistry

Required Junior-Junior-Level Courses in Communications
Select 4 courses:
- 242-331 Graphic Communication Studio I
- 242-332 Graphic Communication Studio II
- 242-430 Mass Media and Society
- 246-303 Feature Writing
- 246-305 Elements of Electronic Media
- 246-306 Radio Broadcast Practice
- 246-335 Organizational Communication
- 246-343 Photography II
- 246-344 Photography III
- 246-345 Designing Multiple Media Applications of Photography
- 246-380 Communication Law
- 246-390 Scientific and Technical Communication
- 246-497 Internship in Communications

Sample Program: Science Communications
Freshman Year:
- 204-202 Principles of Biology I
- 204-203 Principles of Biology II
- 225-211 Principles of Chemistry I
- 225-212 Principles of Chemistry II
- 246-200 Communication Processes: An Introduction
- 552-105 Expository Writing
- 600-260 Elementary Statistics

Sophomore Year:
- 242-231 Introduction to Graphic Communication
- 246-133 Fundamentals of Public Address
- 246-202 Earth's Physical Environment
- 600-255 FORTRAN
- 660-364 Biometrics
- 862-303 Conservation of Natural Resources

Junior Year:
- 242-331 Graphic Communication Studio II
- 246-303 Feature Writing
- 754-103 Fundamentals of Physics I
- 754-104 Fundamentals of Physics II
- 862-302 Principles of Ecology
- 862-401 Stream Ecology

Senior Year:
- 246-305 Elements of Electronic Media
- 246-390 Scientific and Technical Communication
- 862-330 Descriptive Hydrology
- 862-331 Oceanography
- 862-403 Limnology

Waste Management and Resource Recovery
One of the problems faced by modern society is the management of large quantities of solid and liquid wastes. The challenge is to recover useful materials or energy products from wastes and to dispose of the remainder in an environmentally acceptable and economically efficient manner. Meeting this challenge requires significant levels of scientific and management expertise. The waste management/resource recovery program is designed to develop scientific and management skills and prepare the student for professional opportunities in the field. Opportunities are also available for further study at the graduate level. The required courses provide a foundation in resource management and waste management and resource recovery. The optional courses, to be chosen in consultation with an advisor, enable a student to complete the program based on his or her specialized interests.

Ecology and Resource Management Requirements
862-302 Principles of Ecology

OR
862-472,473 Ecosystems Analysis I, II
862-318 Industrial Pollution Control Techniques
862-319 Industrial Pollution Control Field Trips
862-334 Solid Waste Management
862-335 Water and Wastewater Treatment
862-460 Resource Management Strategy

Required Courses
Select 15 credits from the courses listed below:
Earth Science:
- 206-420 Soil Classification and Geography
- 862-320,321 The Soil Environment and Laboratory
- 862-342 Environmental Geology
- 862-330 Descriptive Hydrology

OR
862-340 Quantitative Hydrology
Chemistry:
225-311 Analytical Chemistry
225-413 Instrumental Analysis
862-422 Environmental Biogeochemistry
862-434 Water Chemistry

Biology:
204-302 Principles of Microbiology
204-402 Advanced Microbiology
204-404 Microbial Physiology

Waste Management:
008-724 Hazardous and Toxic Materials
008-760 Waste Management/Resource Recovery Seminar

Policy and Administration:
350-301 Environmental Politics and Administration
350-315 Planning and Management of Public Systems
350-400 Environmental Law
350-415 Public and Nonprofit Budgeting
350-460 Public Policy Analysis
*Students with a strong interest in policy and administration are encouraged to select a minor in Public and Environmental Administration.

Management:
575-305 Business Law I
575-343 Corporate Finance
575-382 Introductory Management
600-355 Applied Mathematical Optimization

Recommended Courses
Students are encouraged to take the following courses:
298-203 Micro Economic Analysis
350-102 Public Policy and Administration
778-101 American Government and Politics
552-106 Expository Writing
OR
246-390 Scientific and Technical Communication

Sample Program: Waste Management and Resource Recovery
Freshman Year:
204-202 Principles of Biology I
204-203 Principles of Biology II
225-211 Principles of Chemistry I
225-212 Principles of Chemistry II
600-202 Calculus I
600-203 Calculus II

Sophomore Year:
225-311 Analytical Chemistry
296-202 Earth's Physical Environment
600-235 FORTRAN
754-201 Principles of Physics I
754-202 Principles of Physics II

Junior Year:
862-319 Industrial Pollution Control Techniques with Field Trips
862-320, 321 The Soil Environment with Laboratory
862-334 Solid Waste Management
862-342 Environmental Geology
862-434 Water Chemistry

Senior Year:
862-302 Principles of Ecology
862-335 Water and Wastewater Treatment
862-430 Quantitative Hydrology
862-460 Resource Management Strategy

Requirements for the Minor
Required Freshman-Sophomore-Level Courses
1. Mathematics competency equivalent to 600-104, Elementary Functions: Algebra and Trigonometry. Satisfactory score on the mathematics placement test will be accepted in lieu of 600-104.
2. Principles of Biology I and II (204-202 and 204-203).
3. Earth's Physical Environment (296-202).
4. A minimum of 6 credits chosen from offerings in two of the following curricular areas:
   Chemistry (225)
   Physics (754)
   Mathematics (600) at 200 or higher level

Junior-Senior-Level Requirements
Courses selected must total at least 12 credits and include at least one course in ecology. Note that some of these courses have prerequisites that must be completed prior to registration.

Ecology (3 or 6 credits):
862-302 Principles of Ecology
OR
862-472,473 Ecosystems Analysis I, II

Choose the remaining credits from the courses listed under biological resources, physical resources, or some combination of the two.

Biological Resources (6 credit maximum):
862-303 Conservation of Natural Resources
862-307 Ecology of Fire
862-309 Ecology and Management of Endangered Species
862-366 Integrated Pest Management
862-384 Environment's Response to Human Settlement
862-466 Vegetation Management

Physical Resources:
600-355 Applied Mathematical Optimization
862-318 Industrial Pollution Control Techniques
862-319 Industrial Pollution Control Field Trips
862-327 Urban Technological Design
862-334 Solid Waste Management
862-342 Environmental Geology
862-382 River Basins in Transition
862-383 River Basins in Other Regions
862-414 Conventional Energy Technology
862-415 Solar and Alternative Energy Systems
862-460 Resource Management Strategy

Junior-senior-level courses for the interdisciplinary minor cannot also count for the disciplinary major upper-division requirement.
Anthropology

Professors: James Clifton, applied anthropology, Native American studies, religion, ethnography. Anthony Gait, cultural anthropology, cultural ecology, Italy, European Mediterranean.

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

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

The anthropology disciplinary minor is designed for the student whose intellectual and professional goals are furthered by familiarity with cross-cultural and international perspectives on the human condition. The anthropology program offers no major.

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.

Anthropology and Other Programs

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 programs: for example, Human Development, Humanistic Studies, Human Biology, Communication and the Arts, Regional Analysis, Social Change and Development, or Urban Studies.

Students combining the study of anthropology with other programs should plan their studies with the help of advisers from the appropriate programs. Those seeking teacher certification should consult with the anthropology adviser and an adviser in the Education professional program early in their studies to insure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Careers and Advanced Study

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 science 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 in the United States. The adviser can offer suggestions about career oriented programs to combine with anthropology.

Requirements for the Minor

Students intending to minor in anthropology should see the chairperson/adviser early in their college careers. Generally an anthropology minor includes the following freshman-sophomore-level courses:

156-100 Varieties of World Culture
OR
156-210 Introduction to Cultural Anthropology

156-110 Introduction to Physical Anthropology

The 15 junior-senior-level anthropology credits required for an anthropology minor are drawn from both anthropology listings and courses taught in other departments. A minor in anthropology includes the following upper division courses:

156-303 Cultural Ecology
156-304 Family, Kin, and Community
156-342 Human Evolution
OR
156-364 Human Variability

246-322 Modern Linguistics
And 3 credits of upper division electives for a total of 21 credits.

Special Opportunities

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 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, managerial economics, public finance, labor economics, and economics of waste and energy and energy systems.

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, population economics, agricultural economics, economic development, economic history and social change, resource economics, technological innovation and adaptation; 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 includes an analysis of how the economy is organized and how it functions. It also includes the study of institutions such as households, business firms, government and money. The study of economics is challenging, for
it deals with vital policy issues such as inflation, unemployment, monopoly, competition, economic growth, poverty, environment, and human values.

The disciplinary program in economics is oriented to analyzing contemporary economic problems and determining alternative approaches to solving these problems.

**Careers and Advanced Study**

The economics program prepares students for active roles in business, industry, governmental agencies, educational institutions, and a host of community organizations. It also provides adequate preparation for graduate studies in economics and business as well as law school.

Some of the most common employers of people with specializations 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.

Graduates 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.

**Requirements for the Major**

The program offers a major in economics. It is strongly recommended that students take Economics 202, Macro Economic Analysis, and 203, Micro Economic Analysis, before enrolling in upper level courses.

The major in economics aims at equipping the student with conceptual and analytical capability focusing on an integrated approach to historical and institutional processes. The analytical methods help the student to recognize relevant components of a particular problem. The historical and institutional processes add a qualitative and intuitive dimension. These methodologies enable the student to understand economic problems and to develop and evaluate alternative solutions. The program in economics attempts to provide an understanding of theory, quantitative techniques and application of these to real world economic situations.

A major in economics requires 30 credits, 24 of which must be at the junior-senior level. Introductory principles and intermediate theory courses count for 12 credits and constitute the core requirement. The remaining 18 credits can be earned by taking courses from the list of electives. The choice of these courses will be determined on the basis of the student's area of emphasis and in consultation with an adviser. The student planning for teacher certification with a major (or minor) in economics must include a minimum of three credits of upper level course work in the area of international economics, in addition to meeting the requirement in the areas of conservation and cooperatives.

A major in economics requires a good grounding in quantitative areas. These include statistics, calculus and computer science. A minimum of nine credits must be earned, in addition to the 30 credits indicated above. In addition, the student is required to fulfill the English proficiency requirement of the University, and to satisfy all of the other general requirements for graduation.

**Required Supporting Courses**

(9 credits not counted toward major)

600-260 Introductory Statistics

OR

255-205 Social Science Statistics

600-201 Calculus for Management and Social Sciences,

(Other equivalent or higher level calculus course will also fulfill this requirement.)

600-155 Computers and Microcomputers

OR

600-255 Introduction to Computer Science I

**Freshman-Sophomore-Level Requirements**

(6 credits required)

298-202 Macroeconomic Analysis

298-203 Microeconomic Analysis

**Junior-Senior-Level Requirements**

(6 credits required)

298-302 Intermediate Macroeconomic Theory

298-303 Intermediate Microeconomic Theory

**Electives (18 credits required)**

298-301 Economic and Social Security

298-304 Contemporary Labor Markets

298-305 Natural Resource Economic Policy

298-306 Public Finance and Fiscal Policy

298-307 Sources of Contemporary Economic Concepts

298-308 Business Cycles

298-309 Urban Economics

298-330 Money and Banking

298-401 Regional Economic Analysis

298-402 Resource Economic Analysis

298-403 International Trade

298-404 Economics of Developing Areas

298-406 Comparative Economic Systems and Institutions

**Requirements for the Minor**

The minor in economics aims at providing nonmajors sufficient grounding in the field to understand allocation processes and policy issues. A minor in economics would be especially suitable and appealing to students in Managerial Systems, Public and Environmental Administration, Regional Analysis, Urban Studies, and Social Change and Development. The students from these fields of study could very well add to their knowledge by taking a minor in economics because of the interrelatedness of these areas with economics.

Students taking a minor in economics are required to complete 18 credits of course work, 12 of which must be at the upper level. Economics 202, 203 and Economics 302 or 303 are required totaling nine credits with the remaining nine credits to be drawn from the electives (see list above). In addition, students are required to complete three credits of course work in the quantitative area. (See list of required supporting courses above.)

In addition to the requirement in the quantitative area, students are required to fulfill English proficiency requirements of the University. The credits gained in this area are not counted toward the minor in economics.

**Economics and Other Programs**

Students planning a program in economics may take courses in other disciplines or concentrations for economics credit. A faculty adviser may approve such an arrangement. Particularly relevant courses may be found in history, the social sciences, or in several of the concentrations. Students combining economics with other
programs should plan their studies with the help of advisers from the appropriate programs.

Students who major in the economics discipline also choose an interdisciplinary program appropriate to their goals. Those seeking teacher certification should consult with the economics adviser and an adviser in the Education professional program early in their studies to insure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

**Facilities**

The geography laboratory houses computing, digitizing, and plotting equipment as well as advanced field cartographic, and interpretation devices.

**Requirements for the Major**

The geography major is designed to provide students with a high quality program stressing basic concepts and skills and with some opportunity for specialization in physical, cultural, or regional geography, and geographic techniques. The program requires a total of 34 credits with 10 credits at the lower level and 24 credits of junior- or senior-level courses. General requirements are:

**Freshman-Sophomore-Level Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>416-120</td>
<td>Survey of Physical Geography, 4 cr.</td>
</tr>
<tr>
<td>416-250</td>
<td>Displays of Geographic Information, 3 cr.</td>
</tr>
<tr>
<td>416-102</td>
<td>Introduction to Geography, 3 cr. OR</td>
</tr>
<tr>
<td>416-202</td>
<td>Introduction to Cultural Geography OR</td>
</tr>
<tr>
<td>416-215</td>
<td>Economic Geography</td>
</tr>
</tbody>
</table>

**Junior-Senior-Level Requirements**

3 credits in physical geography
3 credits in cultural geography
3 credits in regional geography
6 credits in geographic techniques
6 credits of electives from any above area 416-485 Colloquium for Geography Majors, 3 cr.

**Other Requirements**

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.

**Geography and Other Programs**

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, Social Change and Development, or Humanistic Studies. 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. Students seeking teacher certification should consult with the geography adviser and an adviser in the Education professional program early in their studies to insure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

**Human Development**

**Professors:** Nancy Datan, adult life transitions, myth, folk, and fairy tale, women's studies, cross-cultural perspectives; Richard D. Logan (chairperson), middle childhood and adolescence, personality theory, cross-cultural human development, psychology of adaptation, coping, survival, and historical psychology.

**Associate Professors:** Fergus Hughes, life-span cognitive development, adult learning, perceptual development, children's play; Lloyd Noppe, cognitive styles, creative thought, formal operations, life-span human development.

**Assistant Professors:** Ilene Noppe, infant development, parent-child relationships, cognitive development; gender roles, death and dying; Dean Rodeheaver, social gerontology, cognitive development in adulthood and old age, gender roles.

The Human Development concentration is concerned with the study of human development from conception to death. It pro-
vides basic understanding of changes, tasks, and crises that occur throughout the normal 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 or minor 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.

Areas of Emphasis

Numerous areas can be emphasized within Human Development. These include: general child development, child development and family studies, adolescence and youth, adulthood and aging, 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 an emphasis in gerontology, for example. In addition, Human Development may be combined with Education, with the Social Services professional program (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.

Careers and Advanced Study

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 will take in addition a sequence of methods and student teaching courses in early childhood education within the Education professional program. Students wishing elementary or secondary education certification will also fulfill professional course requirements through the Education program. All students desiring certification should obtain the Handbook of Teacher Certification through an Education 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 with a minor in psychology, or a major in psychology with a minor in Human Development. Graduate programs exist:

- a firm and general foundation in the range of basic subject matter of the field;
- some exposure through courses or other experiences in the specialty (experimental, cognitive, clinical, developmental, etc.) the student will enter;
- a strong background in the methods and tools of the field.

The particular course program a student selects will depend on the desired area of graduate specialty. Students planning for graduate education should consult early in their undergraduate career with a concentration adviser so that courses, course sequences, and field or research experiences (independent studies) may be planned.

Typically, UWGB students who enter Ph.D. programs in psychology have taken experimental psychology and statistics early in their programs, have had research experiences, independent studies, or senior distinction projects, and have taken the Graduate Record Examination during their junior or senior years.

Requirements for the Major

Supporting Courses

All Human Development majors must take one course from each of the following three pairs of background courses 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
- 156-113 Introduction to Physical Anthropology
- 255-205 Social Science Statistics
- OR
- 600-260 Introductory Statistics

In addition to the above, the courses required for a major in Human Development depend on the career goals of the individual student. Certain courses may be particularly appropriate for a student depending on his/her overall academic program and career goals (e.g., psychology, social work, education, gerontology). Since programs will vary depending on the individual student's need, students interested in Human Development should consult an adviser as early as possible in their college careers.

Junior-Senior-Level Courses

- 481-331 Human Development I: Infancy and Early Childhood
- 481-332 Human Development II: Middle Childhood and Adolescence
- 481-433 Human Development II: Adulthood and Aging
- 481/820-435 Abnormal Behavior AND

Six elective courses chosen after consultation with a Human Development adviser. These will frequently come from the following list, but they may also include appropriate courses from other units.

- 481-333 Observation and Interpretation of Child Behavior
- 481-334 Play and Creative Activities in Childhood
- 481-336 Sex Role Development in Contemporary Society
- 481-339 Woman in the Life Cycle
- 481-342 Cross-Cultural Human Development
- 481/820-420 Tests and Measurements
- 481/820-429 Theories of Personality
- 481-431 Cognitive Development
- 481-436 Counseling with Children and Adolescents
- 481-437 Counseling with Adults and the Aged
- 481-438 The Social, Behavioral, and Biological Implications of Aging
- 481-441 History, Philosophy, and Current Programs in Early Childhood Education
- 481-452 Social Gerontology
- 481-455 Language Acquisition in Childhood

Sample Programs

Human Development Major With Social Services

Professional Program

- 481-331 Human Development I: Infancy and Early Childhood
- 481-332 Human Development II: Middle Childhood and Adolescence
- 481-342 Cross-Cultural Human Development
- 481/820-429 Theories of Personality
- 481-433 Human Development II: Adulthood and Aging
481/820-435 Abnormal Behavior
481-436 Counseling with Children and Adolescents
481-437 Counseling with Adults and the Aged

Plus two or three junior-senior level courses in Human Development or other related field (to be selected in consultation with a concentration advisor).

Plus 18-21 required credits in the professional program in Social Services, chosen with advice of that faculty.

**Human Development Major With Elementary Education Professional Program**

481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-431 Cognitive Development
481-433 Human Development III: Adulthood and Aging
481/820-435 Abnormal Behavior

Five electives chosen from:
481-434 Play and Creative Activities in Childhood
481-336 Sex Role Development in Contemporary Society
481-342 Cross-Cultural Human Development
481/820-429 Theories of Personality
481-436 Counseling with Children and Adolescents
481-437 Counseling with Adults and the Aged

Plus related upper division courses in psychology, sociology, education, or anthropology, approved as appropriate by advisor.

Plus courses required for certification by the professional program in Education.

(See Education program advisor).

**Human Development Major With Gerontology Emphasis**

This program provides students with a concentrated study of individual development in later adulthood. The program focuses predominantly on the socio-psychological development of the individual 65 years of age and older, but physical and biological development is also studied. It is primarily designed for students who are interested in an in-depth examination of the functioning of the older adult in our society and who possibly are interested in pursuing a career in some area of gerontology (e.g., federal, state or local aging agency; involvement in long-term care institutions; research or graduate work).

The three core courses (481-331, 481-332, 481-433)
481/478-320 Biology of Human Development and Senescence
481-437 Counseling with Adults and the Aged
481-439 The Social, Behavioral, and Biological Implications of Aging
481-452 Social Gerontology

Plus one or two other upper division courses approved as appropriate by advisor.

**Human Development Major With Early Childhood Education Certification**

Required Concentration Courses:
481-331 Human Development I: Infancy and Early Childhood
481-332 Human Development II: Middle Childhood and Adolescence
481-333 Observation and Interpretation of Child Behavior
481-334 Play and Creative Activities in Childhood
481-433 Human Development II: Adulthood and Aging
481-431 Cognitive Development
481-342 Play and Creative Activities in Childhood

*Required for Department of Public Instruction teaching certification*

Recommended Concentration Courses:
481-342 Cross-Cultural Human Development
481/820-429 Theories of Personality
481/820-435 Abnormal Behavior
481-436 Counseling with Children and Adolescents

**Political Science**

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

Associate Professors: 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, comparative politics.

Assistant Professor: Mary T. Bailey, public management and budgeting, organization theory and decision making, environmental policy, energy management, regulation and administrative law.
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, function, 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.

Requirements for the Major

A major in political science consists of 24 credits of junior-senior-level courses and six credits of freshman-sophomore-level courses. Many courses are acceptable for political science credit, including those preceded by the disciplinary number (778) and the 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.

Freshman-Sophomore-Level Requirements

A minimum of 6 credits from the following courses:
- 350-102 Introduction to Public Policy
- 778-100 Introduction to Political Science
- 778-101 American Government and Politics
- 778-215 Understanding Presidential Elections
- 778-218 Political Behavior

Junior-Senior-Level Requirements (24 credits)

American Government and Public Policy (minimum of 3 credits):
- 778-310 The American Presidency
- 778-312 Community Politics
- 778-320 Constitutional Law
- 778-330 Law and the Judicial Process
- 778-410 Intergovernmental Relations
- 778-412 Political Parties and Pressure Groups
- 778-416 American Legislative Process
- 350-301 Environmental Politics and Policy
- 350-305 Regulatory Policy and Administration
- 350-400 Environmental Law
- 350-410 Administration of Local Government
- 350-460 Public Policy Analysis
- 944-305 Urban Politics and Policy
- 944-314 Administrative Law
- 944-351 Transportation and the City

Comparative Politics (minimum of 3 credits):
- 778-351 Comparative Political Systems
- 778-352 Politics of Developing Areas
- 416-378 Geography of Conflict Areas
- 448-352 History of Modern China
- 448-354 History of Modern Southeast Asia

Political Theory (minimum of 3 credits):
- 778-340 Political Theory
- 736-326 Philosophy, Politics, and Law
- 736-404 Major Philosophical Figures
- 736-405 Major Philosophical Issues

International Politics (minimum of 3 credits):
- 416-378 Geography of Conflict Areas
- 778-360 International Politics
- 778-366 Geopolitics of World Regions
- 778-460 American Foreign and Defense Policy

*Can be taken for credit in either comparative or international politics subfields, but not both.

Requirements for the Minor

A total of 18 credits are required for the minor of which 12 credits must be at the upper division level.

Freshman-Sophomore-Level Requirements

A minimum of 6 credits from the following courses:
- 778-100 Introduction to Political Science
- 778-101 American Government and Politics
- 778-215 Understanding Presidential Electors
- 778-218 Political Behavior

Junior-Senior-Level Requirements (12 credits)

Twelve credits of courses drawn from the list of upper-division courses for the major as given above.

Political Science and Other Programs

Students majoring in political science will also select an interdisciplinary program and may add studies in a professional program if such a plan meets their goals. 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.

Students combining the study of political science with other programs should plan their studies with the help of advisers from the appropriate programs. Those seeking teacher certification should consult with the political science adviser and an adviser in the education professional program early in their studies to ensure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Careers and Advanced Study

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. It also serves as an excellent preparation for graduate study in political science, law, public administration, and related fields.
Psychology

Professors: Nancy Detan, transitions of adulthood (myth, folk and fairy tales), psychology of women, Nicholas Pols, group dynamics, intergroup relations, organizational development, human rights; William Smith (chairperson), environmental psychology, group processes.

Associate Professors: Bela Baker, motivation, personal values, processes of social change; Fergus Hughes, developmental psychology and aging; Per Johnsen, architectural, urban, and sports psychology; Charles Matter, cognitive processes, perception, aesthetic perception, behavioral toxicology; Robert Mondelson, community, clinical, social and cognitive psychology; Lloyd Noppe, life-span human development, cognitive styles, creative thinking, formal operations.

Assistant Professors: Illene Noppe, parent-infant interaction, formal operations, Piagetian theory; Dean Roedeheaver, adult development, sex role socialization.

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

Careers and Advanced Study

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

Psychology helps to deepen understanding of individual and social behavior and provides a strong general background for many careers. Psychology graduates are employed in a variety of positions with social and community service agencies, businesses, research institutes, and governmental agencies. Preparation for specialized professional work such as testing, counseling, university teaching, and many research activities usually requires a postgraduate degree (master's or doctorate).

Preparation for postgraduate education should combine a broad program in liberal arts with a sound background in the physical and biological sciences and should emphasize research skills and experiences.

Many graduates continue their professional training in such fields as social work, education, medicine, and business as well as psychology. Students considering postgraduate education should meet with the chairperson or a member of the faculty early in their undergraduate career so that an appropriate course of study and experiences can be planned. Students seeking teacher certification should consult with the psychology adviser and an advisor in the Education professional program early in their studies to insure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Psychology and Other Programs

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

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

Requirements for the Major

Students desiring a major in psychology must meet the following minimum requirements.

Freshman-Sophomore-Level Requirements (6 credits)
- 820-102 Introduction to Psychology
- 255-205 Social Science Statistics
  OR
- 600-260 Introductory Statistics

Required supporting courses (3 credits):
- 478-102 Introduction to Human Biology
  OR
- 478-315 Brain Functions

Junior-Senior-Level Requirements

(28 credits, of which 25 credits must be at the 300- or 400-level)
- 820-300 Experimental Psychology, 4 cr. (required)

Group 1 (minimum of 3 credits):
- 820-306 Psychology of Perception
- 820-300 Psychology of Motivation
- 820-330 Psychology of Learning
- 820-417 Psychology of Cognitive Processes
- 820-433 Educational Psychology

Group 2 (minimum of 3 credits):
- 820-202 Introduction to Social Psychology
- 820-335 Psychology of Attitudes and Public Opinion
- 820-337 Social Behavior Dynamics
- 820-416 Psychology of Intergroup Relations

Group 3 (minimum of 3 credits):
- 481-210 Introduction to Human Development
- 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 Later Maturity

Group 4 (minimum of 3 credits):
- 820-429 Theories of Personality
- 820-435 Abnormal Behavior

Group 5 (minimum of 12 credits)
- 820-290 Environmental Psychology
- 820-306 Psychology of Perception
- 820-309 Psychology of Motivation
- 820-335 Psychology of Attitudes and Public Opinion
- 820-337 Social Behavior Dynamics
- 820-338 Psychology of Learning
- 820-415 Organizational Psychology
- 820-417 Psychology of Cognitive Processes
- 820-420 Tests and Measurements
- 820-429 Theories of Personality
- 820-435 Abnormal Behavior
- 820-438 Group Dynamics
- 820-450 Psychological Stress and Adaptation
820-466 Clinical and Community Psychology
820-450 Problems in Environmental Psychology
820-497 Internship in Psychology
820-498 Directed Study
481-431 Cognitive Development
481-436 Counseling with Children and Adolescents
481-437 Counseling with Adults and the Aged
600-364 Biometrics
736-406 Philosophical Problems in the Sciences: Psychology
834-325 Behavior in the Designed Environment I
834-326 Behavior in the Designed Environment II
875-311 Role of Punishment in Society
875-371 Motivation and Social Change

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

Instructor: Kurt Schroeder, cartography, geographic information systems, simulation, location theory.

The Regional Analysis interdisciplinary program 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.

Requirements for Majors and Minors

Programs within Regional Analysis fall into three categories: students may choose a general program, an area program, or applied programs with emphasis on regional planning, regional economic development, transportation, and applied and analytical techniques. Each program requires six credits at the freshman-sophomore level with 24 credits of junior- or senior-level courses.

Requirements common to all programs are:
834-220 Introduction to Regional Analysis, 3 cr.
416-250 Displays of Geographic Information, 3 cr.
Area Courses, 6 cr.
(Courses dealing with a specific area of the earth)
Concept Courses, 9 cr.
(Courses dealing with a specific topic or theme)
Selected electives, 6 cr.
834-472 Senior Seminar in Regional Analysis, 3 cr.

Of 30 credits total, 8 must be at the 200-level, 24 at the 300-400 level.

The minor in Regional Analysis has similar areas of emphasis with programs in regional planning, regional development, regional transportation systems and regional perspectives. These interdisciplinary minors can be effectively combined with disciplinary minors in earth science, economics, geography, history, mathematics, political science, and sociology. Each minor program requires six credits at the lower level with 12 credits of junior- or senior-level courses.

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

General Program

With an emphasis on exposing students to a breadth of material, the general program helps to develop problem solving in the liberal arts context. The student, with a Regional Analysis adviser, selects an appropriate set of courses to meet individual needs. Experience in foreign countries or other regions of the United States is encouraged.

Area Programs

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 possible emphasis, several are particularly appropriate for study based on resources available in Regional Analysis and in other academic departments at the University.

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 relationships and influence of transportation to or on other environmental components and economic activities is considered in a number of courses. Students completing the program will have acquired some basic knowledge about employment opportunities in transportation planning with governmental agencies at the regional level.

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; William Kuepper, regional geography (Africa), climatology, settlements; James Murray, regional economics, economic development, quantitative methods; William Smith, environmental psychology, social psychology, polar regions, environmental design program.

Associate Professors: Kumar Kangayaparam, economic development, economic theory, comparative economic systems; Roderick Nessgach (chairperson), cultural geography, northern lands, settlements; Iamail Shariff, economic theory, economic development, international trade.
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 lends 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 combinations 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.

Associate Professors: Bela O. Baker, social psychology, social change, motivation, thinking; Julie B. Brickley, mythology, literature, women's studies, social change; Harvey J. Kaye (chairperson), political economy, historical sociology, Latin America, British culture and ideology; Craig A. Lockard, social history, Southeast and East Asia, revolutionary change; Carol A. Polis, social theory, families, intimacy and sexuality, sociology of education; Larry Smith, economics, social and economic development in U.S. and foreign third sector communities; Lynn E. Walter, cultural anthropology, Latin America, Scandinavia, women's studies, ethnicity.

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

Social change is a dominant feature of life in the 20th century, and it promises to retain its central importance in the 21st century given the rapid growth of information processing technologies. Majors and minors in the Social Change and Development interdisciplinary program provide students with the kind of global perspective necessary for understanding social change processes and the social problems, costs, and opportunities generated by them.

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

Requirements for the Major

The major consists of the following core requirement, which provides a common, integrated intellectual framework for study of social change processes, plus additional coursework in one of the program tracks as specified below. It requires a minimum of 24 credits of junior-senior-level courses and six to nine credits of freshman-sophomore-level courses.

Freshman-sophomore-level requirements (6 credits)

156-100 Varieties of World Culture
OR
900-202 Introduction to Sociology
AND
448-100 History of the Modern World

Required Supporting Courses

(6 credits of methods courses or minimum competency in a foreign language)
255-202 Social Science Statistics
OR
600-260 Introductory Statistics
AND
255-301 Foundations of Social Research
OR
Two years of a foreign language up through the 202 level. Note that students with some language skills may receive up to 16 retroactive credits.

Junior-senior-level core course requirements (12 credits):

875-333 Social Change in a Selected Area
(202 level course is required.)
875-360 Models and Social Change
875-361 Historical Perspectives on Social Change
875-470 Senior Seminar in Social Change and Development (the theme of the seminar varies from semester to semester although it is always put on a research project of the students' choice)

Track Programs

In addition to the core, the student majoring in Social Change and Development may choose coursework in one of the following tracks (6 credits of each track must be in Social Change and Development (875) coursework):

Social Change and Development

Professor: Anthony H. Gatt (adviser), social anthropology, social change, Mediterranean societies.
Criminal Justice Track
The track in criminal justice will provide excellent preparation for careers in law enforcement and corrections and will assist students preparing themselves for law school or graduate training in criminal justice. Required courses in this track, Criminal Justice Process and Criminology, familiarize students with the operation of the criminal justice system and theoretical approaches to crime causation. Additional courses—The Role of Punishment in Society, Freedom and Social Control, Deviance, Sex and Society—focus on broader issues of social change as they bear on the creation and definition of “deviant” behaviors. Discussions of law and morality as forms of social control and the processing and punishment of law and/or norm violators are also included.

Freshman-sophomore-level courses:
(None are required but two electives which may be taken to contribute to the track are:
875-204 Freedom and Social Control
875-235 Sex and Society)

Junior-senior-level courses:
(12 credits required):
875-303 Criminal Justice Process (required)
875-315 Law and the Judicial Process
875-320 Constitutional Law
875-325 Law and the Judicial Process
875-330 Law and the Judicial Process
875-345 Women and the Law
875-400 Environmental Law
944-314 Administrative Law

International and Development Studies Track
The international and development studies track provides a broad background for understanding relationships between and within nations at the international level. Its particular focus is on the Third World and problems of development. It can be combined with the International Studies program or taken alone as a track for the concentration major. Students following this track could direct themselves toward vocations in the U.S. foreign service, international development agencies, international business (in combination with a business minor), the military, or various programs of further study at the graduate level.

At the lower level, foreign language study is highly recommended to meet the supporting course requirement.

Freshman-sophomore-level course (required):
875-270 Third World: Development or Despair

Junior-senior-level courses (12 credits):
166-303 Cultural Ecology
296-404 Economics of Developing Areas
448-350 History of Africa
448-358 Aspects of Latin American History
875-345 Women in Cross-Cultural Perspective
875-365 Human Resources and Economic Growth
875-371 Motivation and Social Change

Women’s Studies Track
The women’s studies track in Social Change and Development analyzes women in society and culture. Its focus is on gender as a basis for concepts of masculinity and femininity, status and role, and stratification and hierarchy. This course of study includes historical and comparative approaches to such issues as the position of women in the labor force, the influence of myth and religion on women’s identity and position in society, women’s roles in the family, relationships between women and men, and strategies for social change.

The track would be especially useful to students planning careers in social services, education, counseling and therapy, personnel management, community organizing, politics, labor relations, public administration, religious service, or any other careers in which issues of gender identity and roles are central ones. (For students who want to pursue further coursework in Women’s Studies leading to an official Women’s Studies transcript designation, the Women’s Studies program offers an area of emphasis and minor in Women’s Studies, Contact any Women’s Studies adviser for more information.)

Freshman-sophomore-level course (required):
875-241 Women and Changing Values

Junior-senior-level courses (12 credits):
875-340 Women as Worker
875-342 Women, Myth and Identity
875-345 Women in Cross-Cultural Perspective (required)
875-440 Women and Religion
875-467 Internship
875-498 Independent Study
344-345 Women in American Perspective (required)
Individualized Social Change and Development Track

Students sometimes have very specific interests or just desire a more general liberal arts education. The Social Change and Development adviser helps such students work out an individualized program. In all cases, a minimum of 12 credits of upper-division coursework is required in addition to the core. 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.

Requirements for the Minor

The minor consists of the following core requirement. It would be appropriate for students majoring in a variety of disciplines from communication processes to art to political science, although it fits especially well with social science disciplines. It would also be a good choice of minor for Business Administration majors.

Freshman-sophomore-level requirements (6 credits)

155-100 Varieties of World Culture
OR
300-202 Introduction to Sociology
AND
448-100 History of the Modern World

Required supporting courses:
(6 credits of methods courses or minimum competency in a foreign language)
255-202 Social Science Statistics
OR
600-260 Introductory Statistics
AND
255-301 Foundations of Social Research

Two years of a foreign language up through the 202 level. It should be noted that students with some language skills may receive up to 16 retroactive credits.

Junior-senior-level core course requirements (12 credits)

875-333 Social Change in a Selected Area (specific region of the world; changes each time course is offered)
875-360 Models and Social Change
875-561 Historical Perspectives on Social Change

875-470 Senior Seminar in Social Change and Development (This theme varies from semester to semester although emphasis is always put on a research project of the students' choice.)

Sociology

Associate Professors: Harvey J. Kaye, historical and comparative sociology, political economy and inequality, political sociology and social movements, social theory and criticism; Carol Pollis, sociology of families, intimacy and sexuality, education, social change and societal development, social theory.

Assistant Professors: Walter Groves, criminology, deviance, punishment and social control, social philosophy and theory; Ray Hutchinson (acting chairperson), urban sociology, race and ethnicity, minority groups, social research methods.

The disciplinary 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. The core course, 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.

Careers and Advanced Study

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, or Social Services, or with a preprofessional program in prelaw, city planning, or community development.

Sociology and Other Programs

Students majoring in sociology will also select an interdisciplinary program. Sociology combines well with any interdisciplinary concentration though students will probably find it most compatible with Social Change and Development, Regional Analysis, Urban Studies, or Human Development. 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 where they fit with a program and to seek learning experiences which will actively involve them in their own learning.

Students combining the study of sociology with other programs should plan their studies with the help of advisers from the appropriate programs. Those seeking teaching certification should consult with the sociology adviser and an adviser in the Education professional program early in their studies to insure that their programs meet all of the specific requirements for certification of the Wisconsin Department of Public Instruction.

Requirements for the Major

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 of focus consistent with their interests and concentration program.

Some examples of such areas of focus are criminology and delinquency, social equality and inequality, urban sociology, organizations, development sociology, sociology of the family and sexuality, and political sociology.

Freshman-Sophomore-Level Requirements (6 credits)

255-205 Social Science Statistics
900-202 Introduction to Sociology
Urban Studies

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

Associate Professors: Ronald Baba (chairperson), social ecology, decision-making systems relating to the quality of the urban environment, urban planning, environmental design, impact of the designed environment on human behavior and health, problem solving and creativity systems; Sidney Bremer, literature and women's studies; the urban novel and artistic images of the city, fiction by and about women and ethnic figures, stereotypes and minority groups, American cultural and intellectual traditions; Per K. Johnsen, psychology, environment and behavior, social and behavioral consequences of design, human spatial behavior, privacy and territoriality; David M. Litig, urban politics, public policy, urban transportation, Latin American politics; E. Nelson Swinerton, political science, public administration, American presidency.

Assistant Professors: Ray Hutchison, urban sociology, ethnic studies, immigration, Hispanics in the U.S., research methods; Gerrit Knaap, urban economics, regional economics, public finance, environmental economics, land use planning.

Urban Studies is an interdisciplinary concentration that offers students unique opportunities to combine theoretical material from the classroom with practical experience in the community. The Urban Studies faculty plays an active role in the local Planning Commission, the Transit Authority, the Redevelopment Authority, and other policymaking bodies. Other contacts include state and federal agencies, civic, educational, and service institutions. This broad range of contacts is rich with opportunities for field work and internships for students. Moreover, 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 midrange of population size. These cities exhibit high population growth rates and represent a rapidly expanding source of careers 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.

Requirements for the Major

Background Courses (3 credits required)

All Urban Studies majors must complete 944-300 Introduction to Urban Studies

Supporting Courses (6 credits required)

In addition, the Urban Studies curriculum includes a 6-credit requirement for supporting courses which focus on specific methodological or quantitative skills. While this requirement is normally fulfilled by the completion of Social Science Statistics and Foundations of Social Research, other courses may be selected after consultation with the Urban Studies adviser.

255-205 Social Science Statistics

OR

600-260 Introductory Statistics

255-301 Foundations of Social Research (required)

Environmental Design students may also complete:

168-106 Design Methods

944-210 Drawing Systems for the Designer.
Core Courses (15 credits required)

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
944-330 Urban Sociology

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

Decision Processes
944-307 Urban Public Law
944-421 Urban Planning

Humanities
944-313 The City Through Time and Space
944-430 Urban Aesthetics

Areas of Emphasis

In addition to completing background, supporting, and core requirements, Urban Studies majors choose—a consultation with a faculty adviser—an area of emphasis. Emphases are offered in thematic areas including ethnic studies and women's studies; in professional programs including urban planning, environmental design, environmental planning, and urban administration; and in disciplinary programs including economics, political science, psychology, and sociology. In place of these, students are also welcomed and encouraged to design their own course of study on a particular problem or perspective in urban studies. Upper-level courses that may count toward the area of emphasis include courses in the urban studies core, other upper-level credits offered in the urban studies department, and other courses offered by other concentrations and disciplines that serve to strengthen the program of study.

General Urban Studies

The Urban Studies concentration is uniquely qualified to provide students with one of the finest urban studies majors available at the undergraduate level. Built around the core, students in the general urban studies program pursue more advanced interdisciplinary urban course work related to the core. This program of studies not only develops problem-solving and analytical skills focused on the urban setting, but provides for an integration among the social sciences and humanities. This strong interdisciplinary major is solid preparation for a professional career and graduate studies.

Urban Planning

Urban planning is concerned with the conceptual models, decision making and problem-solving processes, and evaluation procedures that are appropriate to building and maintaining habitable urban settlements. Because of the complexity of the problems addressed by the field of urban planning, this specialization may be tailored to fit a broad range of student interests and competencies. This program provides in-depth technical/professional preparation, as well as a comprehensive foundation for graduate studies in urban studies and urban planning.

Environmental Planning

The environmental planning specialization is 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.

Women's Studies

The women's studies specialization provides men and women an opportunity to explore the cultural, racial, and economic diversity of the experiences of women and to examine the common denominators affecting women's lives. Women's studies courses are interdisciplinary, and an urban women's studies emphasis can easily be designed to complement other work required to complete a Women's Studies Program. The women's studies emphasis is particularly effective for individuals pursuing careers in teaching, community service, social action, or affirmative action.

Disciplines

A disciplinary emphasis within Urban Studies provides students the advantage of developing analytical skills and deepening their understanding in a discipline. Urban life and issues are generally analyzed from the perspectives of the social sciences and humanities. Social science disciplines which illuminate urban life are economics, political science, sociology, and psychology. Literature and history provide specializations in the humanities. A student may choose any one of these for a disciplinary emphasis. They provide students with strong disciplinary bases for graduate studies and preparation for professional careers in the urban setting.

Environmental Design (Pre-architecture)

Environmental design involves exploring and participating in these decision-making processes that result in the shaping of settings in which humans live and act. The student of environmental design studies human environments which range in scale from the small study carrel to the seating of individuals in a public waiting room to the neighborhood or the central business district of a city. Students majoring in Urban Studies will find the track in environmental design an excellent means of preparation for a number of urban-focused professions; these include urban planning, urban design, and architecture.

Urban Administration

Urban administration combines Urban Studies with an emphasis on public administration. Courses in the urban core are supplemented with courses in public policy, problem analysis and decision making, and administration. This is an excellent program for students aspiring for careers in public service at the federal, state, county or local levels of government, as well as in nonprofit and other community organizations.

Ethnic Studies

The United States is a pluralistic society constructed from successive waves of immigration which continue to the present day. This is even more true of our cities, which house the majority of both older and newer immigrant groups. The ethnic studies specialization challenges us to understand the immigrant groups and how they are similar/different from the dominant society, and their contributions to American culture. Special topics of study include immigration policy, language patterns, religious traditions, assimilation, intermarriage, ethnic conflict, and colonial societies.

Requirements for the Minor

For an interdisciplinary minor in Urban Studies, students are required to take an introduction to Urban Studies; six credits of supporting subjects; nine credits in Urban Studies core courses (one course from three of the four groupings); and six credits of other urban or approved urban-related courses. A minor in Urban Studies is recommended for students majoring in social science discipline majors (economics, political science, sociology, psychology, history), public administration, journalism and communications, and business majors.
Environmental Planning

Professors: Hallett Harris, Science and Environmental Change; Robert Wenger, Science and Environmental Change.

Associate Professors: Daniel Alesch, Managerial Systems; Ronald Beba, Urban Studies (chairperson); Bruce Clary, Public and Environmental Administration; Harvey Kaye, Social Change and Development; William Laatsch, Regional Analysis; David Littig, Urban Studies.

Assistant Professors: Gerrit Knapp, Urban Studies; William Niedzwiedz, Regional Analysis.

Environmental Planning is a rigorous interdepartmental major for students who desire to develop professional knowledge and skills in planning, design, protection, and management of the natural and built environment. Most graduates of the program go on to graduate education in planning, architecture, policy science, or management where they report that their undergraduate education prepared them exceptionally well for such graduate study. Other graduates have entered employment in public and private organizations directly upon graduation where they find that the problem-focused approach to the program has prepared them for dealing with complex problems involving interrelationships among natural, social, economic, and political environments.

Environmental Planning is a cooperative program offered through several UWGB concentrations: Managerial Systems, Public and Environmental Administration, Regional Analysis, Science and Environmental Change, Urban Studies, and Social Change and Development.

Requirements for the Major

In addition to the regular requirements of the University, students majoring in Environmental Planning must complete 21 credits of required supporting courses, 30 credits of core courses, and an 18 credit field specialization. A major in Environmental Planning fulfills a student’s interdisciplinary requirement at UWGB.

The required supporting courses prepare the student for advanced courses in environmental planning while augmenting the general education requirements of the University to ensure a well-rounded undergraduate education. Although the only mathematics course required is Intermediate Algebra, students are strongly advised to include at least one semester of calculus in their academic plan. The Environmental Planning core consists of studies in planning, environmental policy, political and economic systems, and the natural environment. The required field specialization provides students with an in-depth understanding of planning skills in an area related to environmental planning, such as environmental design, resource management, public policy analysis, systems management, environmental science, or quantitative methods.

Required Supporting Courses

255-205 Social Science Statistics
350-470 Capital Projects Planning and Programming
834-340 Economics of Land Use

Two of the following courses:
778-305 Urban Politics and Policy
778-312 Community Politics
778-351 Comparative Political Systems
778-353 Politics of Developing Systems
778-410 Intergovernmental Relations
778-416 American Legislative Process
875-333 Social Change in a Selected Area
875-361 Historical Perspectives on Social Change
875-365 People and Development

Two of the following courses:
290-420 Soil Classification and Geography
962-302 Principles of Ecology
962-303 Conservation of Natural Resources
962-327 Urban Technical Design
962-384 The Environment’s Response to Human Settlement
962-460 Resource Management Strategy

Field Specialization

The field specialization requirement may be met by: 1) successful completion of a set of courses (consisting of 18 credits, with at least 12 credits of junior-senior courses) individually tailored to meet the student’s interests; 2) fulfilling the requirements for an approved second major; or 3) meeting the requirements for an approved minor. The field specialization for each student is approved by the chairperson of Environmental Planning at the time the student’s academic plan is prepared. The second major or the minor is typically taken in one of the concentrations that sponsor this interdisciplinary program. Students are strongly encouraged to pursue a second major in order to provide for an even stronger undergraduate background.

Requirements for the Minor

A student may obtain a minor in Environmental Planning by completing successfully a prescribed 18 credit course of study. The minor in Environmental Planning does not fulfill the interdisciplinary requirement. A student with a minor in Environmental Planning...
Planning must major in an interdisciplinary concentration.

350-421 Planning Theory and Methods
862-302 Principles of Ecology

Three of the following courses:
350-420 Decision Theory and Methods
350-460 Public Policy Analysis
350-470 Capital Projects Planning and Programming
834-322 Regional Planning
834-421 Techniques and Methods of Planning Analysis
944-421 Urban Planning

One of the following courses:
298-306 Public Finance and Fiscal Policy
288-404 Economics of Developing Areas
350-415 Public and Nonprofit Budgeting
834-323 Land Use Controls
834-340 Economics of Land Use

Information and Computing Science

Professors: Timothy Meyer, electronic media, telecommunications; Thomas McIntosh, remote sensing techniques; Donald Lammuch, linguistics, scientific and technical communication.

Associate Professors: Clifford Abbott (chairperson), linguistics, semantics; Dennis Girard, discrete mathematics, statistics; John Harris, management, organizational behavior; Charles Matter, cognitive psychology, visual perception; Bruce Mielke, computer science, programming languages, data structures; Gilbert Null, philosophy, logic; Charles Rhyner, microprocessor systems; William Shay, computer science, database management systems, systems programming, data structures.

Assistant Professors: Phillip Clampitt, human communication theory, organizational communication.

Instructor: Kurt Schroeder, computer cartography.

Information and Computing Science is an interdisciplinary 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.

The major in Information and Computing Science satisfies a student's interdisciplinary requirement, but the minor does not. A student minoring in Information and Computing Science must choose an interdisciplinary major or second minor.

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 assimilate 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 and telecommunications.

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.

Facilities

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 Telefex T-B5 central processor units connected in an anonymous multiprocessor system. This system is capable of supporting 100 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, three graphics terminals, and a projector available as an instructional tool.

In addition, the computer center has microcomputer laboratories containing a total of 44 microcomputers. These microcomputers support either Apple, IBM or CP/M software. Several of the microcomputers are networked with a Corvus Omninet system. There is also a DEC PDP 11/34 MING laboratory computer used in the science laboratories and in processing data from the campus weather station. Also, the Laboratory Sciences building has a small microcomputer lab supporting laboratory science classes. Software packages include the following languages: PASCAL, FORTRAN, COBOL, LISP, SNOBOL, APL, assembly language, LOGO, and BASIC. Statistical packages for the social, biological and mathematical sciences include SPSS, BMDP, and MINITAB.

The University has also made a major commitment to computer graphics by establishing a computer cartography laboratory, which is equipped with a Magnavox ORION plasma terminal, TALOS digitizer, CALCOMP incremental plotter, Tektronix graphic terminal and a Pratt and Whitney electrostatic printer. These are supported with CALCOMP and PLOT 10 graphics packages as well as many mapping and statistical graphics applications programs.

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 databases through the Library Information Systems. The library also supports up-to-date technical processing systems for conventional bibliographic resources.

Requirements for the Major

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); junior-senior level core courses (27 credits); and area of application (9 credits).

General Requirements

The general requirements 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, 3 cr.
735-111 Elementary Logic, 3 cr.
Foundation Courses

The following courses are required as background for more advanced study:
- 242-160 Introduction to Language, 3 cr.
- 246-200 Communication Processes: An Introduction, 3 cr.
- 246-201 Human Information Processing, 3 cr.
- 246-220 Principles of Bibliographic Organization and Control of Information, 3 cr.
- 416-250 Displays of Geographic Information, 3 cr.
- 600-241 Discrete Mathematics, 4 cr.
- 600-256 Introduction to Computer Science I, 1.3 cr.
- 600-257 Introduction to Computer Science II, 3 cr.

Junior-Senior-Level Core Courses

The following courses are required for students at the junior and senior levels, with some options as noted:
- 246-322 Modern Linguistics, 3 cr.
- 246-326 Modern Semantics, 3 cr.
- 246-335 Organizational Communication, 3 cr.
- 246-440 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:
- 246-308 Telecommunications Delivery Systems: Cable and Satellite, 3 cr.
- 246-308 Telecommunications Delivery Systems: Cable and Satellite, 3 cr.

And either the remaining course above or one of the following courses:
- 600-455 Microprocessors and Microcomputer Systems, 3 cr.
- 862-454 Remote Sensing of the Environment, 3 cr.

Area of Application

The required area of application must be a cohesive set of courses (minimum nine 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
- 600-451 Data Base Management Systems
- 600-452 Operating Systems
Third course chosen with adviser

Structure and Design of Computer-Based Information Systems
- 600-451 Data Base Management Systems
- 600-454 Artificial Intelligence
- 600-457 Compiler Theory

Computer Cartography and Land-Use Planning
- 416-451 Computer Cartography
- 416-483X Advanced Computer Cartography
- 834-421 Techniques and Methods in Regional Planning

Communications Media
- 246-308 Telecommunications Delivery Systems: Cable and Satellite
- 246-444 Time Duration Visual Media

One of the following:
- 246-390 Scientific and Technical Communication
- OR
- 246-460 Publications Management

Students must complete the all-University requirements in addition to their requirements in Information and Computing Science. However, this would still permit at least 23 credits of elective coursework, which could be used to develop a minor (such as Business Administration, one of the natural sciences, mathematics, or one of the social sciences, or a field program in Communications and the Arts). Those 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
- 242-180 Introduction to Language, 3 cr.
- 600-256 Introduction Computer Science I, 3 cr.
- 600-257 Introduction to Computer Science II, 3 cr.
- 736-111 Elementary Logic, 3 cr.
- Foreign Language (two semesters), 8 cr.
- All-University requirements courses, 15 cr.
- TOTAL, 35 cr.

Sophomore Year
- 246-200 Communication Processes: An Introduction, 3 cr.
- 246-201 Human Information Processing, 3 cr.

246-220 Bibliographic Organization and Control of Information, 3 cr.
- 416-250 Displays of Geographic Information, 3 cr.
- 600-241 Discrete Mathematics, 4 cr.
- 600-351 Data Structures, Storage and Retrieval, 3 cr.
- 600-353 Computer Organization and Programming, 3 cr.
- All-University requirements courses, 6 cr.
- Electives, 6 cr.
- TOTAL, 34 cr.

Junior Year
- 246-305 Elements of Electronic Media, 3 cr.
- 246-322 Modern Linguistics, 3 cr.
- 246-326 Modern Semantics, 3 cr.
- 246-335 Organizational Communication, 3 cr.
- 600-352 Computer Graphics, 3 cr.
- All-University requirements courses, 6 cr.
- Electives, 9 cr.
- TOTAL, 30 cr.

Senior Year
- 246-445 Human Communication Theory, 3 cr.
- 600-455 Microprocessors and Microcomputer Systems, 3 cr.
- 600-457 Compiler Theory, 3 cr.
- 600-454 Artificial Intelligence, 3 cr.
- 600-451 Data Base Management Systems, 3 cr.
- Senior Seminar, 3 cr.
- Electives, 9 cr.
- TOTAL, 27 cr.

*Courses for required area of application (examples total 9 cr.)
Tota1 Credits, 126

Careers and Advanced Study

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 40 percent of the gross national product and over 50 percent of all labor income. There are both continuing and long-range demands for graduates of information and computing science. The American Society for Information Science lists employment opportunities in four categories. These areas, along with examples of typical position titles, are as follows:

Design of information systems:
- Applications or systems programmer
- Information systems engineer
- Library systems analyst
- Management information systems specialist

Management of information systems:
- Information/computer center manager
- Systems analyst
Research and teaching:
Cryptographer
Information scientist
Programming language designer

Operation of Information Systems:
Abstractor-indexer
Bibliographic searcher
Computer-aided design specialist
Information marketing specialist
Librarian
Media specialist
Satellite communication specialist

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, cognitive science, organizational communication, electronic media, computer science, library science, and others are available at many universities. In planning for graduate studies, students should actively seek a faculty advisor in order to select appropriate undergraduate courses necessary for admission to graduate education.

International Studies

Associate Professor: Craig Lockard (coordinator), History, Asian and African studies, third world societies.

A minimum of six of the 18 credits must be in courses focused on a particular region or country of the world, such as China, Mexico, Africa, the Soviet Union, Malaysia, Latin America, Southeast Asia, Britain, or Western Europe.

Remainder courses are chosen from more than 80 with an international, comparative, or cross-cultural focus accepted for International Studies credit.

Some courses which earn all-University requirements credit also meet International Studies requirements.

Specializations

Several possible specializations within the program are available. Students interested in international business could take such courses as International Trade, international Financial Management, Economics of Developing Areas, and Comparative Economic Systems. Students could also combine the International Business with a particular area focus, for example, a specialization on Latin American business could include courses such as Latin American Today, Aspects of Latin American History, the Americas Look at Each Other, and the January program in Yucatan.

It is possible to put together an area studies program. Students with a particular concern for Asia could take History of Modern China, History of Modern Southeast Asia, Analysis of South Asia, Non-Western Religions, Traditional Asian Civilizations, and Modern Asian Civilizations. Or, a program in German studies could include History of Modern Germany, Contemporary German Culture, German Literature, and perhaps a year on exchange at the University of Kaiser in Germany. A student seeking a career in international development could select from such courses as Third World Development or Despair, Economics of Developing Areas, History of Africa, Women in Cross-Cultural Perspective, and Social Change in a Selected Area. There are also possibilities in diplomacy and international politics. In these fields students can choose from among courses like Political Geography of Tension Areas, International Relations, Geopolitics of World Regions, Comparative Political Systems, U.S. Foreign and Military Policies, The Vietnam War in Historical Perspective, American Foreign Relations, and the Soviet Union Since 1917.

These are examples; many possibilities can be worked out, depending on student interests and course offerings. Interested students should contact the coordinator for information on the program and for reference to a faculty advisor for their particular area of specialization or emphasis.

Program of Study

Students interested in International Studies have several options in developing a course of study. Students with majors in Humanistic Studies, Regional Analysis, or Social Change and Development can select International Studies as either regular minor field or as an area of emphasis within their major program. Students with other interdisciplinary majors, such as Management Systems or Urban Studies, can also select International Studies as a regular minor field. Students with disciplinary majors such as history, anthropology, political science, economics, or literature and language, can select International Studies as a second minor alongside a regular concentration minor.

Requirements for the Minor

Freshman-Sophomore-Level Prerequisites

Nine credits required, normally including:
156-100 Varieties of World Culture
416-102 Geography of World Regions
448-100 History of the Modern World

AND

Competency in one foreign language (generally defined as equivalent to 18 credits or 4 semesters)

Other Requirements

(18 credits minimum; 12 of these credits must be junior-senior-level courses)
448-375 Great Decisions (required)

Americans live in an increasingly interdependent, complex, and changing world in which developments overseas affect us directly and indirectly, while American decisions and activities influence other countries. International trade accounts for an increasing proportion of American and world economic activity. The employment market for students with foreign language competence, cross-cultural sensitivity, and knowledge of the world is growing rapidly. Many students will pursue careers with international implications or applications. Furthermore, it is impossible to understand contemporary developments and problems without regard to global dimensions. Students need to gain some familiarity with international developments and with other cultures so as to better comprehend the nature of global change, and the American role in the world.

Several concentrations (Social Change and Development, Humanistic Studies, and Regional Analysis) jointly offer an undergraduate program in International Studies, through which students can elect
Women's Studies

Professors: Nancy Datun (chairperson), Human Development; Estella Lauter, Humanistic Studies; Louise Snitker, Humanistic Studies.

Associate Professors: Sidney Bremer, Urban Studies; Julie Erickson, Social Change and Development; Lynn Walter, Social Change and Development.

Assistant Professor: Irene Nopp, Human Development.

Women's Studies are studies about women—for women and men. The Women's Studies program offers a variety of courses, areas of emphasis within interdisciplinary concentrations, and a minor. It examines the common denominators affecting women's lives. It focuses on the cultural, racial, and economic diversity of their experiences. And it explores their past and present contributions to society as persons, creators, and thinkers.

The program draws upon methods and content from a wide range of disciplines, including anthropology, literature and the arts, biology, economics, history, political science, psychology, religion, and sociology. It seeks to improve the quality of human life by expanding women's and men's appreciation of women's accomplishments and capabilities, and by enabling students to widen their sphere of development beyond the limits of traditional sex-differentiated roles.

Women's Studies courses are particularly effective for individuals pursuing careers in teaching, community service, social action, or affirmative action. Indeed they provide preparation for any job in which the people served or the coworkers include women. They also open up new ways of thinking about and designing careers. Women seeking leadership roles or professions in fields not traditionally open to women may especially gain much from the study of women's lives and contributions.

Women's Studies courses are emphatically interdisciplinary. The introductory course addresses current issues relating to social and personal values. Upper-division core courses establish other cultural and historical contexts for studying women, and introduce creative models and skills for meeting human needs.

All students are welcome in Women's Studies courses, and any student may pursue a program of Women's Studies courses as an area of emphasis within a cooperating concentration or as an independent minor. The cooperating concentrations are: Communication and the Arts, Humanistic Studies, Social Change and Development, and Urban Studies. Students should develop an academic plan in consultation with a Women's Studies adviser. The Office for Women's Educational Programs can consult with interested students and locate faculty advisers to approve programs of study and describe specific courses.

Requirements for the Minor or Emphasis

Women's Studies requirements include the introductory course, two of the three core courses, and four additional upper-level courses, including three credits of advanced research or theoretical studies for a 21-credit program to be listed on the academic transcript as a minor or as an area of emphasis.

Introductory Course

875-241 Women and Changing Values

Core Courses

242-477 Women as Creative Agents
875-345 Women in Cross-Cultural Perspective
944-345 Women in American Perspective

Other Junior-Senior-Level Courses

242-395 Images of Woman in Contemporary Arts
481-329 Women in the Life Cycle
554-333 Women in 19th and 20th Century French Literature
875-340 Woman as Worker
875-342 Women, Myth and Identity
875-440 Women and Religion

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

The Women's Studies program also includes several courses that satisfy all-University requirements. In addition to 875-241 Women and Changing Values, these include: 242-272 Women in Visual and Performing Arts, 481-336 Sex Role Development in Contemporary Society, and 493-205 Women in Literature.

Professional Studies

Managerial Systems

Business Administration and Managerial Accounting

Associate Professors: Daniel J. Alesch (chairperson, Business Administration), planning, decision theory, management, management information systems; Maurice Better, labor and economics and coordination, School for Workers; William Conley, quantitative methods and computer sciences; John Harris, management, organization behavior, organization theory; Robert Mohn, general marketing, promotion, and marketing for nonprofit organizations; Michael Troyer, management planning and control, management of service operations, nonprofit organization management and finance, ethics; Karl M. Zehms (chairperson, Managerial Accounting), financial accounting, nonprofit accounting.

Assistant Professors: Sam Ghanty, corporate finance, banking, financial institution management, international finance; Mary Ann Hazen, management, organization behavior, organization theory; Patrick Laim, corporate finance, investments, security analysis and portfolio management; Jeffrey E. Tollefson, business law and accounting.

Instructor: William Piper, marketing, marketing research, consumer behavior.
Lecturers: Laurey Berk, corporate finance, investments, personal finance; Lawrence C. Franke, financial accounting, managerial accounting; Larry Kostrovec, general management and small business management, director of Small Business Development Center; Daniel Spilman, law and collective bargaining; Donald McCartney, general marketing, selling and sales management, public relations; Greg Powers, small business feasibility analysis and staff specialist (financial analysis) for the Small Business Feasibility Center; Marilyn Sagrillo, accounting systems; auditing: Ann Sell, financial accounting, managerial accounting; Thomas L. Zeller, accounting.

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, organizer and leader 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 a field of emphasis, broad preparation in other functional business disciplines, general analytical and decision-making knowledge and skills, and leadership abilities.

Analytical capabilities and superior skills in writing 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 and community leaders of the future.

Students may select a major in managerial accounting or a major in business administration. The business administration or managerial accounting graduate may earn either the bachelor of science or bachelor of arts degree.

The Major in Business Administration

The business administration major offers programs in finance, management, marketing, and nonprofit organization management. Within each of these areas students may pursue a variety of career-directed professional programs. Degree recipients will be prepared for immediate entry into a variety of professional positions in business, human services, public or governmental organizations.

Requirements for the Major

A major in business administration must complete 36 credits specifically within the business program, it comprises four components.

Pre-Business and Business Foundation Courses: This component provides breadth, perspective, and skills necessary as preparation for the study of business administration.

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 select a field of specialty in marketing, finance, management, or nonprofit organization management. Within each emphasis there is a variety of career directions students might pursue. For example, in marketing there are five different career-directed tracks including general marketing, retail management, brand management, market research, market analysis, and sales and sales management, and nonprofit marketing.

Minor: Business administration majors also must complete a nonbusiness minor in an interdisciplinary concentration or a discipline. Minors typically consist of 18 credits. The minor may be chosen from the humanities, fine arts, social sciences, or natural sciences and mathematics.

Specific requirements of each component in the business student's program of study are described in the following section.

Pre-Business and Business Foundation Courses

All-University requirements (30 credit hours):

All-University requirements are described at the beginning of this section of the catalog.


Business Core Courses (21 credits):


*Students electing the nonprofit organization management emphasis may substitute 575-316 Governmental and Institutional Accounting.

Business Emphasis Courses (36 credits):

Students who select an emphasis in management, finance, or marketing select five advanced courses beyond the core or introductory courses in their chosen emphasis and select one additional upper level course from each of the two areas not chosen as an emphasis. Thus, a specialty in finance would lead to selecting 15 credits of finance, three credits of marketing, and three credits of management. Students who choose the emphasis in nonprofit organization management must complete designated courses in each of four areas: management, marketing, finance, and accounting (575-385 Management of Nonprofit Organizations; 575-420 Marketing Strategies for Nonprofit Organizations; 575-448 Financial Management of Nonprofit Organizations; and 575-316 Governmental and Institutional Accounting), and then select nine credits of additional upper level course work in consultation with the adviser.

Emphases and the tracks within each area:

Finance Emphasis: Corporate financial management, financial institution management
Marketing Emphasis
Brand management/general marketing/ 
MBA preparatory
Sales/sales management
Advertising/advertising management
Market research/marketing analysis
Nonbusiness 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 in health care, educational, social services, 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, public and environmental administration, nursing, and others.

Electives beyond the above requirements are chosen in consultation with a business administration adviser to total 124 degree credits.

Minor for the Business Administration Major
(18 credits)

The required nonbusiness minor 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 an emphasis in management or marketing and a minor in graphic communication. Students interested in entry-level management positions in the paper industry might complete their minor in chemistry and physics. Students who seek entry into international business might appropriately take a minor that includes foreign languages. A minor 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 a minor in human development or human biology.

Business advisors help students identify programs consistent with their aptitudes and career objectives.

Business Administration Minor for Non-Business Majors
A minor in business administration for non-business majors consists of 21 credits. Students pursuing the minor must complete a minor in an area of study other than business administration, such as Science and Environmental Change, Communication and the Arts, Humanistic Studies, Regional Analysis, or other programs, including disciplinary programs.

The minor in business administration is interdisciplinary in character and can be utilized as the required interdisciplinary minor when majoring in a discipline.

The minor in business administration introduces students to a broad understanding of organizations, their management and the problem solving and decision making necessary for their effective and efficient operation. This involves an understanding of the functions of accounting, finance, management and marketing and the internal and external environment in which these functions are carried out. The student, upon graduation, will be more capable of appraising his or her major area of expertise in working within an organization. For example, a student with a background in biology might find employment in a laboratory at a local paper company. The student’s knowledge of biology coupled with a fundamental awareness of business administration would allow that person to function more effectively within and be more promotable by such an organization.

Almost all graduates in any field of study will eventually be either employed by or closely interact with business, government or nonprofit organizations. This minor is designed to give the student an exposure to the administrative process in order to function and participate more effectively in such a setting.

Required Supporting Courses
(9 credits)
298-203 Microeconomic Analysis
552-105 Expository Writing
255-203 Social Science Statistics
OR
600-260 Introductory Statistics

Freshman-Sophomore Requirements
(3 credits)
575-202 Business and its Environment

Junior-Senior Requirements
(18 credits)
575-300 Introductory Accounting
575-306 Business Law I
575-322 Introductory Marketing
575-343 Corporation Finance
575-382 Introductory Management

AND
One upper division elective

Students pursuing the minor, in order to ensure access to advanced courses, must meet the same admissions criteria as majors. Review these requirements later in this program description.

The Major in Managerial Accounting
The major in managerial accounting is designed for students planning a career in the profession of accountancy. The requirements for the major include a variety of liberal arts and general business courses besides an in-depth exposure to the field of accountancy itself. Upon graduation the student is qualified to write either the Certified Management Accounting (CMA) or Certified Public Accounting (CPA) examinations. Over the past five years approximately 96 percent of the graduates of the program have been successfully placed in accounting-related positions and over 75 percent of the graduates who have written the CPA examination have passed that exam.

Students pursuing the major must meet an admission requirement in order to gain access to advanced courses. Admission requirements are described near the end of this chapter.

Requirements for the Major
Managerial accounting requirements are of two types and include:
Pre-accounting requirements
Foundation requirements
Business and accounting requirements
Requirements for a minor field of study

Pre-Accounting and Accounting Foundation Courses
All University requirements
(30 credit hours)
These requirements are explained elsewhere in this catalog.
Foundation requirements (27 credit hours):
298-202 Macro Economics
298-302 Micro Economics
575-217 Quantitative Methods in Administration
600-155 Computers and Microcomputers
600-201 Calculus for the Management and Social Sciences
OR
Another calculus course
600-260 Statistics
OR
Equivalent course in Business Statistics
One written communications course:
552-105 Expository Writing
552-304 Advanced Expository Writing: Business Writing
OR
Equivalent course
One oral communications course:
246-133 Fundamentals of Public Address

Business and Accounting Core and Required Courses (65 credit hours)
Business courses:
575-305 Business Law I
575-306 Business Law II
575-322 Introductory Marketing
575-343 Corporate Finance
575-382 Introductory Management
An upper-level course in marketing
An upper-level course in management
Two of the following:
575-345 Risk Management
575-415 Income Taxation II
575-442 Principles of Investment

Accounting courses:
298-330 Money and Banking
575-300 Introductory Accounting
575-301 Intermediate Accounting
575-312 Managerial Accounting
575-313 Financial Accounting: Theory and Practice I
575-314 Financial Accounting: Theory and Practice II
575-316 Governmental and Institutional Accounting
575-410 Income Tax Theory and Practice
575-411 Financial Information Systems
575-412 Auditing Standards and Procedures
575-414 Advanced Managerial Accounting

Minor for the Accounting Major
Since the major in managerial accounting is a disciplinary major, the student must complete a minor in an interdisciplinary program. It should be noted that by completing the following courses (575-300, 575-305, 575-322, 575-343, 575-382, plus an upper-level course in marketing and one in management), the student automatically meets the requirements for the minor in business administration. Students who wish to complete a minor in an interdisciplinary program other than business administration should consult with their advisor.

Managerial Accounting Minor for Non-Accounting Majors
The minor in managerial accounting is designed to provide a reasonable exposure to the field of accountancy. Students pursuing this minor must complete a major in an interdisciplinary program at UWGB. Students completing a minor in business administration will find the minor in managerial accounting an excellent means of extending their understanding of the role of accounting in the administrative process.

Non-business majors will also find a managerial accounting minor useful. For example, computer science students will find that an important use of computers in the business world is to accumulate and generate accounting information. Understanding the information to be processed and generated will greatly enhance the computer science student's employment prospects and make that person more valuable within the business organization. Students in other areas will find accounting useful as well, because any individual who hopes to compete or advance in the current business environment must be able to interpret accounting information.

Supporting Courses (12 credits)
298-203 Micro Economics
600-155 Computing and Microcomputers
552-105 Expository Writing
552-304 Advanced Expository Writing: Business Writing

One of the following:
575-305 Business Law I
575-322 Introductory Marketing
575-382 Introductory Management

Foundation Accounting Courses (10 credits)
575-300 Principles of Accounting
575-301 Intermediate Accounting
575-392 Accounting for Administrators

Specialty Accounting Courses (9 credits)
One of the following:
575-312 Managerial Accounting
575-313 Financial Accounting: Theory and Practice I
Two of the following:
575-314 Financial Accounting: Theory and Practice II
575-316 Governmental Accounting
575-410 Income Tax Theory and Practice
575-411 Financial Information Systems
575-414 Advanced Managerial Accounting

Students pursuing the minor must meet the same admissions criteria as majors, in order to ensure access to advanced courses.

Admission to Majors and Minors in Business Administration and Managerial Accounting
Freshman and sophomores students pursuing a degree in business administration are enrolled in a prebusiness curriculum consisting of all University requirements courses and freshman-sophomore-level business foundation courses. As a prerequisite to being considered for admission to the business core as a managerial accounting and/or business administration major or minor, students are screened for eligibility during the second semester of their sophomore year. Requirements are summarized below.

Eligibility
To be eligible for admission, the student must possess at least a 2.3 grade point average (GPA) on all college work completed at the time their eligibility is reviewed, with 36 earned credits required as a minimum base for GPA calculation.

Eligibility does not guarantee admission. Only the most qualified applicants based upon GPA will be admitted from the pool of eligible students. The number of students admitted will be determined by availability of faculty, enrollment levels, and other considerations. Refer to the annual announcement of the GPA standard necessary to ensure admission to the program. Announcement of the standard is made twelve months in advance of the fall semester to which it applies.

Access to daytime sections of all 300- and 400-level courses is strictly limited to admitted majors and minors. Admission to the
business administration and managerial accounting majors and minors is not necessary for access to 575-300, Introductory Accounting, and 575-302, Accounting for Administrators. Determination of eligibility to enrol in 300- and 400-level business courses is made at the time of registration.

Transfer students are subject to additional review for purposes of determining admission to the programs in business. Special students who eventually elect to pursue a degree must meet the above eligibility requirements.

Students must be formally admitted to Business Administration or Managerial Accounting in order to major in them. Admission to the major is necessary for enrollment in selected upper division courses.

Business and Other Programs

A number of programs relate closely to or cooperate with the programs in business. They include the business and culture postgraduate study certificate, the business and applied science double major, and minors in Regional Analysis and Humanistic Studies that have beendesigned to serve the needs and interests of business students (see the appropriate program sections in this catalog or a program advisor for the latter two minors).

The Business and Culture Certificate

College graduates who want to give educational balance to the specialized focus of their previous college work can do so through the certificate in business and culture.

Adults with two different kinds of college backgrounds will benefit from this postgraduate course of study:

• Business professionals who want to broaden their knowledge by studying relevant fields outside business;

• Liberal arts graduates who want to gain increased understanding of the business world.

More information about the program and its requirements is available from the Managerial Systems Office.

Business and Applied Science

The program in business and applied science leads to majors in both Business Administration and Science and Environmental Change. Business and applied science is a new program designed to provide opportunities to students interested in industrial careers in the pulp and paper, food processing, and similar industries located in northeastern Wisconsin. It is a blend of three important educational elements: business administration, physical and life sciences with a strong mathematical emphasis, and cooperative education employment with participating corporations.

The program in business and applied science is designed to challenge the best students. Course requirements prepare participants by the end of their junior year of study to be employable by many local and regional manufacturers in the cooperative education cooperative education employment feature of the program. Students at the end of their sophomore year will have substantial science and mathematics coursework but will not have begun work in the area of business. Students choosing this opportunity will extend the time period necessary to complete requirements for graduation to a minimum of five years.

Graduates from the program will complete requirements for pre-engineering as well as for entry to a program leading to the master’s degree in business administration. This wide range of options will make a graduate more flexible in career planning than most other conventional science or business administration offerings.

The program in business and applied science is a rigorous one requiring well-developed mathematical and analytical skills. Students can expect to be challenged and to have less time than usual for extracurricular activities. Faculty advice in developing appropriate course sequences is necessary early in the freshman year. Students should contact the offices of Managerial Systems or Science and Environmental Change for further information.

Education

Professor: George O’Hearn

Associate Professors: Lyle Bruss (adjunct) educational planning and educational administration; Dennis Bryan, curriculum development and evaluation; James Busch (chairperson), science education; Margaret Laughlin, curriculum and social studies education; Richard Presnell, environmental education; Philip Thompson, English, language arts and aesthetic education; Thomas Van Koevering, science education and environmental education.

Assistant Professors: Kathryn Koch, reading education.

Lecturer: 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 those 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
Academic subject areas as listed below (grades 7-12 unless otherwise indicated):

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 (mass media)
Mathematics
Music—choral
Music—instrumental (secondary or K-12)
Music—general (elementary, secondary or K-12)
Native American languages: Oneida (elementary, secondary or K-12)
Physical science
Physics
Political science
Psychology
Science: broad field
Science: grades 7-9
Social Studies: broad field
Social Studies: grades 7-9
Sociology
Spanish (secondary or K-12)
Speech

All of these certification programs are fully approved by the Wisconsin Department of Public Instruction for preparation for licensure as a teacher in Wisconsin. Persons who have completed UWGB’s certification programs also qualify for certification in most other states.

For students whose career goals are not the traditional roles of classroom teacher in the formal public or private school context, the education program offers opportunities, too. Such students may pursue noncertification programs which are individually planned to relate to their particular educational needs and career goals. Some examples of such career fields—many of
which are recent developments in our society—include: environmental education and nature center programs, labor education programs, business and industry education programs, educational media, social services agency educational programs, educational advocacy, parent education, education for the elderly, youth and adult community programs, leisure education.

Noncertification programs like these also may be valuable components of an undergraduate program for students who plan to continue their educations in graduate or professional schools, such as law, medicine, and other fields.

The Education program emphasizes integration of theory and practice. As a part of many courses, students have opportunities to work in community schools and agencies to gain practical experience in their selected fields. A student teaching experience lasting from 10 weeks to a full university semester is required for certification. A limited number of paid, semester-long internships are available as alternatives to student teaching for selected students. Also, credit can be arranged for a variety of field experience assignments through independent study and/or the course entitled, Field Experience in Environmental Education (302-451).

Teacher preparation is a cooperative responsibility of the education faculty and various other departments of the University. While pursuing the 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 certification program or programs, professional education requirements, and the preparation in human relations required for teacher certification.

**Careers**

UWGB graduates with teacher certification have consistently shown an excellent placement record. A follow-up of graduates receiving initial certification in 1983-84 revealed that approximately 90 percent of the respondents were employed in teaching. The others were employed in other education careers, professional, or advanced study. None were unemployed and all seeking a teaching position. Employment opportunities do vary depending upon the area of certification.

Students who are interested in a teaching career are strongly advised to consult an education advisor or the UWGB Placement and Career Development office early in their university studies to obtain up-to-date information about job opportunities in education and advice or 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.

**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 lower-division courses in education in an education program not leading to certification.

**Final Admission:** Students may be admitted to the teacher certification program any time after their third semester or when they have completed 45 credits if they satisfy the following criteria:

A. Admission to UWGB as a matriculated student.

B. A 2.50 cumulative grade point average.

C. 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 OR by passing Math 104 or a higher level of mathematics course at UWGB with the grade of "B" or better.

D. Demonstration of competency in English/Writing by satisfying the UWGB undergraduate English proficiency requirement.

E. 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.

Admission requirements to teacher education must be met before a student teaching placement will be made.

Students who fail to meet one or more of these criteria may be considered on a special petition basis. Persons deciding to enter the teacher certification program later than the beginning of the junior year as transfer students or as post graduates for initial certification, must also meet the above criteria.

**Continuation in Teacher Education:** Students may continue in the education program as long as they continue to meet conditions for final admission specified above and maintain these grade point averages:

- 2.5 overall
- 2.5 in professional courses
- 2.5 in certification major(s) and minor(s) (for certification in academic subject areas)

**Program Changes, Time Limits and Reentry Requirements:** When a change in requirements for a program is adopted, students who have been admitted to that program may complete either the new requirements or those in effect at the time of their admission to the program, but not a combination of the new and old requirements.

A student who transfers from one program to another, or adds an additional certification program, must meet the requirements in effect for the new program at the time of application for that program.

Any changes in courses to complete an approved program or variations from the requirements for a program must be approved in writing by the student's Education advisor and the Education certification officer. For changes in a discipline major or minor for certification, the approval of the advisor or chair of that discipline is also required.

Students who are dropped from the teacher education program for failure to meet requirements for continuation will be readmitted on the basis of the admission and program requirements in effect at the time of their original admission to the program if they meet the requirements for continuation which were in effect at the date they were dropped and that not more than three years have elapsed since that date. If three or more years have elapsed since the date they were dropped, readmission will be considered on the basis of admission and program requirements in effect at the time of application for readmission.

A student will have seven years from the date of admission to a program to finish...
that program provided there is not more than a three year continuous period in which no course work applicable to his or her program is completed. If the program is not completed in the seven year period and/or a period of three or more years has elapsed from the end of the last term in which any course work applicable to his or her program was completed, a student will be required to apply for readmission on the basis of admission and program requirements in effect at the time of such application for readmission.

If changes are made in state requirements for teacher certification, students who complete a certification program after the effective date of the change will need to meet such new requirements.

Exceptions to any of the above regulations may be considered on the basis of a special petition. Petitions must be submitted to the chair of Education and will be acted upon by the executive committee of Education or a subcommittee appointed by that committee.

Special Students: Students with teacher certification in Wisconsin based on a bachelor’s degree or higher can pursue a teacher certification program 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.

Requirements for Certification

A student’s program of study in education combines interdisciplinary and/or disciplinary course work in the liberal arts 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 area of human relations as required by the Wisconsin Department of Public Instruction Administrative Code;
D. meet competency levels required in the professional education sequence;
E. complete requirements for and receive the recommendation of appropriate faculty for the bachelor’s degree (or hold a bachelor’s degree from an accredited university or college); and
F. receive the recommendation of the faculty in Education for teacher certification.

Following is an outline that students may use to plan a program leading to a UWGB bachelor’s degree with teacher certification.

All-University Requirements (30 credits):
Undergraduate students completing a degree and teacher certification at UWGB must fulfill the all-University requirements described elsewhere in this catalog.

Major/Minor Requirements: Undergraduate students completing a degree and teacher certification at UWGB must complete either an interdisciplinary major (30 credits minimum) or a disciplinary major (30 credits minimum) and an interdisciplinary minor (18 credits minimum). Some programs require substantially more than the minimum requirements. Refer to the descriptions in this catalog of specific areas of interest in which you are interested, or contact the Education Program office for specific requirements for certification program listed. For students in secondary education, the disciplinary majors require a minimum of 34 credits and must meet the subject area competency requirements of the Department of Public Instruction. A student who completes a certification program based on a major may be recommended for certification in one or more additional areas upon completion of appropriately related approved minors of a minimum of 22 or more credits.

Human Relations Requirements (9 credits): This is required in Wisconsin for all persons receiving teacher certification. It normally consists of nine credits plus a noncredit field experience. This requirement may be met in part by appropriate selection of all-University requirement courses. The UWGB Education program office has the current list of courses which meet this requirement.

Conservation/Environmental Education (5-12 credits): This is required in Wisconsin for all persons receiving certification to teach early childhood, elementary education, science or social studies. To satisfy this requirement students must complete the following course work:

302-203 Introduction to Environmental Education in the Schools, 2 cr.
PLUS Option A, B, or C below:
Option A
862-102 Introduction to Environmental Sciences, 3 cr.

Option B
862-302 Principles of Ecology, 3 cr.
AND
862-303 Conservation of Natural Resources, 3 cr.

Option C
862-303 Conservation of Natural Resources, 3 cr.
AND
472/473 Ecosystem Analysis I and II, 8 cr.

Requirements for Education Specialties

Early Childhood Certification

Required Childhood Development Courses
481-331 Human Development I: Infancy and Early Childhood
481-333 Observation and Interpretation of Child Behavior
481-334 Play and Creative Activities in Childhood
481-431 Cognitive Development

Required Professional Courses
302-402 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
302-421 Reading Readiness and Language Development
302/481-441 History, Philosophy, and Current Programs in Early Childhood Education
302-442 Curriculum and Program Development in Early Childhood Education
302-445 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
Conservation/Environmental Education requirements as specified above.
742-116 First Aid and Emergency Care Procedures
OR
A standard first aid certificate is required.

The interdisciplinary major in Human Development is a requirement for all undergraduate students seeking a degree and early childhood certification at UWGB.
Elementary Education (grades K-6, 1-5 or 4-8)

Required Subject Competencies

(May be partially met by appropriate selection of all-University requirement 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.

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 Musicianship.

Mathematics:
For certification in grades 1-6, the two courses listed below are required. Note that the prerequisite for Mathematics 281 of Mathematics 101 or two years of high school algebra plus a satisfactory score on the mathematics placement examination is enforced.

600-281 Conceptual Foundations of Elementary Mathematics I
600-282 Conceptual Foundations of Elementary Mathematics II

For certification in grades 7-8, completion of a minimum of one of the two courses listed below in addition to the above requirement for grades 1-6 is required.

600-104 Elementary Functions: Algebra and Trigonometry
600-201 Calculus for the Management and Social Sciences

Reading and language arts:
Students are advised to develop competencies in the area of reading beyond those provided in the reading methods course. Reading Readiness and Language Development (302-421), is especially recommended for students whose primary interest is teaching in the primary grades. Reading in the Content Areas (302-422), is especially recommended for students whose primary interest is teaching in the intermediate or middle school levels. 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 complete one course in each of two of the areas of science listed below, one of which must include laboratory and/or field work. Students seeking certification in grades 4-8 must complete one course in each of the three areas, A, B, and C.

A. Biological Sciences
156/478-110 Introduction to Physical Anthropology
204-202 Principles of Biology I
478-102 Introduction to Human Biology

B. Earth or Environmental Science
296-202 The Earth’s Physical Environment
862-102 Introduction to Environmental Sciences

C. Physical Sciences
225-108 General Chemistry
225-211 Principles of Chemistry II
754-103 Fundamentals of Physics I

*These courses include laboratory and/or field work.

Social studies:
To teach social studies effectively in the elementary grades the teacher needs a strong academic preparation in the social science disciplines and applications to social problems. As a minimum, students in the elementary certification program are required to complete at least three courses in the social sciences to include one course to develop competency in the area of American studies; one in the area of global studies and one in a different social science discipline from those selected to meet the first two competencies. Election of additional social science courses is highly recommended.

Required Professional Courses
(37 credits minimum)

302-203 Introduction to Environmental Education in the Schools
302-301 Introduction to Education and Teaching
302-302 Principles and Methods of Teaching Social Studies in the Elementary School
302-303 Principles and Methods of Teaching Art 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
302-308 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
820-315 Educational Psychology*

*With the approval of the education adviser and education certification officer, six credits as follows may be taken in lieu of 820-315:

481-332 Human Development II: Middle Childhood and Adolescence
481-431 Cognitive Development
402-406 Evaluation and Testing in Education

Related Competencies

Conservation/environmental education requirements as specified above must be met.

Additional Courses Required for Kindergarten

302-402 Student Teaching at the Kindergarten Level
302-421 Reading Readiness and Language Development
302-442 Curriculum and Program Development in Early Childhood Education
302-481-441 History, Philosophy and Current Programs in Early Childhood Education

Middle School Certification

Wisconsin currently has no standards for teacher certification that are specific to the middle school, although such standards are under consideration. Persons who hold an elementary education license for grades 4-8 are eligible to teach all general academic subjects in those grades in a middle school. However, it is strongly recommended that students completing the elementary education certification program who wish to teach in a middle school complete the requirements of one or more subject areas certification programs and do some student teaching in a middle school. Programs especially designed for certification in grades 7-9 as an extension of elementary certification are available in English, mathematics, science and social studies.

Persons who complete a secondary certification program are eligible to teach the subject(s) for which they are certified in grades 7 and 8 in a middle school. In some cases an extension of this certification to grades 6 may be obtained. It is strongly recommended that students completing a secondary certification program who wish to teach in a middle school do some student teaching in such a school.
Secondary Education

 ineligible or music certification. 302-301 Introduction to Education and Teaching, 3 cr.
302-318 Reading and Study Skills in the Secondary School, 2 cr. OR (with advisor's approval)
302-422 Reading in the Content Areas, 3 cr.
302-410 Introduction to the Education of Exceptional Children, 3 cr.
820-315 Education: Psychology, 3 cr. (or alternative courses as indicated in elementary education program above with approval of education advisor and education certification officer).
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 as approved by an education advisor is required.

Military Science

Associate Professor: Tom Hartford, LTC, U.S. Army.
Assistant Professor: Neil B. Hensrud, Major, U.S. Army; John A. Carlson, Captain, U.S. Army.

Military Science is concerned primarily with developing leadership competence for success in civilian and military occupations. Students who want to develop such skills will choose studies in military science in addition to their major and minor programs.

The Military Science program of instruction has a core curriculum consisting of military skills and 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 in civilian occupations.

The course of study is conducted by the Reserve Officers Training Corp (ROTC) and is a four-year program consisting of a basic course and an advanced course.

Completing the course will provide opportunities for full- or part-time careers as an officer in the U.S. Army, National Guard, or Army Reserve.

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 the military sciences and professional subjects. Students attend class two hours every week and may participate in a wide variety of extracurricular activities, such as rappelling, whitewater rafting, and parachute training.

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 is it 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 or after their junior year of college. This summer training takes the place of the basic course 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 in the sophomore 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 many opportunities for two- and three-year scholarships awarded competitively to students who are already enrolled in college. While there are definite academic standards, the emphasis is on the student's total abilities and leadership potential.

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

Associate Professor: Juanita R. Theile (chairperson), R.N., Ed.D.

Instructors: Mimi Kubisch (assistant chairperson), R.N., M.N.; Lorraine Noll, R.N., M.S.N.; Harriet C. Wichowski, R.N., M.S.

Lecturer: Janie McCray, R.N., M.S.N.

The nursing program at UWGB provides an opportunity for registered nurses holding a diploma or associate degree in nursing to further their nursing education and earn a bachelor of science degree in nursing.

The UWGB B.S.N. program is accredited by the Wisconsin Board of Nursing.

Nursing program objectives and educational methods are designed to meet the needs of adults learners and practicing R.N.'s. Students are encouraged to utilize
and share previous learning and experience. Courses are offered on an alternating day and evening schedule and lecture sessions meet one day per week. Students have a choice of clinical agencies and locations and arrange their own clinical schedules.

The program assists students to identify and achieve career goals. Five nursing roles are emphasized: professional, provider of care, teacher, manager, and researcher. In addition to these roles, in-depth attention is given to community health nursing, nursing theories, emphasis on the Roy model, the nursing process, group process, therapeutic communication skills, physical assessment, and care of individuals throughout the life span. The program encourages the development of autonomous, independent nursing actions capable of assisting individuals, groups and agencies to resolve health-related problems.

Since 1965 the bachelor's degree in nursing has been endorsed by the American Nurses Association and most recently by the National League for Nursing as the minimum preparation needed to enter professional nursing. Preparation in nursing at the baccalaureate level promotes:

- job security and promotion,
- upward career mobility,
- lateral movement from one specialty to another,
- an increase in personal market value,
- an increase in professional identity,
- an increase in nursing capabilities,
- critical thinking,
- eligibility for graduate school in nursing.

Requirements for the Major

Specific requirements to achieve the 124 credits are:

All-University Requirements (30 credits)
See description elsewhere in this catalog.

Nursing Program Prerequisites
See entry requirements.

Nursing Major (36 credits)
Nursing courses:
689-315 Health Assessment, 3 cr.
689-411 Theoretical Foundations, 2 cr.
689-415 Adaptation in Health and Illness, 4 cr.
689-421 Community Health Nursing, 6 cr.
689-425 Adaptation to Acute/Chronic Health Problems, 4 cr.
689-431 Nursing Management, 3 cr.
689-435 Nursing Research, 3 cr.
689-451 Advanced Nursing Concepts, 4 cr.
689-483 Adaptive Parent-Child Health, 4 cr. (approval pending)

Freshman-Sophomore-Level Supporting Courses:
- Introductory Statistics, 3 cr.
- Public Speaking, 3 cr.

Junior-Senior-Level Supporting Courses (9 credits):
- Upper-division courses to support individual career goals.

Electives
To total 124 credits.

Prerequisites for Entry
For acceptance into the nursing program, these requirements must be met:
- graduation from an accredited associate degree or diploma nursing program
- current Wisconsin RN license
- admission to the University
- credit evaluation of previous college or university courses
- two advising appointments: academic adviser, nursing adviser
- academic plan on file
- successful completion of NLN Profile II and Clinical Performance Tests (30 cr.)
- completion of course work in these areas: Natural sciences, 9 cr., including Anatomy and Physiology, Social sciences, 9 cr., including Human Development Across Life Span
- cumulative grade point average of 2.25 on above prerequisites course work

The prerequisite course requirements may be met by transfer credit, credit by exam, or enrollment in a UWGB course.

Public and Environmental Administration

Professor: Michael E. Kraft, American government and politics, legislative processes, public policy analysis, environmental policy.

Associate Professor: Bruce B. Clary (chairperson), public policy, environmental politics, urban policy and management, organization theory, research theory and methods.

Assistant Professor: Mary T. Bailey, public management and budgeting, organization theory and decision making, environmental policy, energy management, regulation and administrative law.

IMPORTANT: At the time of publication of this catalog, plans are underway to merge the Public and Environmental Administration program with the Urban Studies concentration. Students interested in Public and Environmental Administration should see the description of Urban Studies in this catalog and contact a faculty advisor from one of the programs. An addendum describing the merged programs and curricular requirements will be published as soon as plans are complete.

Changes in society during the current century have produced rising demands for greater effectiveness, efficiency, productivity, and responsiveness in governmental operations. As a result, there is an increasing need for public policy makers and public administration professionals who are able to engage in sophisticated processes of leadership and decision making, public policy identification and analysis, public policy evaluation and development, and public systems planning and management. This need is the central focus of the major in public administration. It emphasizes developing skills in problem identification, analytic techniques, decision making, planning and management, and leadership for social change.

Requirements for the Major
To qualify for a major in public administration, each student must complete 11 courses (33 credits) at the junior-senior level. Part of this requirement includes five courses from one of three program tracks designed to allow students to specialize in an area of interest. Additionally, 24 units consisting of freshman-sophomore level and supporting course work is required. Equivalent preparation such as prior work experience may substitute for one or more of these courses.

Freshman-Sophomore-Level Requirements
(6 credits or equivalent preparation required)
350-102 Introduction to Public Policy
350-201 Problem Analysis and Decision Making

Supporting Course Requirements
(18 credits or equivalent preparation required)
246-133 Fundamentals of Public Address
552-105 Expository Writing
778-101 American Government and Politics
298-202 Macro Economic Analysis
298-303 Micro Economic Analysis
255-205 Social Science Statistics
260-260 Elementary Statistics
260-155 Computers and Microcomputers
260-256 Introduction to Computer Science I

Junior-Senior-Level Requirements (33 credits)
255-301 Foundations for Social Research
298-306 Public Finance and Fiscal Policy
350-315 Introduction to Public Administration
350-415 Public and Nonprofit Budgeting
350-460 Public Policy Analysis
350-435 Administrative and Policy Laboratory
350-497 Administrative and Planning Internship

Fifteen units selected from one of three program tracks: (1) public management, (2) public policy, (3) environmental administration. Courses for a track are selected in consultation with a faculty adviser.

Requirements for the Minor
Eight courses (24 credits) are required for the interdisciplinary minor in Public and Environmental Administration. Four courses must be taken at the upper-level division.

Freshman-Sophomore-Level Requirements (6 credits)
350-102 Introduction to Public Policy
350-201 Problem Analysis and Decision Making

Required Supporting Courses (6 credits)
778-101 American Government and Politics
298-202 Macro Economic Analysis
298-203 Micro Economic Analysis

Bachelor of Social Work and Social Services
Associate Professors: Betty Baer (director, social work program), social work education, social work curriculum and program development, social welfare policy and services, methods of social work practice; David Galaty, social service theories and applications, history and philosophy of scientific ideas, epistemology, environmental problems; Robert Mendelsohn, social work theory, research, and community psychology, planning, social and organizational psychology of human services delivery systems; Rolfe White, methods of social work practice, organizational change, evaluation of services, counseling.

Lecturer: Richard Jansen, methods of social work practice, human relations training, communications skills, behavioral dynamics of human systems, humanistic psychology, human resource development.

Bachelor of Social Work Degree (B.S.W.)
The Bachelor of Social Work is a separate degree for students who major in social work. The primary purpose of the degree is to prepare competent social workers for entry into a wide variety of careers for which the Bachelor of Social Work is an initial requirement.

A decision to formally enter the social work major should be based on experience in the introductory and prerequisite courses in social work 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 the necessary levels of social work competencies by graduation.

Requirements for the Major
There will be changes in the requirements for the Social Work major, effective during the 1986-87 academic year. These changes, which were not available at the publication date of this catalog, are necessitated by the standards of the Council on Social Work Education to which the program anticipates submitting an application for accreditation during 1986-87. Prospective majors are urged to consult with a social work faculty adviser for updated requirements for the B.S.W. degree.

All-University Requirements (30 credits)
Humanities, 9 cr.
Social Sciences, 9 cr. (automatically completed by B.S.W. requirements)
Natural Sciences, 9 cr.
Senior Seminar, 3 cr.

Prerequisite Background Requirements (21 credits)
Social Work majors are required to select 21 additional credits in prerequisite background requirements from a list of courses available from Social Work advisors.

Supporting Subject Requirements (12 credits)
255-205 Social Science Statistics
298-305 Foundations for Social Research
555-105 Expository Writing
One additional course designated by the Social Work faculty
Social Work Core Courses (30-36 credits)
- 892-200 Introduction to Field Experience
- 892-305 Social Service Issues
- 892-330, 331 Basic Concepts of the Social Services I, II
- 892-402, 403 Field Experience in a Social Service Agency I, II
- 892-410, 411 Principles of Social Service Methods I, II
- 892-360 Social Service Delivery Systems and Cultural Differences

Concentration Emphasis (9 credits)
A minimum of nine upper-level credits must be selected from an interdisciplinary concentration relevant to social work. Typical concentration emphasis courses might be selected from Human Development, Social Change and Development, Urban Studies, Humanistic Studies, and Managerial Systems.

Elective Courses (22-31 credits)
The B.S.W. degree requires a total of 124 credits.

Social Services Professional Minor

The Social Services program is a professional minor for students who are majoring in a concentration and who want to explore an application of their major before graduating and/or for students who are interested in one of the number of human services fields other than social work. These include counseling, clinical psychology, and rehabilitation.

The Social Services minor must be combined with an interdisciplinary concentration. Any concentration program may be combined with the professional program in Social Services. 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 service training is applicable to a wide range of careers in the human services. Graduates have been employed in positions such as welfare worker, counselor, personnel specialist, social advocate, administrator and child and youth care worker. There are, of course, other possibilities. The professional minor is organized as a two-semester "package" in order to maintain interrelationships between the basic concepts, methods, and field experiences, permitting 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.

Changes in the requirements for the Social Services minor will become effective during the 1988-89 academic year. These changes were not available in time for the printing of this catalog. Prospective minors should consult with a Social Services faculty adviser for updated requirements for the minor.

Prerequisites
- 892-202 Introduction to the Social Services
- 892-250 Principles of Counseling and Psychotherapy

Core Courses

Senior year, semester I
- 892-300 Basic Concepts of the Social Services
- 892-402 Field Experience in a Social Service Agency I
- 892-410 Principles of Social Service 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

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.

In planning a personal concentration, students determine what it is they want to do and how the educational opportunities at UWGB can help attain this; design a personal program which can best enhance these objectives; and then formulate a proposal stating those objectives. This plan may consist of any combination of regular courses, experimental courses, independent study, internships, 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.

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.

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.

Information about the personal major is available from the Individualized Learning Programs Office.
Preprofessional Programs

There are three ways to approach preparation for professional studies at UWGB:

1. Many professional schools exist on the graduate level and require a bachelor’s degree from an accredited school for entrance. This is true of such fields as law, medicine, dentistry, library science, social work, some journalism and business administration programs, and others. Students can receive excellent preparation for these professional programs through the bachelor’s degree programs at UWGB.

2. Another plan provides two years of basic foundation studies at UWGB in preparation for an undergraduate degree in a professional program not offered at UWGB such as engineering. After two years at UWGB, the student transfers to the school offering that program.

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 then seek the appropriate advisor 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 refer to appropriate faculty advisors.

Health Professions

Medicine: Almost all medical schools require a bachelor’s degree for entrance and specify certain subjects that a candidate must have taken. These requirements may be met at UWGB. Exceptional ability, high aptitude in science, and outstanding achievement in premedical college education are all important for admission to medical school. The premedical student should learn requirements for the medical school of his or her choice early on, as well as take advantage of advising to plan a premedical program at UWGB to meet these requirements.

The most logical major at UWGB for students interested in premedicine and human life science is the Human Adaptability major in Human Biology. Other majors for students with interests in nutrition, field biology, chemistry or physics would be the Nutritional Sciences major in Human Biology, or the Science and Environmental Change concentration.

The premedical program at UWGB is successful from several perspectives. One is that graduates who achieve a high enough grade point average (3.5 or better) and who also have good medical entrance exam scores have virtually all been accepted into medical schools. Another reason is that UWGB’s emphasis on a multidisciplinary program, in addition to being excellent preparation for medicine, also prepares students for other professional activities besides medicine or allows them more than one choice of graduate educational 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 preclinical student is Human Adaptability. The benefits of UWGB’s program for preclinical students are similar to those for medical students, including the multidisciplinary 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 preclinical programs may be obtained from the UWGB premedical advisor.

Nursing: Students interested in nursing can enter the program offered in cooperation with UWGB by the Bellin College of Nursing in Green Bay. This program will lead to the Bachelor of Science in Nursing awarded by Bellin. The student must be admitted both to the Bellin College of Nursing and to UWGB and takes courses at both institutions.

Registered nurses who have either a diploma or an A.D.N. and who want to complete the B.S.N. degree should inquire about UWGB’s degree completion program for nurses. (See the description of this program in the Professional Studies section of this catalog).

Pharmacy: The University of Wisconsin-Madison pharmacy program offers the bachelor’s degree after completion of five years work. Two years of prepharmacy 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 advisor.

Law

Law schools, unlike some other professional schools, do not require a uniform program of study or a specific undergraduate major. Law schools do recommend that a prelaw student attempt to reach several goals during the undergraduate years: an understanding of the development of social, political and economic institutions; and ability to communicate well, both orally and in writing; the capacity to think clearly and analytically; and a habit of disciplined study.
Preparation for law school can be carried out through concentrations, disciplines, and professional programs at UWGB. Among the most common areas of study for prelaw students are political science, Public and Environmental Administration, Managerial Systems, Social Change and Development, Urban Studies, and Humanistic Studies. Students considering any of these programs should discuss their interests and academic needs with the chairpersons or designated prelaw faculty advisers in those areas.

In addition to an undergraduate major in an appropriate field, prelaw students should consider courses in a wide range of liberal arts and sciences. Courses in political science, economics, sociology, history, philosophy, literature, accounting, computer science, and the natural sciences are recommended. Faculty advisers can suggest particular courses in those fields. Students should also consult the prelaw student advisory guide for recommended courses.

Admission to law school is highly competitive, so prelaw students must maintain good grade point averages in their college work. Students must also take the Law School Admissions Test (LSAT) in the junior year or early in the senior year for law school application.

UWGB can provide a strong undergraduate preparation for the legal profession. To select a suitable course of study, students should discuss their plans with faculty advisers in the various areas noted. The Academic Advising Office can indicate which faculty advisers in each concentration, discipline, and professional program can help them decide about law school and a course of study at the University.

Engineering

For students interested in attending UWGB for two years and then transferring to an engineering program at another university, UWGB offers courses in mathematics, physics, chemistry, engineering drawing, engineering mechanics, and other related courses which provide adequate preparation for the first two years of study. Preengineering students should contact a preengineering adviser early in their studies for help in planning a program that will transfer to an engineering school.

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 15 years. This flexibility is the result of the adaptation of the profession to the changing role of the architect in the process which shapes our physical environment. It has become necessary for the architect to be more aware of the social and behavioral consequences of his/her work. The architect is now required to be well versed in the dynamics of environmental change. This professional evolution has made the master artist/builder a more interdisciplinary professional. Thus, it is now possible to transfer into a professional program in architecture after spending at least two years in a liberal arts program of study which emphasizes pre-architectural studies, and many students now complete a bachelor's degree in preparation for a professional master's degree in architecture. The latter alternative makes it possible for the pre-architecture student to gain a broad-based interdisciplinary education prior to entry into an architectural curriculum. Such a program of study allows for a broader range of career choices. These include urban design, urban planning, interior and industrial design, in addition to architecture.

Architecture combines the study of the natural sciences, social and behavioral sciences, engineering, mathematics and fine 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 the integration required to mold these courses into a degree program at UWGB has been accomplished in the interdisciplinary program in environmental design. This program can be taken as an emphasis in the Urban Studies or Communication and the Arts concentrations. The Environmental Design program has a history of high quality preparation for students interested in architectural careers. Students who have successfully completed the program have been placed in prestigious architecture schools across the nation; in addition, many of these students have received scholarship funds at the graduate level.

Pre-architecture students should consult with the environmental design adviser, Prof. Ronald Baba, Urban Studies, in their first semester at UWGB.

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.

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.
Physical Education

Chairperson: Bernard Starka
Assistant Professor: Robert Goemans, coaching certification and physical education activity courses.

Lecturers: Carol Hammele, physical education activity courses, basketball coach, coordinator for women’s athletics; Roger Harriman, physical education activity courses, swimming and diving coach, aquatics coordinator; Janie Pum, physical education activity courses, women’s tennis coach, cheerleader advisor; Bernard Starks, coaching certification coordinator and physical education activity courses.

The Physical Education program leads students to the understanding of their physical as well as intellectual and social selves, thereby contributing to their development as whole persons. The program stresses refining and developing motor skills and the associating physiological and kinesiological principles related to efficient and stress-free physical activity.

Understanding oneself physically can improve one’s relationships with the social, cultural, biological, and aesthetic environments. Program offerings allow individuals to develop, improve upon or maintain a high level of physical wellness which will contribute to the quality of life in work as well as leisure time pursuits. Physical education is, therefore, related to all other units and programs on campus.

Credit for Basic Instruction Courses

While the Physical Education unit does not offer a major or minor, a student may take up to four credits of physical education courses numbered from 100 to 499 for elective credit toward a B.A. or B.S. degree. In addition, any number of approved physical education courses and credits may be counted as degree credits if those courses are listed on a student’s academic plan as a requirement for: a) an interdisciplinary major; b) a disciplinary program major; c) a professional program; or, d) a part of the supporting subject or background requirements—but only if the related program is completed before graduation.

Credits in physical education courses taken in addition to the above provisions will not count toward graduation. Consult the Timetable for further regulations and procedures about physical education credits.

Physical education students must demonstrate evidence of personal fitness for selected courses by submitting the required University medical examination forms to the Student Health Services Office.

Coaching Certification

The coaching certification program consists of a minimum of 16 credits designed to prepare students for coaching responsibilities. The program is approved by the Wisconsin Department of Public Instruction for certification as an athletic coach in the public schools of Wisconsin. Youth-sport coaches are also encouraged to acquire similar training.

Students are encouraged to initiate coaching certification early in their course of teacher preparation to assure normal matriculation. However, students desiring certification may normally complete requirements within two academic years.

Some coaching certification courses are appropriate for interdisciplinary study and many students select individual courses without completing the entire program. Persons already teaching and/or coaching may select courses to expand their personal and professional background.

UWGB’s coaching certification program is consistent with the recommendations of the National Council of State High School Coaches, the National Association for Girls and Women in Sport, and the American Alliance of Health, Physical Education, Recreation and Dance, as well as the Wisconsin Department of Public Instruction.

Required Courses

(15 credits listed below)

478-102 Introduction to Human Biology, 3 cr.
742-401 Philosophy of Athletics and Coaching, 2 cr.
OR
742-402 Psychology and Sociology of Sport, 2 cr.

742-403 Organization and Administration of Athletics, 2 cr.
742-405 Scientific Conditioning of the Athlete, 2 cr. (prerequisite 478-102 or equivalent)
742-406 Prevention and Treatment of Athletic Injuries, 2 cr. (prerequisite 478-102 or equivalent)
742-410 to 434 Principles of Coaching, 2 cr., select from courses listed below:
410 Basketball/Softball
411 Basketball
412 Bowling
413 Crew
414 Curling
415 Fencing
416 Field Hockey
417 Football
418 Golf
419 Gymnastics
420 Handball Team
421 Ice Hockey
422 Lacrosse
423 Skiing
425 Soccer
426 Swimming and Diving
427 Tennis
428 Track and Field
429 Volleyball
430 Wrestling
431 Cheerleading
433 Pom-Pon Team
434 Drill Team
742-435 to 459 Field Experiences in Coaching, 2 cr. (See courses listed under Principles of Coaching)

Electives (1 credit minimum)

742-401 Philosophy of Athletics and Coaching (2 credits)
742-116 First Aid and Emergency Care (2 credits)
742-117 Cardiopulmonary Resuscitation (1 credit)
742-117 to 154 Athletic Officiating (1 credit)
171 Basketball
173 Football
174 Gymnastics
179 Baseball/Softball
183 Volleyball
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 into 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 exams (CLEP), correspondence courses, media courses and evening courses at UWGB or a campus near the student. Extended degree advisers are familiar with these alternative methods of earning credits and assist students in selecting appropriate learning activities.

Persons who want more information should contact an extended degree adviser in the Individualized Learning Programs Office. A catalog listing available courses for the freshman through the senior year is available.

University Without Walls

University Without Walls (UWW) is an external degree program which offers Wisconsin residents the opportunity to earn a UWGB undergraduate degree through an off-campus format. The program is designed for persons who are unable to attend on-campus courses as well as for those 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 student involved because they take considerable responsibility for developing and initiating their own contracts.

Persons who are attending on-campus courses but find the UWGB format exciting should inquire into independent study courses. Independent study enables on-campus students to take courses at UWGB that do not appear on the curriculum beyond the classroom.

Though the method of study is different, UWW students may earn a degree, with approval of the instructional unit chairperson, in any of the majors offered to on-campus students. Graduation requirements are the same as for on-campus students.

Due to the individualized nature of University Without Walls, the admission process is selective. Over the years of the program’s existence, it has been found that graduates usually possess high levels of independent learning skills. Therefore, rigorous application procedures have been developed to ascertain beforehand an applicant’s ability to attain a degree through UWW. Eligibility for acceptance into the program is based on:

- Inability to attend on-campus courses or expressed preference for an alternative learning process.
- Approximately two years of college credits.
- Excellent writing skills (which will be assessed during the application process).
- Evidence of ability to set objectives and follow through to completion as demonstrated by previous experiences.
- Evidence of self-direction and motivation as indicated in the design of an initial learning contract.

Students who are interested in UWW but have fewer than 62 credits can contact the UWW adviser to discuss eligibility. Candidates may earn credits in a number of alternative ways. Available options include credit for prior learning (CPL), the College Level Examination Program (CLEP), correspondence courses, media courses, and evening courses at UWGB or another campus near a student’s home. The UWW adviser is knowledgeable in these alternative methods of earning credits, and will assist students in selecting appropriate learning activities. For more information, students should contact the Individualized Learning Programs Office.
Academic Support Program

Staff: Joan E. Thron, director; Michael Marinetti, special services project supervisor; Evalyn Larkin, tutoring lab supervisor; Jo Chrm, writing; Ann Deprey, reading and writing; Mar Bach, EOP advisor, writing and study skills; Kathryn Koch, reading; Monroe Lerner, writing; Tezz Markward, mathematics and science study skills; Mary Quinn, writing; Michael Steinmay, mathematics and science study skills.

The Academic Support Program assists students in developing the skills they need to succeed in college, particularly the skills of critical thinking, effective writing, efficient reading, basic mathematics, and essential study techniques such as note-taking, reviewing, and summarizing, as well as the techniques of taking essay exams and objective tests.

Skills Courses and Workshops
The Academic Support Program offers nondegree credit courses in reading, writing, mathematics, and applied study skills. The following courses are usually offered both in the fall and spring semesters: College Reading Skills, Efficient Reading, Fundamentals of Writing, Elementary College Algebra, and Applied Study Skills Labs connected to introductory courses in Environmental Science, Human Biology, Human Development, literature, and sociology. In addition, workshops are available during the January interim that focus on such special problem areas as those: the research paper, sentence structure, rapid reading, composing on the microcomputer, and arithmetic review.

Tutoring
Individual tutoring is provided free to students who need short-term assistance with a course, paper, or project. Appointments may be scheduled at the tutoring lab. Small-group tutoring sessions for particular courses are also regularly scheduled.

Resource Materials
The Academic Support Program provides a variety of resource materials to assist students in improving their reading, writing, mathematics, and study skills. Among the most popular resources are handout sheets on topics such as How to Write a Research Paper, How to Do Research, and How to Prepare for Exams. Some computer-assisted instruction materials are available, including programs for word processing and improving writing skills.

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, beginning the A.A. degree with the December 1977 graduation, students and former students who may already have fulfilled A.A. degree requirements may file an academic plan and a request to graduate the A.A. degree even though they are not enrolled for the semester in which they would graduate.

Requirements for the Degree
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;
- a completion of the all-University general education requirements except for the senior seminar requirement described elsewhere in this book;
- a minimum of 12 additional credits in one area of emphasis developed by the student and a faculty adviser;
- acceptable score on an English proficiency test or 3 credit hours of college level writing;
- supporting 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 supporting subjects
- 62-65 total

52-65 total
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 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.

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 Science: 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.

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 Universities 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 333, (414) 465-2494. For further information about the cooperative programs in Education, contact the Education Office, Wood Hall (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 and/or minor credit courses listed under another academic area. This is one of the many reasons students should seek advising when 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 information on course periodicity 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

Two types of previous course experience may be indicated in the Timetable—prerequisites (required) and recommended prior courses.

Prerequisites indicate the minimum level of proficiency or background knowledge needed for successful achievement of the course objectives. Students who have not fulfilled required prerequisites will not be allowed to enroll in a course. Exceptions to prerequisites may be made by the course instructor or the instructional unit chairperson, but the student is responsible for seeking approval of exceptions before enrolling in the course.

Recommended prior courses are basically advisory. Students who have not completed recommended prior courses—usually lower-level courses—may enroll in a course if they choose, but they do so at their own risk. Instructors will not hold back the progress of a course for those students who have not taken recommended prior courses. Students who misjudge their ability to complete a course without recommended prior courses may get a lower grade than they desire. They also run the risk of finding it necessary to drop the course, which also means loss of tuition and costs of books and course materials.

Because the required prerequisite/recommended prior course policy was adopted shortly before the publication of this catalog, most of the academic units were not able to designate required and recommended courses in the descriptions in this book. Only the course descriptions for Human Adaptability, Nutritional Sciences, and biology have been corrected here. Students should consult the Timetable for each semester for required and recommended courses for each course they plan to take.
Abbreviations and Symbols

Abbreviations commonly used in course descriptions are:
- cr = credits
- pr = prerequisite(s)
- fr = freshman
- soph = sophomore
- jr = junior
- sr = senior
- cons rsr = consent of instructor
- L = all-University requirements

Instructional Unit Numbers

The instructional unit number listed with each group of course descriptions is used for identification and record keeping. Students will need to combine the instructional unit number with the course number to complete registration forms, for example, for record keeping, Bio 303, Genetics, would be listed 204-303. The first three digits refer to the instructional unit; the last three to the course number. The six-digit number also is used to refer to course prerequisites.

Courses are listed numerically by instructional units in the Timetable, which lists 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:
- 165 Anthropology
- 168 Art
- 204 Biology
- 225 Chemistry
- 242 Communication and the Arts
- 246 Communication Processes
- 255 Community Sciences
- 296 Earth Science
- 298 Economics
- 302 Education
- 350 Public and Environmental Administration
- 400 Freshman Seminar
- 416 Geography
- 448 History
- 476 Human Adaptability
- 479 Nutritional Sciences
- 481 Human Development
- 493 Humanistic Studies
- 552 Literature and Language: English-American
- 553 Academic Support Program-English
- 554 Literature and Language: French
- 556 Literature and Language: German
- 558 Literature and Language: Spanish
- 575 Managerial Systems
- 600 Mathematics
- 601 Academic Support Program-Mathematics
- 644 Military Science
- 689 Nursing
- 705 Music
- 707 Music-Applied
- 709 Theater
- 736 Philosophy
- 742 Physical Education
- 754 Physics
- 773 Political Science
- 820 Psychology
- 834 Regional Analysis
- 862 Science and Environmental Change
- 887 Senior Seminars
- 875 Social Change and Development
- 892 Social Services
- 900 Sociology
- 930 University Without Walls
- 944 Urban Studies

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 five categories: selected topics, student-led courses, independent study, internships, and senior honors projects.

Courses under these categories are provided below. They are cited only briefly by number and title in the course lists of units offering them. Information on how to develop or take such courses can be found in the Timetable or the Academic Advising Office.

281, 481 Student-Led Courses 1-4 cr.

Well prepared, highly motivated students are offered the chance to develop and lead courses on their own. Topics derive directly from student interest and initiative and are chosen from subjects of contemporary concern not covered in regularly scheduled or catalogued courses. One to three qualified students may work with a faculty adviser to propose a course they feel competent to design and lead. Proposals are routed through an appropriate interdisciplinary concentration or professional program for approval based on merit and potential demand.

Upon approval, courses are listed in the Timetable with the instructional unit student-led course number. The listed title will appear on student transcripts. Students may enroll for a maximum of six credits of student-led courses in any one semester. A maximum of 18 credits can be accumulated in 281 and 481 courses except by special permission. A complete set of guidelines for student-led courses is available for consultation in concentration and professional program offices.

283X, 483X Selected Topics 1-4 cr.

Courses and seminars presented on an experimental basis or in response to special demand. Topics may be chosen to represent current issues of general concern, special interests of student groups or faculty members, special resources or visiting faculty, or other areas of interest not represented in existing programs. A particular topic is offered only once under the selected topics course number. It may then be adopted as a regular course and assigned a regular course number.

When offered, the title and number of credits is announced in the Timetable under the heading of the sponsoring unit. Further information can be obtained from the unit or the instructor. Introductory courses are presented under the 283X number. Those calling for more advanced preparation carry the 483X number and normally require the consent of the instructor for enrollment. The title of the course as announced in the Timetable appears on the transcripts of students who enroll.

298, 498 Independent Study 1-4 cr.

Offered on an individual basis at the student's request and consisting of a program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's choice. A student wishing to study or conduct research in an area not represented in available scheduled courses should develop a preliminary proposal and seek the sponsorship of a faculty member. The student's adviser can direct him or her to instructors with appropriate interests. A written report or equivalent is required for evaluation, and a short title describing the program must be sent early in the semester to the registrar for entry on the student's transcript. Timetables can provide up-to-date information on independent study.

484 Senior Honors Project 3 cr.

Each interdisciplinary or professional program offers qualified students the opportunity to undertake a project to qualify for graduation with honors. Such a project—normally a thesis, research, or other creative activity—is carried out in the latter part of the junior year or in the senior year with the consent of an adviser. Specific details are available from advisers and chairpersons. Students should register for an honors project not later than the first semester of the senior year.

497 Internships 3-12 cr.

Supervised practical experience in an organization or activity appropriate to a student's career and educational interests. Includes supervised reading and periodic meetings with faculty sponsor. Pr: jr st and cons of department chair.
156 Anthropology

156-109 Varieties of World Culture 2 cr.
A survey of the diversity of ways of life that exist in the world. Stress is given to the concept of culture, cultural relativism, and ethnocentrism. Representative case studies of tribal and peasant societies are considered.

156-119 Introduction to Physical Anthropology 3 cr.
A study of populations from a biological evolutionary perspective. The evolutionary history, diversity, and adaptation of human beings is explored. Also included is discussion of the mutual interaction and influence of human culture and biology within an evolutionary framework. See 478-110. Credit is not granted for both 156-110 and 478-102.

156-220 Myth, Ritual and Religion 3 cr.
Critical survey and analysis of mythologies, rituals, and religion and magic among divergent cultures of the world. Emphasis is placed on how religious and magical systems interrelate with family, political and economic institutions. P. xiph at or 255-102.

156-250 The Anthropology of Contemporary U.S. Culture 3 cr.
Anthropological perspectives and methods are applied to the study of contemporary American culture, focusing on values and symbols, communication, processes, language, art, consumer behavior, politics and political, and religious traditions. The lecture/discussion format is supplemented by collective study of specific anthropological problems in the cultural setting of northeast Wisconsin. P. 156-108 or 210 or 400-202.

156-263X Selected Topics 1-4 cr.
See page 96.

156-298 Independent Study 1-4 cr.
See page 96.

156-361 Peoples and Cultures of a Selected Region 3 cr.
Description and analysis of a selected area with emphasis on cultures of that area, their development, contemporary variation, and relationship to significant social issues. Areas may include: Africa, South Asia, Southeast Asia, Oceania, Northeast Great Lakes Region, and the cultures of American Indians, Afro-Americans, and European peasants. Courses may be taken for credit each time a different region is presented. Seefilmnotes for specific offerings. P. jr st.

156-393 Cultural Ecology 3 cr.
How people, nature, and culture interrelate. The approaches hunting, agricultural, and industrial ecologies use in adapting to the physical environment are studied. P. jr st.

156-394 Family, Kin, and Community 3 cr.
A cross-cultural comparison of the form and function of each social institution as marriage and the family; age, sex and kin groups; law, property, caste and class. P. jr st.

342 Human Evolution 3 cr.
See 478-342.

354 Human Variability 3 cr.
See 478-364.

156-483X Selected Topics 1-4 cr.
See page 96.

156-497 Internship in Museum Anthropology 1-4 cr.
Cooperative venture with the Neville Public Museum. Students will negotiate a specific anthropologically related task to be carried out at the museum under museum staff supervision, and will need approval of a UW-Green Bay anthropology faculty sponsor. Tasks might include research on cataloging of artifacts and/or their display and organization in special programs. An internship in a museum or cultural institution outside the Green Bay area is possible. Not a general museum course. P. 166-100, 111, 310 or 215 and ethn of.

156-498 Independent Study 1-4 cr.
See page 96.

156 Art

156-156 Drawing 3 cr.
Introduction to studio art work and to fundamental concepts of drawing, structure and design. Emphasis upon two-dimensional art work employing various drawing techniques in black and white media.

156-196 Design Methods 3 cr.
This studio seminar serves as an introduction to design methods. Its focus is on investigating spatial design as a decision-making and problem-solving process founded by criteria which include human sensory systems, ergonomics, proxemics, basic structural systems, and materials. These investigations are combined with experiences in creativity systems, graphic and workshop tools and techniques.

156-107 Two Dimensional Design 3 cr.
Introduction to design studio art work, and to fundamental concepts of art structure and composition. Emphasis upon two-dimensional art work, in color and design utilizing materials and principles of design.

156-200 Introduction to Mixed Media on Paper 3 cr.
Designed to prepare students who may specialize in drawing, painting, or printmaking. Emphasis on the integration of water-based media (watercolor, acrylic, dye) in drawing tools, photography, images, collage and the incorporation of found objects. Use of a wide variety of paper surfaces will be emphasized. P. 166-103, 166-106.

156-310 Introduction to Painting 3 cr.
Investigation of painting media, ink, watercolor, and acrylics and their inherent expressive qualities and characteristics. P. 166-107.

156-220 Introduction to Sculpture 3 cr.
Introduction to various sculpture media and their inherent expressive qualities. Consideration of basic forms using clay, plaster, cement, and other media. P. 166-107.

156-230 Introduction to Ceramics 3 cr.
Introduction to the forming of clay by pinch, slab, and coil methods and throwing on the wheel. Pottery decoration and glaze-application. P. 166-107.

156-243 Introduction to Photography 3 cr.
The creative process in photography is studied to develop visual perception through active participation in discussions and photographic exercises. See 246-243.

156-256 Introduction to Experimental Textiles 3 cr.
Students explore ways in which prehistoric fabrics can be created through surface embellishment (tufting, painting, color application, photography) and through assembling and reconstructing (stitching, quilting, soft sculpture). Emphasis is on integration of textile processes and concepts with those normally associated with painting, drawing, and sculpture. P. 166-105, 166-106, 166-107.

156-266 Art Metals: Jewelry Fabrication 3 cr.
Studio work in creating and designing jewelry projects using varied metal techniques, processes and metal media. Forming, shaping, and designing of jewelry as quality handcrafted art forms for personal adornment and expression. P. 166-105, 166-105, 166-106.

156-282X Selected Topics 1-4 cr.
See page 96.

156-296 Independent Study 1-4 cr.
See page 96.

156-301 Life Drawing and Anatomy 3 cr.
The skeletal structure and muscular articulation of human and animal forms as a basis for artistic interpretation. P. 166-105, 166-105, 166-107.

156-311 Intermediate Painting 3 cr.

156-314 Watercolor Painting 3 cr.
Creative approach to watercolor techniques; cultivation of personal expression and development of imaginative concepts. P. 166-216.

168-321 Intermediate Sculpture 3 cr.
Intermediate work in sculpture. Students use various media to develop personal forms of expression. May include metal fabrication, casting of objects, carving, termination of plastics, and innovative methods of working with different materials. P. 168-220.

168-331 Intermediate Ceramics 3 cr.
Intermediate work in ceramics with emphasis on the potter's wheel and the aesthetics of the vessel, surface decoration form and utility. P. 168-230.

168-332 Intermediate Ceramics: Woodwork 3 cr.
Studio work in the construction and use of tools for ceramic use. Explores multiple imagery, modular units, slab casting, and the use of original and found forms in producing the ceramic object. P. 168-236.

168-343 Photography II 3 cr.
Emphasis upon black and white photography and darkroom printing techniques. P. 168-243 or equivalent experience. See 246-342.

168-344 Photography III 3 cr.
A continuation of 168-246-343; investigation of black and white photography, allied media, and applications of photography. See 246-344.

Investigation of the various techniques of making both two- and three-dimensional forms with fibers and pliable linear materials. Focuses on weaving (both on and off looms) with crocheting, knitting and other fiber construction techniques introduced as support. Emphasis is upon the use of fibers as a vehicle for artistic expression. P. 168-105, 168-106, 168-107 (required). 168-256 recommended.

168-355 Intermediate Textiles: Papermaking 3 cr.
Students explore the potential of handmade paper as a primary artistic material. Basic processes include pulp processing, sheet forming, paper pulp, paper conservation, and three-dimensional techniques in casting, modeling and assemblage. P. 168-105, 168-106, 168-107 (required); 168-250 recommended.

168-364 Art Metals: Casting 3 cr.
Study and investigation of casting techniques in jewelry and art metals media. Emphasis on designing wax models, varied casting processes (i.e., "lost-wax," centrifuge, steam casting, vacuum casting, gravity casting), and the aesthetic development of 3-D art metal/ jewelry pieces as reflection of individual creative expression. P. 168-105, 168-106, 168-107.

168-373 Intaglio 3 cr.
Study work in intaglio techniques including dry point, engraving and various etching techniques. P. 166-210.

168-375 Screen Printing 3 cr.
An introduction to studio work in screen printing, including basic materials and equipment, screen-stencil making, paper stencils, pochoir, water soluble film, and photo emulsion technique. P. 168-105 and 168-106, or 168-243 and 168-343; or 242-231 and 242-331.

168-377 Lithography 3 cr.
An introduction to the art of lithography employing fundamental techniques of planographic printing. Explored and developed as a medium of expression in which students communicate a personal statement reflecting the emotional condition of the environment. P. 168-105, 168-106, 168-107.

168-390 19th and 20th Century Art 3 cr.
Analysis of the evolution of art styles from neoclassicism to surrealism (1790-1945) and relates these movements to their historical and cultural origins. Topics include the struggle of the individual against the state and the academy, the influence of scientific and psychiatric discoveries on the arts, and the resulting changes in our perception of reality. P. 242-232.

168-395 Exhibition Development and Design 2 cr.
Introduction to the standards, practices, and methods of the museum and art gallery profession. Includes: most phases of successful exhibition development including planning, promotion and publicity, development of educational materials and programs, exhibition design and installation, and training in the proper handling and treatment of works of art. P. Jr st.

Art Courses
225 Chemistry

225-108 General Chemistry I 1 cr.
Designed for students who will take only one semester of general chemistry. A course surveying basic concepts of matter—including its measurable properties and states; atomic structure and chemical bonding; solutions; acid-base theories. An introduction to organic chemistry and biochemistry is also included. Laboratory work is selected to reinforce lecture topics. (Full graduation credit will not be awarded for 225-108 and the courses in the following sequence: 225-211, 212. F: 201-204 or equivalent.)

225-211 Principles of Chemistry I 5 cr.
The first course in the Principles of Chemistry sequence. Atomic structure, chemical bonding, periodic table, thermodynamics, properties of gases, molecular structure and properties, solutions, chemical equilibria. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-211 and 225-108 will not be awarded. P: 201-101 or equivalent.

225-212 Principles of Chemistry II 5 cr.
A continuation of the Principles of Chemistry sequence. Thermodynamics, kinetics, chemical equilibrium, solubility, acid-base reactions, oxidation-reduction, nuclear reactions. Three lectures and three hours of laboratory per week. Full graduation credit for both 225-212 and 225-108 will not be awarded. P: 225-211.

225-256 Selected Topics 1-4 cr.
See page 98.

225-291 Independent Study 1-4 cr.
See page 98.

225-300 Bio-Organic Chemistry 3 cr.
Emphasis on specific aspects of the field pertinent to students interested in the biochemically related disciplines. Includes basic organic chemistry, natural products, and molecular im- portant biochemical concepts. (Credit will not be given for both 225-300 and 225-302 or 225-306 or 225-309.) P: 225-102 or 218.

225-301 Bio-Organic Chemistry Laboratory 1 cr.
Optional laboratory course to accompany 225-300. P: Credit or concurrent registration in 225-300.

225-302 Organic Chemistry I 3 cr.
A study of the chemistry of carbon compounds. Structure, reactions, synthesis, stereochemistry, reaction mechanisms, spectroscopy, nomenclature and physical properties of both aliphatic and aromatic organic compounds. At common functional groups and major classes of compounds are covered. P: 225-212.

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 225-304.

225-306 Organic Chemistry Laboratory II 1 cr.
One-three-hour laboratory period per week. Intermediate level instrumental analyses and techniques in organic chemistry. P: Credit in 225-303.

225-311 Analytical Chemistry 4 cr.

225-320 Thermodynamics and Kinetics 3 cr.
Temperature, heat and work, thermodynamic properties of gases, solids, and solutions; homogeneous and heterogeneous equilibria. Concepts of electrochemical cells; statistical thermodynamics, the calculation of thermodynamic properties of substances; chemical kinetics. P: 225-212 and either 754-202 or 104 and 200-203.

225-321 Structure of Matter 5 cr.
The theories of physical chemistry and modern physics are presented in an integrated fashion. Topics covered are: introduction to quantum theory, symmetry, atomic and molecular structure, crystal structure, spectroscopy, X-rays, properties of gases, liquids, and solids. P: 225-212 and either 754-202 or 104 and 600-203.

225-322 Thermodynamics and Kinetics Laboratory 1 cr.
One-three-hour laboratory per week. P: Credit or concurrent registration in 225-320.

225-323 Structure of Matter Laboratory 1 cr.
One-three-hour laboratory per week. P: Credit or concurrent registration in 225-321.

225-330 Biochemistry 3 cr.
Nature and function of the important constituents of living matter, their biosynthesis and degradation. Energy transformation, protein synthesis, and metabolic control. P: 225-202 or 302-200 or 303 and 204-205.

225-331 Biochemistry Laboratory 1 cr.
One-three-hour laboratory per week. P: Credit or concurrent registration in 225-330.

225-402 Advanced Organic Chemistry 3 cr.
An introduction to Advanced Organic Chemistry. Topics to be included are: advanced molecular spectroscopy, organic quantification analysis, physical organic chemistry requirements. P: 225-304, 305, 306-309 and credit or concurrent registration in 225-402.

225-403 Advanced Organic Chemistry Laboratory 1 cr.
Laboratory to accompany Advanced Organic Chemistry. Topics to be included are: advanced molecular spectroscopy, advanced organic compounds, physical organic chemistry requirements. P: 225-304, 305, 306-309 and credit or concurrent registration in 225-402.

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 non-aqueous solvent systems are discussed. Special topics of current interest are included. P: See 225-411.

225-411 Instrumental Analysis 4 cr.
A survey of the theory and practice of analysis by instrumental methods including those based on adsorption and emission of radiation, electroanalytical methods, chromatographic methods, and radiochemical methods. P: 225-311 and credit or concurrent registration in 225-411.

225-417 Nuclear Physics and Radiochemistry 3 cr.
Introduction to nuclear properties and reactions of atomic nuclei. The application of the properties of radioactive nuclei to the solution of chemical, physical, biological and environmental problems. P: 225-312 and either 734-202 or 104 and 200-205.

225-415 Nuclear Physics and Radiochemistry Laboratory 1 cr.
One-three-hour laboratory per week. P: Credit or concurrent registration in 225-415.

225-482 Selected Topics 1-4 cr.
See page 98.

225-491 Independent Study 1-4 cr.
See page 98.

242 Communication and the Arts Courses

A broad survey of the visual arts in the Western world beginning in prehistoric times and evolving in the late Gothic period.

A broad survey of the visual arts in the Western world beginning in the High Renaissance and evolving in the contemporary period.

242-121 Masters and Modernism of Music 1 cr.
The musical styles of several well-known composers are examined. Certain classes are conducted with outside listening to give students a basic repertory of representative works of various forms and styles.

242-141 Introduction to the Performing Arts: Theater and Music 3 cr.
Centers on the literature and the arts in theater and music from a historical perspective. Emphasizes all performances, attendance at performances, interviews with artists, and the writing of critiques.

242-142 Performing Arts Perspectives: Experience and Evaluation 3 cr.
Prepares the historical background of 242-141. The empha-
sis is on understanding the elements of performance from the perspective of the audience and critic. Emphasizes research prior to performances, attendance at performances, interviews with artists, and the writing of critiques.

242-160 Introduction to Language 3 cr.
Introductory study of language and linguistics, including basic principles and methods in structural linguistics, social and regional variation in language, historical change, and innovatory theory of meaning.

242-201 Film and Society 3 cr.
Deals with film primarily in its social context, i.e., the ways in which film reflects and influences society. Films such as Griffith's Birth of a Nation, Lang's Metropolis, Eisenstein's October, Van-
troy's Man With a Camera, Renoir's Rules of the Game, and films chosen by the student film series are examined for their social content, both explicit and implicit, and the social milieu of their creation. Emphasis is also placed on the ways in which different cultures use films and on the cross-cultural influences which occur. See 242-210.

242-210 Popular Music Since 1965 3 cr.
Provides an introduction to the essence and evolution of popular music since 1955 and its relationship to society. Emphasis is placed on rock music in the 1960's and early 1970's, the period of greatest stylistic experimentation and also the period in which the music was most intensely intertwined with its social milieu.

242-211 Introduction to Graphic Communications 3 cr.
Introductory program for students with vocational objectives, or with interests in graphic communication. Provides a basic back-
ground required for entry into advanced courses Emphasis on basic principles and potentials of visual communication, applica-
tion of design concepts, exploring aspects of printing, preparation of mechanicals, types and materials, re-touching, and type styles as communicative devices. P: Prior courses in photo-
ography or design.

242-234 Native American Cultures: Film and Performance 3 cr.
A study of images of the American "Indian" in selected films and literature. Focus is on the "popular" and stereotypical images of Native Peoples and will be counterpointed with documents and writings which attempt to present more authentically some of the cultural world views. Some introduction to creative group performance principles of the subsequent course for all-University requirements.

242-244 Native American Cultures: Film and Performance II 3 cr.
A continuation of the all-University requirements Communication and the Arts package beginning with 242-243. In this section, emphasis is on the process of group work toward creating developing a and performance piece from the first semester. It is primarily an experimental "studio" course based upon material from the first semester. If and when feasible, the work will be publicly performed. Previous theater experience or particular interest in theater is not necessary. See 242-243.
242-261 Aesthetic Awareness: Foundations 1 cr.

Students are encouraged to break out of habitual ways of perceiving and see the subjective world of testing, from which aesthetic awareness comes. Starting with analysis of color, line, point, shade, form, texture, space, value and time, instruction goes on to show how these basic elements of visual awareness appear in other arts and other environments.

242-272 Women in the Visual and Performing Arts 3 cr.

Studies images of women in the visual and performing arts and compares them with information drawn from non-artistic sources in order to fully the kind of knowledge we can gain from the study of the arts. Emphasis works by women is similar to rewire their place in our history. Emphasis different cultural periods and forms of art depending on the background of the instructor. P. 493-506.

242-281 Student-Led Courses 1-4 cr.
See page 88.

242-283 Selected Topics in Communication and the Arts See page 88.

242-286 Sensing and Communication 1 cr.

Practice and practical background in terms of exercises and activities designed to heighten sensory awareness for the teaching of art. Exercises include both in-school and out-of-school techniques of the work of Halle Yaffe and from modern Sensory Awareness as taught by Chellis Siegel and Charles Hinks. Experiences include in breathing, sounds, silence, and movements for students in the performing arts and related areas. P. 505 or 5 or similar.

242-289 Independent Study 1-4 cr.
See page 88.

243-301 Communication and the Arts Projects in the Community 1-5 cr.

Projects vary, but emphasize service, creative, development, and communications activities in the community. May be repeated for credit. P. cons inst.

243-503 Language and Human Conflict 3 cr.

Language as cause and consequence of racial, social, ethnical and national conflict: problems and differences. Language and nationalism, linguistic and cultural minorities, nonverbal communication, language and world view.

243-329 Cultural Cross-Communication II: Expressive Traditions 3 cr.

Cultural conflict and influence and enrichment that arise when different traditions of the arts emerge into contact. Course topics vary and have included such areas as anthropological, jazz, history, American show music, and West African art. Students should consult the timetable for specific listings of topics each semester. Course may be repeated once with a different topic.

243-331 Graphic Communications I 3 cr.

Introduction to graphic communication in a studio setting to problem solving techniques in graphic communication. Students will have opportunities through a series of projects, including mock interviews with clients and contact with a printer, to expand visual, verbal, technical and management skills, to integrate them by completing projects and to critically evaluate the final product. Evaluation includes methods of investigating the problem, evidence of consideration alternate possible solutions, creative approach to solutions, and the finished product. Some research into traditional and contemporary techniques to similar problems is required.

243-332 Graphic Communications Studio II 3 cr.

Continues work begun in 243-331 in problem solving techniques. Studio projects are used for the student objectives set in 243-331, but there is more emphasis on working in groups and marrying a single concept into a series. Use of techniques is the concern of the student. Students investigate a product and design packaging and promotional campaigns, using management, publications, typography, design, printing, and copywriting skills. Results are critically evaluated at each stage. P. 243-331 (268-343 strongly recommended).

243-361 Aesthetic Awareness: Interpretation 3 cr.

One of the major goals of the course is the development of aesthetic experience, and the course concentrates on the importance of the perceptive rather than that of the creator. An aesthetic awareness can be increased in several ways by developing the senses, and in altering the habits of the perceiver, by changing the patterns of interaction between the perceiver and the environment, and by changing the conditions of the environment. The course leads to heightened and refined awareness in ways: through exploration of selected aesthetic objects, and through laboratory experiences. Each student sets up a contract with the instructor establishing appropriate goals and measurements.

243-362 Aesthetic Awareness: Psychology of Aesthetic Perception 3 cr.

Examines what is known of the psychological processes that give rise to aesthetic perception and awareness. Special emphasis is given to current work on cognition and perception, and the relationships between these processes and art and other areas of the aesthetic experience. Students are asked to do a paper or a creative project demonstrating their understanding of the central themes of the course.

243-364 Aesthetic Awareness: Creation 3 cr.

The artist's aesthetic experience is explored through readings, discussion, and exercises. Attention is given to how and why the artist works, the artist's relationships to society and audience, and the artist's concerns with creative process and end products. Work culminates in student presentations of creative works in their chosen art forms. P. 243-361.

243-370 Modern American Culture 3 cr.

A survey of, that, fashion, and popular art: the media, music, advertising, and entertainment. Materials used exist in the form of images in the text and are usually ephemeral, popular art, that, and fashion express the increasing unguaranteed concerns of modern America.

243-372 Aesthetic Awareness: Traditional Art Styles 3 cr.

Interpretation of traditional art styles and the assumption that a change in cultural style signals a change in the style of human consciousness itself. Emphasis placed on comparative study of artists, writers, scientists, and thinkers from the Renaissance to the modern period.

243-373 Aesthetic Awareness: Avant-Garde Art 3 cr.

Comparative study of modern stylistic elements operating in different forms in the work of avant-garde artists, composers, playwrights, and novelists. Emphasis on the nature of innovative consciousness.

243-375 Communication Skills: Language of Metaphor 3 cr.

Metaphor as a vehicle of direct communication by transferring one thing and another. If it is powerful tool that we can use to argue our points, and how others try to structure our words. The course examines the metaphor as a process itself, and through exercises and analyses of examples, seeks to develop skills in creating metaphor and understanding metaphors created by others. Emphasis is placed on a metaphor of language and culture.

243-380 The Arts: London 3 cr.

The arts in and about London are always a lively slate of action. This program attempts to trace and analyze many of the major movements of the arts as time, energy, and funds allow. The group tries to become involved in certain major performance art events as well as investigate museum collections, neighborhood art groups, and, if possible, spend time with artists working on various art forms. Students note the ways in which the British relate their needs for the arts in society. Students keep a journal during the London stay record research, personal reactions to events, persons, places, etc. Each student contributes to an advance on individual project to be carried out as part of the arts as they are experienced in London and Britain. P. cons inst.

386 The Individual and His Culture: The Filmmaker's View 3 cr. See 460-395.

243-395 The Biological Aspects of Language 3 cr.

Studies of language as a biological system, including language development, phonetics, speech, and the nervous system, and connections between human speech and animal communication. Offered in January. P. 243-315.

243-397 Photographic Design for Print Media 3 cr.

An introduction to imaginative problem solving for print media ranging from the commercial printing press to non-sliver exhibition prints. Projects will emphasize photographic illustration from concept through management, editing, scaling, and placement of images in a pre-design. Offered in January. P. 243-315.

405 Urban Technological Design 3 cr.
See page 822.

243-430 Mass Media and Society 3 cr.
Analysis of the media as persuader, informer, amuser; public opinion, readership, and audience studies; communication and legal aspects; the relationship of mass communication in the changing social environment.

243-432 Graphic Communications Workshops 3 cr.
A problem solving workshop, applying concepts in graphic design, technology, and management. Advanced students work on projects for university or non-profit groups from concept to finished product, including involvement with design, writing copy, consulting printers, clients, etc. Groups may also become involved in consultant work to solve graphics problems for non-profit groups. Course content emphasizes the role of graphic communication in society of all ages. Emphasis on problem solving within the context of real-life situations. P. prior course work in photography and 242-332.

243-440 The Construction of Public Images 3 cr.
Develops skill in reading the imagery of mass media and public environment. Covers traditional press image problems in news, promotion, entertainment, photography, music, film, and other social phenomena and susceptible to the influence of others. The subject considers or conveys an alternative image with higher fidelity to contemporary conditions and with greater humanizing potential. P. 415.

243-462 Aesthetic Awareness: Research 3 cr.
A summative, integrative learning experience for students in the Aesthetic Awareness program and for those in Communication and the Arts who have not major emphasis elsewhere. A special emphasis each time the course is offered is a carrier around which student research projects are negotiated with the instructor. Students participate in selecting the theme: possible areas are: The Patel of Aestheticism in American Society, Environmental Aesthetic and Public Policy: Teaching Aesthetic Awareness in the Schools, Aesthetic Awareness and Community Organizations, and others.

243-463 Aesthetic Awareness: Exploration 3 cr.
Seeks to clarify the process we use in making aesthetic judgments, to examine the various systems of evaluation that are current, and to prepare each student to be able to form his own system of evaluation using those he has come to know, express, and interpret the validity of his or her aesthetic values. P. 243-315 or equivalent, P. or all course in criteria.

243-471 Environmental Design Workshop I 3 cr.
Analyzing and designing of group spaces, such as housing, classroom, waiting rooms, and other spaces intended for occupancy by groups of people. Final design projects have taken the form of designing and preparing a book focusing on environmental design of group spaces within existing environments or in new environments created by student design teams. Students can present some of the major projects of this sort in addition to readings, research, and design analyses. Drawings support from 834/94/353, Human Living Spaces, and 243-402, Designing the Environment. Students are strongly advised to enroll in at least one of these parallel offerings. P. 834/401 and cons inst.

243-472 Environmental Design Workshop II 3 cr.
A continuing experience for students who have participated in this workshop sequence. Each student proposes, designs, and executes a design / research / project on an electric topic. Individual projects are acceptable in some instances; projects by design / research teams are encouraged. This "thesis" project is an extension and elaboration of the teaching staff and a faculty committee representing appropriate areas of study. The project must include at least 1,400 written document covering area of focus, research methods, and conclusions, design methods, and development of design alternatives. 2. Description graphic presentations with emphasis on the selection and documentation of the problem; 3. Forms, public jury presentations during the project at its conclusion. P. time workshop credits and cons inst.
246-166 Fundamentals of Interpersonal Communications 3 cr.
Basic principles of personal interaction as a basis for the communication process. Investigation through such practices and discussion of the role of communication in interpersonal relationships, the role of identity and self-concept in communication behavior, and the role of which information is received and evaluated in determining effectiveness of communication.

246-201 Communication Processes: An Introduction 2 cr.
An overview of a variety of communication processes, what they share, how they differ, their uses for communication, for art, and for individual growth and their effect on the social fabric. This course includes practical experiences with these processes as well as a theoretical framework for continuing study. P. core course in communications suggested.

246-201 Human Information Processing 3 cr.
An introduction to the study of human cognition from the information processing perspective. Examines the processes of sensation, perception, memory, thinking, language, and problem solving with special attention to the role of these processes in communication (graphics, journalism, linguistics, psychology, etc.). P. 246-390.

246-203 Writing Laboratory 3 cr.
Assignments in gathering and writing news, copy editing, emphasis on developing writing objectives, style, accuracy, and fairness.

246-298 Independent Study 1-4 cr.
See page 96.

246-483 Selected Topics in Communication and the Arts 1-4 cr.
See page 96.

246-484 Senior Honors Project 2 cr.
See page 96.

246-487 Internship in Graphic Communications 3-9 cr.
A field course offering instruction and experience in professional graphic communications related environment. The intern- ship for qualified students, when available, may be in any area of the field of graphic arts, dailies/ weeklies, technical press as long as there are work positions among professionals. Credits vary depending on the work involved but no more than three credits may be used to meet requirements for a major. P. 246-432 and 246-490 internships.

246-498 Independent Study 1-4 cr.
See page 96.

246-490 Communication Processes 3 cr.
A basic course in college-level newspaper writing, including conventional forms of argumentation, comparison/contrast, and re- search reports. A laboratory program for small-group and indi- vidualized instruction complemented general class meetings. The course is competency-based, such that students may complete requirements by examination at designated times during the semester, and is designed to meet University requirements for competence-level training. P. passage of freshman entrance exam.

246-501 Introduction to Mass Communications 3 cr.
Survey of the interplay between American society and mass media, both print and broadcast, commercial, cultural, and politi- cal functions of the media and popular culture. An examination of symbols, the concept of a free and responsible press.

246-513 Fundamentals of Public Address 3 cr.
An examination of the principles of oral message preparation and presentation. Students will engage in preparing and presenting actual public communications.

246-181 English as a Second Language (Reading and Lecturing Comprehension 3 cr.
Work toward acquisition of the basic listening and reading skills is a student must have in order to be able to follow lectures and focus on the main points of the talk. Learning the fundamentals of preparing and giving oral presentations regarding a scientific, scholarly, or technical topic, development of technical vocabulary. P. ESL proficiency test.

246-182 English as a Second Language: Expository Writing 3 cr.
Acquisition of basic principles of nonfiction writing in English, excluding work toward improving grammatical proficiency, a rev- iew of the patterns of organization most frequently used by American technical writers. This course should be helpful to students whose native language background may be other than English and who want to learn how to approach writing a research paper. P. ESL proficiency test.

246-184 English as a Second Language: Expository Writing 2 cr.
Refinement and extension of competence in technical writing with particular emphasis on the psychological characteristics of writing with emphasis on the psychological characteristics of typical writing errors of American English. This course is intended for the student of a non-English native linguistic background who has already mastered the basic rules of writing in English, but who wants a deeper understanding of the logical and organizational principles followed by American scienc- ists and professionals in written account of their work. P. ESL proficiency test.

246-210 Television Production Techniques 2 cr.
Exposure to various uses of television as an information, pers- uasive, and entertainment medium. Fundamentals examination and analysis of current uses of television in professional context with practical experience in planning and producing a finished product for television. P. 246-302 and 246-385.

246-222 Telecommunications Delivery Systems: Cable and Satellite 3 cr.
Involves cable and satellite communication systems. This course provides an overview of historical development, economi- cs, and current operation of telecommunications technology and its impact on various media. Systems covered include broadcast systems and interactive systems. The course uses the print and online material and delivers a finished product, and applies to the telecommunications systems for the communications environment of the future. P. 246-102, 246-305.

246-230 Electronic Media Commercial Campaign 3 cr.
An intensive examination of TV/media commercials as a unique form of communication. Through analysis of work. P. student project, the development of a commercial campaign is reviewed. Legal and ethical considerations are also presented and discussed. P. 246-305.

246-328 History of the English Language 3 cr.
The origins, evolution, and cultural background of the English language (dialects, grammar, pronunciation, vocabulary, spelling, and usage), including contemporary American English.

246-321 Sociolinguistics 3 cr.
Commercialization in social groups and application of linguistic principles to specific cultural problems, including the study of social and regional dialects, stylistics, language change and shift, diglossia, bilingualism, language contact and language acquisition.

246-322 Modern Linguistics 3 cr.
Structure and system in language, with attention to modern Eng- lish and including principles of syntax, morphology, and syntax, and examining the nature of word and sentence, the relation between word, sentence, and syntax, with attention to structure and system in language. P. 246-307.

246-324 Psycholinguistics 3 cr.
A broad survey of language and communication, including an examination of language acquisition, the biological basis of language use, and the effects of education on language use.

246-325 Applied Linguistics 2 cr.
Application of linguistic principles to specific problem areas, including language acquisition, the teaching of English as a second language, and the teaching of a foreign language. P. This course requires an additional meeting per week.

246-326 Modern Semantics 3 cr.
A study of meaning in language, with an emphasis on how meanings of words and sentences change, how meanings may be measured, and the role of context in meaning. The course includes the role of context in meaning and the role of context in meaning. P. 246-326.

246-327 Contextual Linguistics and Error Analysis 2 cr.
A practical introduction to the techniques of comparing lan- guages and their structural and conceptual similarities and differ- ences, and of analyzing the errors committed by second-language learners. The emphasis is on the techniques of the field, and the student will be expected to use them themselves in an attempt to produce both better practitioners and more accurate users of language. P. 246-330.

246-328 Organizational Communication 3 cr.
A study of communication in the modern organization. The course examines the role of communication in the modern organization. P. 246-330.

246-250 Communication Processes Courses 103
298-300 Geomorphic Processes 3 cr.

296-403 Stratigraphy and Sedimentation 3 cr.
Introduction to the principles of stratigraphy, basin analysis, and glacial stratigraphy. This course provides an overview of the concepts and techniques used to study ancient sediments and soils. Prerequisite: 296-441. P: 298-202. See page 98.

296-420 Soil Classification and Geography 3 cr.

296-441 Mineralogy 4 cr.
Introduction to the identification and properties of minerals, including their physical and chemical characteristics. Lecture, lab, and field trips. P: 298-202. See page 100.

296-442 Paleontology 4 cr.

296-470 The Geologic Environment and Chronology 3 cr.

296-483X Selected Topics 1-4 cr.
Various topics in geology and related fields. Prerequisite: 298-202. See page 103.

296-498 Independent Study 1-4 cr.
Independent study under the direction of a faculty member. Prerequisite: 298-202. See page 104.

Other courses for upper division earth science credit include:

Land and Soil Resources
416-054 Introduction to Geology
416-353 Air Photo Interpretation
416-451 Computer Cartography
416-452 Advanced Air Photo Interpretation
834-336 Environmental Impact Analysis
862-303 Conservation of Natural Heritage
862-304 Soil and Water Conservation
862-001 Soil Environment Laboratory
862-042 Environmental Geology
862-315 Geology of Energy Resources
862-411 Soils of Wisconsin Field Trip
862-424 Remote Sensing by Satellite
862-320 Resource Management Strategy
862-402 Land Use/Tour of Wisconsin

Geology
862-305 Introduction to Geology
862-345 Environmental Geology
862-345 Geology of Energy Resources

298 Economics
298-202 Macro Economic Analysis 3 cr.
An introduction to the behavior of the economy in the aggregate, focusing on the processes 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 concerns as determined by the determination of what goods will be produced, how they will be produced, and what prices specific goods and services will command. This course covers the functional framework within which these decisions are made, for example, production, pricing, surplus, and changes.

298-233 Selected Topics 1-4 cr.
For credit.

298-298 Independent Study 1-4 cr.
For credit.

298-301 Economic and Social Security 3 cr.
A survey of the social and political institutions that provide economic security to individuals and families. Prerequisite: 298-202 or consent of instructor.

298-302 Intermediate Macro Economic Theory 3 cr.
An introduction to the principles and theories of national income determination, governmental and international factors, and the use of natural resources. Prerequisite: 298-202 or consent of instructor.

298-303 Intermediate Micro Economic Theory 3 cr.
An introduction to the principles and theories of national income determination, governmental and international factors, and the use of natural resources. Prerequisite: 298-202 or consent of instructor.

298-304 Contemporary Labor Markets 3 cr.
An introduction to the determination of wages and employment at the level of the firm, the industry, and the economy. Prerequisite: 298-202 or consent of instructor.

298-305 Natural Resources Economics 3 cr.
An introduction to the principles and theories of national income determination, governmental and international factors, and the use of natural resources. Prerequisite: 298-202 or consent of instructor.

298-306 Public Finance and Fiscal Policy 3 cr.
An introduction to the principles and theories of national income determination, governmental and international factors, and the use of natural resources. Prerequisite: 298-202 or consent of instructor.

298-307 Sources of Contemporary Economic Concepts 3 cr.
The relationship between economic theory, social institutions, and economic policy. Prerequisite: 298-202 or consent of instructor.

298-308 Business Cycles 3 cr.
An introduction to the principles and theories of national income determination, governmental and international factors, and the use of natural resources. Prerequisite: 298-202 or consent of instructor.

298-309 Urban Economics 3 cr.
An introduction to the principles and theories of national income determination, governmental and international factors, and the use of natural resources. Prerequisite: 298-202 or consent of instructor.

302 Education
302-142 COSMOS, The Societal Implications of the Study of the Universe 3 cr.
Provides an overview of the historical and philosophical foundations of astronomy and cosmology. P: 298-202 or consent of instructor.

302-201 Analysis of Learning Environments 3 cr.
Introduction to the analysis of learning environments, including the design and implementation of instruction, assessment, and evaluation. P: 298-202 or consent of instructor.

302-202 Changes in American Education 3 cr.
An examination of the historical and social context of American education, including the role of society, culture, and politics in shaping educational policy and practice. P: 298-202 or consent of instructor.

302-203 Instructional Strategies in the Schools 3 cr.
An examination of the historical and social context of American education, including the role of society, culture, and politics in shaping educational policy and practice. P: 298-202 or consent of instructor.
302-304 Yehuda in Conflict: The School Experience of Minority Background Children 2 cr.
Differing explanations about why minority background children often do poorly in school, and what to do about it, to improve this situation. Historical and current views and life experiences of several major U.S. minorities (Native Americans, Blacks, and Chicano/a) are explored and contrasted with dominant middle class white values. Conflicts are examined. Ethnicism and sexual class biases as reflected in teacher expectations and instructional methods. Students examine assumptions and attitudes about minorities to reduce ethnocentrism and inculcate an authentic and genuine manner with seeds from diverse backgrounds.

302-305 Basic Operations of Audio Visual Equipment 1 cr.
Step-by-step independent instruction on operation of projecting, recording, and duplicating equipment and on basic preparation of instructional materials. P: 302-304 (not)

302-305 Cultural Images in Books and Related Materials for Children and Adolescents 3 cr.
The development and use of the varied images of ethnic and racial groups, and sex roles as developed in traditional, textbook, and other instructional materials for children and adolescents; ways to help students to see themselves as effective, useful to basic and other instructional materials, to detect negative images and build positive images.

302-281 Student-Lad Courses 1-4 cr.
See page 98.

302-284X Selected Topics in Education 1-4 cr.
See page 98.

302-285 Independent Study 1-4 cr.
See page 98.

302-301 Introduction to Education and Teaching 3 cr.
This course is required for teacher certification and should be taken in the first semester for 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 2-12 hours a week in a school to observe and participate in various aspects of the instructional program. P: 481-210 or 333 or 320-326

302-302 Principles and Methods of Teaching Social Studies in Elementary School 2 cr.
Designed to acquaint students with concepts, process, learning skills, teaching methods, and resource materials related to the social sciences. Attention is given to questioning, classroom environment, content and topic selection, scope and sequence, and forces influencing the social studies curriculum. Peer teaching opportunities are included. P: 302-301

302-303 Principles and Methods of Teaching Art in the Elementary School 2 cr.
The purpose is to prepare the student to teach art in children by providing theoretical and practical experiences in art and education. Topics include: the philosophy and psychology of art education, characteristics and stages of creative development in children and children's art; principles and procedures for selecting and motivating elementary experiences, developing specific lesson plans and units in elementary art, and the organization of a developmental curriculum for art in the elementary school. P: 302-301

302-304 Principles and Methods of Teaching Music for the Elementary Teacher 2 cr.
Deals with the identification of children's musical needs and methods and materials to assist classroom teacher in meeting these needs. The principles and materials of music education are included to develop the classroom teacher's competency and self-confidence. Required for general elementary certification. P: 302-301 and competency in music fundamentals.

302-305 Principles and Methods of Teaching Math and Science in the Elementary School 2 cr.
Acquires students with foundation principles, method and materials related to teaching mathematics and science in the elementary school. The development of material, instructional strategies, and instructional methods is included as a major emphasis. Students learn the process of developing a meaningful, developmentally appropriate curriculum that is effective in teaching mathematics and science in the elementary school. P: 302-301, 303-281 (recommends)

302-306 Principles and Methods of Teaching Health and Physical Education in the Elementary School 3 cr.
Acquires the prospective elementary school class teacher with those special knowledge and awareness which are characteristic of the elementary school teacher and with the general knowledge and skill of health and physical education instruction. P: 302-301

302-307 Principles and Methods of Teaching Reading in the Elementary School 3 cr.
Accredits students with strategies and instructional techniques for effective reading instruction leading to reading ability. The nature of reading, reading readiness, vocabulary, interpretation, and study skills development. Diagnoses and instructional techniques for identifying needs of diverse learners are discussed. P: 302-301

Experiences which provide an educational service literacy program. Analyzing of children's books; developing a selection of instructional units and independent programs to foster positive attitude. Evaluation of reading by using basic for personal development. Using books for developing attitudes about social issues such as ecological concerns and social and minority group relations and criteria of evaluation current, methods, and effect on students.

302-309 Principles and Methods of Teaching Language Arts in the Elementary School 2 cr.
Contemporary practices for the elementary and middle school classroom are approached through both theory and experimentation. Students are expected to develop a language arts model, a rationale, basic processes and skills, and as assessment procedures for use in the classroom. Emphasis on small group activities, continuous participation and student initiative will be stressed. P: 302-301

302-310 Principles and Methods of Teaching Communication Arts Courses in Secondary Schools 2 cr.
Contemporary practices for teaching communication arts are approached through two approaches. Students develop a communication arts model, a rationale, basic processes and skills and as assessment procedures for use in the classroom. Emphasis on small group activities, continuous participation and student initiative is required. Required for certification to teach communication arts, drama, English, journalism and or speech in the secondary school. P: 302-301 and appropriate preparation in Communication Arts

302-311 Principles and Methods of Teaching Foreign Languages: Secondary and RLES 2 cr.
Principles and methods of teaching foreign languages to students of all ages, methods and other materials are evaluated as teaching for one semester's teaching is simulated. Required for certification in teach foreign languages. P: 302-301 and appropriate preparation in a foreign language

302-312 Principles and Methods of Teaching Social Studies in Secondary Schools 2 cr.
Acquires students with concepts, process, learning skills, teaching methods, and resource materials related to the social sciences. Attention is given to questioning, classroom environment, content and topic selection, scope and sequence, and forces influencing the social studies curriculum. Peer teaching opportunities are included. Required for certification to teach social studies in the secondary school. P: 302-301 and appropriate preparation in social studies

302-313 Principles and Methods of Teaching Mathematics in Secondary Schools 3 cr.
Acquires students with concepts, methods and materials related to teaching mathematics and computer science in the secondary school. Attention is given to development of mathematics concepts, skills, and selection and use of materials, methods, evaluation, and peer unit and planning environment. Required for certification to teach mathematics and computer science in the secondary schools. P: 302-301 and appropriate preparation in mathematics

302-314 Principles and Methods of Teaching Science in Secondary Schools 3 cr.
An examination of the nature of high school science curricula, recent innovations in science teaching, evaluation, and classroom teaching techniques. Required for certification to teach science in the secondary schools. P: 302-301 and appropriate preparation in science.

302-318 Principles and Methods of Teaching English as a Second Language 3 cr.
Introduces the basic methods of teaching ESL and the underlying theories from linguistics, psychology, education, and sociolinguistics. Designs of classroom activities for teaching ESL. Strives to familiarize students with culture and language habits; introduces strategies and techniques to teach English Language. P: A minimum of one course in linguistics or another area to develop foundation academic competence to teach ESL plus 302-201

302-316 Principles and Methods of Teaching Secondary School Art 2 cr.
Includes principles of art teaching methodology, procedures and strategies, classroom motivation, techniques, preparation of art lessons; lesson plans, evaluation and grading techniques of art learning experiences; creatively and visually art education curricula; curriculum development in art, and other related material concerning the role of the art teacher in the secondary school. Required for certification to teach art in secondary school. P: 302-301 and appropriate preparation in art

302-317 Principles and Methods of Teaching Instrumental Choral Music 3 cr.
Theoretical and curricular issues affecting secondary music education. Materials and methodologies pertinent to a secondary school music curriculum are studied. Special emphasis is placed on developing meaningful objectives, integrating music into the total curriculum. Required for certification to teach instrumental or choral music. P: 302-301 and appropriate preparation in music

302-318 Reading and Study Skills in the Secondary School 2 cr.
Developmental reading, comprehension and memory, vocabulary, development, motivation, and flexibility. Consideration of diverse reading abilities and interests and development of appropriate study and learning techniques for reading in content areas. P: 302-301

302-319 Adolescent Literature in Secondary School Reading 3 cr.
Examines various themes in high school, junior high school, and middle schools which produce positive affective adolescent literature. Includes analysis of literature for the adolescent, current practices in literacy curriculum, personal development and literature for the adolescent, literature and social issues, and criteria for evaluating adolescent literature and literature programs.

302-324 Principles and Methods of Teaching General Music in the Elementary School 3 cr.
Focusses on understanding the philosophical and theoretical foundations of music education. Curriculum development is approached by identifying children's musical needs in contemporary society. Traditional and contemporary methods and materials are reviewed and evaluated in relation to the development of inclusive music curriculum frameworks. Required for certification in general music grades K-8. P: 302-301 and appropriate preparation in music

302-335 Principles and Methods of Teaching General Music in the Secondary School 2 cr.
Develops understanding of the musical needs of the adolescent, insights into secondary general music with respect to contemporary music education and the economy, and materials appropriate for the entire range of educational needs. Written, multimodal, handicapped, average. Major focus is on teaching music literacy with emphasis on functional music reading, a perspective of music throughout history, and working knowledge of materials currently marketed by the music industry. P: 302-301 and appropriate preparation in music

302-341 Theory and Practice of Human Relations Skills 3 cr.
See 892-355

302-420 Student Teaching in the Elementary School 2-12 cr.
Supervised student teaching or internships in the elementary school. Required for a teacher's license. P: 302-301, prequalification with faculty in Education, written exam, and assignment by the faculty in Education. Offered on a pass/no credit basis only.

302-420 Student Teaching in the Secondary School 1-12 cr.
Supervised student teaching or internships in the secondary school. Required for a teacher's license. P: 302-301, prequalification with faculty in Education, written exam, and assignment by the faculty in Education. Offered on a pass/no credit basis only.
305-404 Creative Learning 3 cr.
Students define creativity, conduct creative experiences in their lives, structure and evaluate creative programs, review research on creativity, and synthesize a creative program in their own arena. P or JST.

305-405 Individualized Instruction 3-3 cr.
New and innovative learning programs in grades K-12 designed to individualize instruction. Development of specific performance objectives, diagnostic procedures, staff organization, student monitoring systems, and choice-delineative instructional programs. Students may participate in a task force student-initiated project for the third credit. P or JST.

305-406 Evaluation and Testing in Education 3-3 cr.
Techniques for constructing tests and measurement systems, statistical procedures applied to classroom data, monitoring and assessing individuals and group learning situations, using and interpreting data from standardized tests. Students may participate in a task force student-initiated project for the third credit. P or JST.

305-408 Reading Disability: Diagnosis and Remediation of Reading Problems 3 cr.

305-410 Introduction to the Education of Exceptional Children 3 cr.
A survey of the salient characteristics found in the school program for exceptional children, and the methods of determining them. Information enables the teacher or parent to recognize and understand exceptional children and unique subgroups that deserve special attention. P: 302-307.

305-415 Counselling Role of the Classroom Teacher 3 cr.
 Provides teachers and future teachers with the knowledge and specific counseling and guidance skills necessary to enhance their counseling effectiveness. The course will focus on becoming more aware of these skills and how one can best implement them in the classroom. P: teaching experience or upper division status in a teacher education program.

305-420 Integration of Contemporary Economic Problems in P-12 Curriculum 1-3 cr.
See 305-420.

305-421 Reading Readiness and Language Development 3 cr.
Focuses on the acquisition of reading and language development of language in preschool through primary grades. The instructional and diagnostic procedures appropriate to these grade levels will be discussed. Selected reading and language development programs will be analyzed. Topics to be addressed include letter and sound recognition, listening comprehension, vocabulary development, word identification strategies, and approaches to beginning reading. P: 302-307 or 481-337.

305-422 Reading In the Content Areas 3 cr.
Practical guidelines for teachers who are teaching in various subject areas—English, social studies, mathematics, science, etc. Suggestions for teaching reading and study skills related to content and approaches to dealing with technical and specialized vocabulary, developing study guides, and effectively dealing with reading problems in the content areas are the focus of this course. P: 302-307 or 357-010 or core immat.

305-441 History, Philosophy, and Current Trends in Early Childhood Education 3 cr.
See 305-441.

305-442 Curriculum and Program Development in Early Childhood Education 3 cr.
See 305-442.

305-443 Early Childhood Center Administration and Community Resource Management 3 cr.
A survey course in early childhood center management dealing with governmental licensing and controlling agencies, various aspects of program organization and administration (e.g., funding, staffing, accounting), and utilizing family and community resources. Includes a study of early childhood programs in the community. P: cores immat.

305-451 Field Experience in Environmental Education 11 cr.
Practica or individualized study in environmental education at environmental areas, e.g., Trees for Tomorrow, Michigan Environmental Center, etc., Credited/determined by contract on basis of length of assignment and nature of activities. P: a specific background for specific program.

305-451 Student-Led Courses 1-4 cr.
See page 98.

305-453 Selected Topics in Education 1-4 cr.
See page 98.

305-456 Independent Study 1-4 cr.
See page 98.

Courses in other areas for which education credit may be received include:
481-410 Introduction to Human Development 3 cr.
481-321 Human Development I: Infancy and Early Childhood 3 cr.
481-322 Human Development II: Middle Childhood and Adolescence 3 cr.
528-388 Psychology of Learning 3 cr.

350 Public and Environmental Administration

350-102 Introduction to Public Policy 3 cr.
An examination of major policy issues, problems, and values associated with implementing public policy in governmental institutions. The course surveys theories of public administration, formal and informal aspects of public bureaucracy, decision-making processes, management of personnel in public organizations, the power of interest groups, bureaucratic responsibility, and public control of government. Ethics and public service, contemporary trends and alternative futures for public bureaucracies.

350-201 Problem Analysis and Decision Making 3 cr.
Focuses on theories and methods applicable to identifying and analyzing problems and issues and to developing alternative problem-solving strategies. Considers the role of facts and values, problem identification criteria, appropriate strategies for distinguishing between public and private problems, and developing skills in problem analysis and problem solving.

350-281 Student-Led Courses 1-4 cr.
See page 98.

350-383 Selected Topics in Public and Environmental Administration 1-4 cr.
See page 98.

350-290 Independent Study 1-4 cr.
See page 98.

350-301 Environmental Politics and Policy 3 cr.
An introduction to political and administrative aspects of environmental problems, with special emphasis on American politics and public policy. The nature and scope of environmental problems; the environmental movement, and the impacts of the federal, state, and local political systems. Special emphasis is given to the factors affecting public policy makers. P: 776-101 or 350-102 or core immat.

350-355 Regulatory Policy and Administration 3 cr.
An examination of the purpose, structure, legal aspects, and operation of public regulatory agencies and programs in the United States. Topics include administrative and constitutional aspects of regulatory policy and administration, and rational models and methodologies for risk analysis and decision making. Case studies and exercises will cover a variety of regulatory processes, including those associated with public health, consumer protection, product safety, environmental quality, and energy regulation and use. P: 778-101 or 350-102 or core immat.

350-370 Leadership in Organizations 3 cr.
Covers topics such as goals, organizational structures, management process, power, organizational culture, and organizational change. Designed to develop skills and abilities in group process, negotiation, and decision making. P: 400-101 or another course in American government or core immat.

350-381 Administrative Law 3 cr.
See 384-314 and 778-314.

350-382 Introduction to Public Administration 3 cr.
Examines principal tools and methods for planning, designing, analyzing, and managing public systems. Provides understandings of the structure of public systems, their environment and restrictions on their decision-making processes, and possible futures of service delivery systems. Develops skill in application of systems design and analysis techniques to problems associated with planning and managing public systems. P: 350-102.

350-383 Local Government Operations 3 cr.
History, functions, powers, and principal officers of the several types of local governmental units. The role of the citizen in local government. An introduction to major organizational characteristics and administrative operations of such jurisdictions. Emphasizes development of important skills in supervision, public and interpersonal relations, communication, and in elementary methods for budgeting and administrative analysis. P: introductory course in American government, 350-102, or core immat.

350-384 Local Government Operations 3 cr.
Major issues, issues, and policies concerning jurisdiction, formation, and administrative operations of local units of government; introductions to state and local governmental operations of such units, and to the use of state and local sources in local government. Emphasizes development of skills in supervision, public, and interpersonal relations, administrative analysis, and public policy and practice improvement and program evaluation methods. P: 350-320.

350-385 Local Government Operations II 3 cr.
Local government applications of productivity improvement techniques and methods for analyzing policy problems, conflicts, and alternative program solutions, including benefit-cost analysis. Also examines the potential future environment of local governments and emphasizes measurement andLINKING relationships with the public and other jurisdictions of government. P: 350-321.

350-400 Environmental Law 3 cr.
An overview of major environmental laws, including historical development, the structure of the law, and the implementation of these laws by federal, state, and local agencies. Special emphasis is given to the impact of landmark legislation, particularly the National Environmental Policy Act and the Clean Air Act, on state and local regulatory authority. Other topics include: administrative agencies and process; the influence of the courts; economic approaches to environmental regulation; national and international policy questions related to such issues as acid rain, toxic wastes, and nuclear waste disposal; ozone; fuels and operations of fossil fuel burning; and environmental mediation.

350-410 Administration of Local Government 3 cr.
Covers contemporary problems and trends in intergovernmental relations and in the organization, management, and financing of local governmental and public service agencies. Examines issues and concerns concerning the management of such entities and for improving and/or reducing the costs of local government services, including service consolidation, interjurisdictional coordination and contracts, and merger legislation. Emphasizes local governmental systems, institutions, and administrative arrangements in Wisconsin, and includes supervised student research on topics of interest to participants.

350-450 Public and Nonprofit Budgeting 3 cr.
Covers the history, philosophy, purposes, attributes, types, and organizational elements of major public budgetary systems used in the United States, with emphasis on object, performance, program, and PAR systems and their applicability to various public, organizational, and governmental jurisdictions. Examines principles and methods used in designing and managing public budgetary systems and their relationships, the program planning process, program prioritization, and budgetary operations. Develops skills in applying analytic and decision-making tools to public budgetary operations. P: 350-102 or another course in American government or core immat.

107
416-120 Survey of Physical Geography 4 cr.
Characteristics and world distribution of physical factors which in combination form the natural environment; elements of weather, the climate, climatic types, earth materials, terrains, vegetation and earth resources. Attention is paid to the use of these in the modification of these physical elements and their changing distribution. 2 hours of lab a week. Required field trips.

416-202 Introduction to Cultural Geography 3 cr.
The impact of culture through time on creating the earth's cultural landscapes. Emphasis on case studies which focus on North America.

416-215 Economic Geography 3 cr.
Patterns of economic activities, including agriculture, extractive industries, manufacturing, transportation and trade. Major theories and concepts essential to understanding the location of economic activities are discussed.

416-259 Displays of Geographic Information 3 cr.
The appreciation, use, and evaluation of maps and aerial photos as informational sources.

416-283 Selected Topics 1-4 cr.
See page 88.

416-294 Independent Study 1-4 cr.
See page 95.

416-320 Landscapes Geography: Topics and Regions 3 cr.
Geographic methods of landform description and analysis with application to selected regions of the world. P: 416-225.

416-325 Regional Climatology 3 cr.
The elements, zones, and classification of climates; the distribution of climatic types over the earth; world patterns. P: 834-320.

416-341 Urban Geography 3 cr.
The city is viewed in two perspectives: as a unit among other cities and the surrounding region, and as a complex of sub-systems: commercial, residential and manufacturing, functioning in space. P: 834-320.

416-542 Contemporary Human Settlements 3 cr.
An examination of human settlement forms with emphasis on: geographical patterns. Topics include the evolution of early human settlements and communities, the development of the city, the arrangement of settlements in the landscape, the relationship between settlements types, physical environment, and culture.

416-543 Field Experience in Contemporary Human Settlements 2 cr.
This course is a logistical extension of 416-242. As such, students and faculty members spend time in the field examining human settlements, forms and patterns. The examination involves applying skills, observation, identification, classification, analysis and synthesis of a variety of landscape components and their relationship to the resident's values, technology, institutions. This course has been based in London, England and Green Bay.

416-353 Elements of Cartography 3 cr.
Principles of basic cartographic content such as information identification and utilization, data collection and analysis, generalization, and symbology. Emphasis on presentation of the content medium and large scale maps. P: 834-353.

416-355 Air-Photo Interpretation 3 cr.
Techniques for the interpretation of the uses humans make of the earth. Vertical, oblique, and infrared aerial photography are used in analyzing human use of the earth and its resources. P: 834-353.

416-361 Geographic Analysis of Africa 3 cr.
The broad physical and human pattern of Africa: historical aspects of geography including the imposition of colonial organization on resource use and on indigenous cultures. P: 834-355.

416-368 The Geopolitics of World Regions 3 cr.
An examination of the impact of geographic factors on political behavior and relationships. Topics include: concepts such as political space, political territory, the organization of space, and the nature of boundaries. The course also examines modern migration and the effects of political and social processes and examines the impact of regional and national policies on social, economic, and political structures. See 778-358 and 834-368.

416-371 Geography of the United States and Canada 3 cr.
The physical features, resources, population, and economic activities of the United States and Canada. The various regions of the two countries are compared and contrasted. P: 834-371.

416-372 Analysis of the Great Lakes Region of North America 3 cr.
A systematic analysis of the areas surrounding the Great Lakes of the United States and Canada: internal and external relationships: economic activities; regional change and problems. P: 834-371.

416-377 Analysis of Northern Lands 3 cr.
A regional and analytical analysis of the subarctic and arctic areas of North America and Eurasia; regional emphasis on Alaska, Northern Canada, and Scandinavia. P: 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 is investigated with an analysis underlying causes of existing tensions. P: 834-378.

416-380 Geographical Processes 3 cr.
See 296-380.

382 Regional Analysis of Northwestern Europe 3 cr.
See 834-382.

416-420 Soil Classification and Geography 3 cr.
See 296-420.

416-451 Computer Cartography 3 cr.
An introduction to the use of the computer in assisting cartographic production, its advantages, disadvantages, and limitations; the employment of current cartographic display software systems, and the application of computer assisted mapping to geographic problems. P: 416-250 and 416-251 or cons inst.

416-463 Advanced Air Photo Interpretation 3 cr.
Remote sensing is presented as a source of information with particular emphasis on the extraction of land use, landscape, land use and vegetation/information. Aerial photographs are used as a primary information format. Geometry of aerial photography, photo-interpretative techniques, radiate image acquisition, photogrammetry, mapping, and automated classification is applied to information extraction, survey, and major components of the course. P: 416-365 and 416-365 or cons inst.

416-465 Colloquium for Geography 1 cr.
Orientation to geography as a scholarly discipline: its development, objectives, essential concepts, methods of investigation, opportunities, problems and trends. P: geography major in junior or senior year.

416-470 The Glacial Environment and Chronology 3 cr.
See 296-470.

416-483X Selected Topics 1-4 cr.
See page 95.

416-488 Independent Study 1-4 cr.
See page 95.

448 History

448-100 History of the Modern World 3 cr.
An introduction to the history of the world during the past two centuries, and particularly since 1900. Considerable attention is devoted to the period since 1945. The global nature of modern historical changes is emphasized, with special stress on the interaction of Europe, North America, and the societies of Asia, Africa, and Latin America. Major topics include the rise and impact of capitalism, Western expansion and imperialism, the African slave trade, the creation of new states in North and South America, the evolution of colonial empires, the impact of colonization in Asia and Africa, the rise and import of socialism, the industrial and scientific revolution, the development of the modern world system, nationalism and revolution in the Third World, the role of the United States in the postwar world, the evolution of the communist societies, contemporary Western Third World nations, and the state of the world system today.
470-486 Human Histology 3 cr.
A study of the microscopic structure and function of cells, tissues, and organs of vertebrates, with emphasis on the human. P. 204-203 or 478-104; and one upper level vertebrate biology course required.

478-481 Student-Led Courses 1-4 cr.
See page 98.

478-483 Selected Topics in Human Adaptability 1-4 cr.
See page 98.

478-484 Senior Honors Project 3 cr.
See page 98.

478-490 Independent Study 1-4 cr.
See page 98.

479 Nutritional Sciences

479-142 You and Your Food 3 cr.
Consumer related coverage of the nutritional requirements of sedentary populations. Purposes, production, processing, packaging, advertising, and distribution of food; changes in food trends and farm to market to table in order to meet specific biological needs; determination and preservation of foods; uses and abuses of additives; food safety and consumer protection. P. 478-102 or 478-110 or 204-252 required.

479-172 Food Preparation 4 cr.
Principles of food selection and preparation with emphasis on methods which maximize the retention of nutritional value. P. cons inst.

479-250 World Food and Population Issues 3 cr.
An overview of world hunger and population growth as interrelated problems. Describes the dimensions of the world food situation and its ramifications while outlining the efforts of hunger in scope, measures and causes. Examines general strategies and obstacles to the solution of the world food and population problems from the standpoint of conflicting cultural values, differences in educational and socioeconomic levels, technology and total resources. P. 478-102, 478-110 or 204-202 required.

479-281 Student-Led Courses 1-4 cr.
See page 98.

479-283 Selected Topics in Nutritional Sciences 1-4 cr.
See page 98.

479-288 Independent Study 1-4 cr.
See page 98.

479-309 Nutritional Significance of Food 3 cr.
Fundamentals of human nutrition, including functions and requirements of essential nutrients; means of obtaining an adequate diet. Specific attention is given to the needs of infancy, adolescence, adulthood, pregnancy and lactation, and aging. P. one year of high school chemistry or 205 106 and 204-202 required.

479-301 Crop Sciences 2 cr.
Principles of plant science involved in the growth, management, and production of field crops. Biological factors, environment, soil climate and technological foundations of agronomy and crop distribution. P. 204-202 or a course in botany required.

479-302 Nutrition and Culture 3 cr.
Effects of environment and culture on food habits in historical perspective. Role of food in health and disease as related to humans and the biosphere. P. 204-202 or 478-102 required.

479-312 Quantity Food Preparation and Service 2 cr.
Principles of quantity food preparation and service. Laboratory affords experience in equipment and costing of food, Field trips. P. 479-212 required.

479-321 Physiological Chemistry 3 cr.
Principles of physiological chemistry as related to metabolism in living organisms. Credit will not be given for both 479-321 and 479-321. P. 205-301 required.

479-404 Food Science 3 cr.
Standard foods quality, food preferences, food sensory, food desensitization, adulteration, methods of preservation and distribution. Laboratory. Includes qualitative analysis of food and instrumental procedures for various food components, arranged student visits and/or interaction with specific area food laboratories. P. 225-305 or 225-300 required.

479-409 Analysis of Food and Food Products 3 cr.
Laboratory and lecture course studying principles, methods, and techniques necessary for analytical and chemical analyses of food and food products. Analyses and instrumental methods are related to the standards and regulations for food processing. P. 225-301 or 225-304 or 225-301 required.

479-421 Community Nutrition 3 cr.
Nutritional problems of the individual within the context of the larger community—the world, the nation, the region, and the state. Studies methods of assessing nutritional status, agencies, and programs which focus on elevating malnutrition. Addresses the role of nutrition education is addressed. P. 476-302 required.

479-422 Community Nutrition II 3 cr.
Nutrition of the individual within a local ecological setting—the country, city, special population segments, the family. Prevention programs and educational strategies are highlighted. P. 479-421 required.

479-481 Student-Led Courses 1-4 cr.
See page 98.

479-483 Selected Topics in Nutritional Sciences 1-4 cr.
See page 98.

479-494 Senior Honors Project 3 cr.
See page 98.

479-485 Advanced Human Nutrition 3 cr.
Physiological and biochemical principles of human nutrition. Fundamentals concepts of human nutrition and nutritional diseases. P. 479-351 or concurrent registration and 479-400 required.

479-488 Nutrition in Disease 3 cr.
Therapeutic applications of nutrition in the treatment of human disease. Emphasis on familiarization with the medical terminology, etiology, biochemistry and clinical manifestations of disease conditions. Studies the role of food in the nutrition and diet therapy necessary for the treatment of disease conditions and construction of suitable meal plans. P. 479-486, 225-351 or concurrent registration required.

479-488 Independent Study 1-4 cr.
See page 98.

481 Human Development

481-110 Introduction to Human Development 3 cr.
An interdisciplinary approach to the study of human development from conception through early adulthood. This survey covers topics such as physical development, cognitive and emotional development, personality development, and the development of language, intellectual development, and creativity. An introduction to the complex issues in development. Students considering majoring in Human Development should take this course.

481-125 Issues in Human Development 3 cr.
Examine various issues and controversies in human development in order to illustrate how our values influence the process of becoming. Both cultural values (e.g., "individualism") and various theories of development are examined. Focus is on how these various theories influence the process of deciding what is "good" for people and what people "need." Participation is required for Human Development majors. P. 481-202 or 479-351 required.

481-281 Student-Led Courses 1-4 cr.
See page 98.

481-285 Selected Topics in Human Development 1-4 cr.
See page 98.

481-290 Independent Study 1-4 cr.
See page 98.

481-220 Biology of Human Development and Sexuality 3 cr.
See 478-320.

481-321 Human Development I: Infancy and Early Childhood 3 cr.
Current theories, methods of study, and relevant research provide the foundation for studying human development from conception through the preschool years. Internships between the biological, sociocultural, and psychological aspects of development are emphasized. Required core course. P. 481-210 or equivalent.

481-332 Human Development II: Middle Childhood and Adolescence 3 cr.
Individual development from the beginning of the elementary school years through adolescence in the context of the bio- physiological, psychological, and social aspects of development. Internship of behavior from the perspectives of such theorists as Erikson, Freud, and Piaget is stressed. Required core course. P. 481-321.

481-333 Observation and Interpretation of Child Behavior 3 cr.
The behavior and development of young children is studied in depth through direct observation of children in selected situations and in comparison with the observations with theories and established data regarding child development. P. 481-331.

481-334 Play and Creative Activities in Childhood 3 cr.
Concepts of the contributions of play and creative activities to physical, intellectual, emotional, and social aspects of development. Specific contributions of selected creative activities are examined. Audio-visual materials provide opportunities for observation. P. 481-331.

481-335 Introduction to Experience with Young Children 1 cr.
Supervised work with young children in a group situation. Recommended only for those students earning certification in early childhood education. P. 481-331 and written cons inst.

"Meets a requirement for certification in early childhood education in Wisconsin.

481-336 Sex Role Development in Contemporary Society 3 cr.
Developmental analysis of the biological, personality, social and cultural factors contributing to sex role identity and behavior in contemporary society. P. 481-210.

481-339 Woman in the Life Cycle 3 cr.
Introduces the student to the significance of sex and gender as variables in the study of human development and in the interpretation of such studies. Readings include original research in cultural anthropology, the psychology of women, literary criticism, and philosophy. P. 481-210 or 482-101 or 482-102 or 482-103 or 482-104 or 906-202.

481-342 Cross Cultural Human Development 3 cr.
Covers cultural differences in perception, cognition, language and thought, child development, child rearing, and personality. Examines relationships between various aspects of culture (value, economy, ecology, political system) and psychological functioning within both non-Western cultures and American-ethnic subcultures. P. 481-210.

481-480 Tools and Measurements 3 cr.
Methods and problems of measuring human characteristics, including determination of validity, reliability and interpretive scales for such measures. Examination of selected tests in intelligence, achievement, attitudes, interests, and personality. Typical uses of test and review for reviewing tests. P. another course in statistics. See 480-420.

481-480 Theories of Personality 3 cr.
Major ideas and systematic statements about the organization, function, change, and development of human personality. Readings acquaint the student with a variety of personality theories, such as Freud, Adler, Jung, Sullivan, Erikson, Dukker and Miller-Clark, and selected existentials. P. 481-201 and jr. See 480-420.
493-346 The Writings of the New Testament 3 cr.
A study of the origins of the Christian tradition as reflected in the primary texts of that tradition contained in the New Testament. It examines the major divisions of the writings of the New Testament, the role Jesus as recorded in the gospels, the importance of St. Paul and the issues he addressed in the development of early Christianity, and the apocalyptic writings of St. John. Pr. Jr or cons. inst.

493-347 Judith, Christianity, and Islam 3 cr.
The world's three great monotheistic religions; their origins, the experience, the ideas, and attitudes which they share, the features which make each distinct and unique expression and system of belief in the God who is One.

493-348 Non-Western Religions 3 cr.
A study primarily of the two major religions of the East, Hinduism and Buddhism. It attempts to explore the ethical, social, and religious traditions of India and the eastern peoples, emphasizing the influence of Asian thought upon the development of thought and practice in the West.

493-352 Art and Social Thought 3 cr.
An examination of the role of art and art criticism in the modern world. The course focuses on the development of modernist art, both theoretical and practical, and explores the relationship between art and society.

493-353 Utopia and Anarchopsis 3 cr.
A study of the origins, history, and philosophical and political significance of utopian thought in Western culture. The course covers the development of major utopian ideals from Plato to the present.

493-354 Perspectives on Human Values: The Classical World 3 cr.
Focuses on the world of classical Greece and Rome as reflected in its literature. The course surveys the literature in context from soteriology to humanism. It explores the importance of the ancient world to modern civilization.

493-355 Literature and Language Courses 113

493-356 Contemporary German Cultural Life 3 cr.
An introduction to the culture of the four German-speaking countries: the Federal Republic of Germany, the German Democratic Republic, Austria, and Switzerland. It introduces the student to the cultural life of these nations.

493-357 Latin America Today 3 cr.
This course surveys the cultural life of Latin America today, with particular emphasis on the growth of modern Latin American culture.

493-358 The American Look at Each Other 3 cr.
Through the study of Latin American writers and artists, this course surveys the cultural life of Latin America today, with particular emphasis on the growth of modern Latin American culture.

493-359 The English-American 3 cr.
An exploration of the English-American relationship, with particular emphasis on the growth of modern American culture.

493-360 Women and Religion 3 cr.
A study of women's role in religion, focusing on the role of women in religion in the modern world.

493-361 American Indian Art and Architecture 3 cr.
A study of the art and architecture of North America, focusing on the role of women in religion in the modern world.

493-362 American Indian Art and Architecture 3 cr.
A study of the art and architecture of North America, focusing on the role of women in religion in the modern world.

493-363 African History 3 cr.
An introduction to African history, focusing on the role of women in religion in the modern world.

493-364 History of Islam 3 cr.
An introduction to the history of Islam, focusing on the role of women in religion in the modern world.

493-365 History of China 3 cr.
A study of the history of China, focusing on the role of women in religion in the modern world.

493-366 History of Japan 3 cr.
A study of the history of Japan, focusing on the role of women in religion in the modern world.

493-367 History of Korea 3 cr.
A study of the history of Korea, focusing on the role of women in religion in the modern world.

493-368 History of India 3 cr.
A study of the history of India, focusing on the role of women in religion in the modern world.

493-369 History of Southeast Asia 3 cr.
A study of the history of Southeast Asia, focusing on the role of women in religion in the modern world.

493-370 History of the Middle East 3 cr.
A study of the history of the Middle East, focusing on the role of women in religion in the modern world.

493-371 History of South America 3 cr.
A study of the history of South America, focusing on the role of women in religion in the modern world.

493-372 History of Australia 3 cr.
A study of the history of Australia, focusing on the role of women in religion in the modern world.

493-373 History of New Zealand 3 cr.
A study of the history of New Zealand, focusing on the role of women in religion in the modern world.

493-374 History of the Caribbean 3 cr.
A study of the history of the Caribbean, focusing on the role of women in religion in the modern world.

493-375 Cultural Conflict in French Canada 3 cr.
A study of the cultural conflict in French Canada, focusing on the role of women in religion in the modern world.

493-376 Literature and Language Courses 113

493-380 Student-Lect Courses I-4 cr.
See page 98.

493-381 Selected Topics in Humanities 3 cr.
See page 98.

493-382 Senior Honors Project 3 cr.
See page 98.

493-383 Independent Study 1-4 cr.
See page 98.

552/554/556/558 Literature and Language

Please note that each language has a separate curriculum area number. Many courses are offered separately in several languages. The appropriate curriculum area number must be included when completing registration assignments. While the specific content is the discretion of the instructor, the content may be repeated for credit if the content is different each time. Students should check the timetable for specific course offerings in foreign language and literature.

152 ENGLISH-AMERICAN 3 cr.
554 FRENCH 3 cr.
556 GERMAN 3 cr.
558 SPANISH 3 cr.

100 College Writing 3 cr.
An introductory course in the principles of effective composition and critical thinking.

101 Intro to the French, German, Spanish Languages 1, 4, 8 cr.
The first two semesters of language study seek to develop basic oral and written skills in the language. Students may repeat for credit if the content is different each time. Students should check the timetable for specific course offerings in foreign language and literature.

104 Introduction to Literature 3 cr.
A study of the characteristics of literature, focusing on the role of women in religion in the modern world.

105 Expository Writing 2 cr.
A course designed to improve college-level writing skills, focusing on the role of women in religion in the modern world.
107 The Short Story 1 cr.
An introduction to the short story as a literary form. The stories selected may be assigned according to periods, nationalities, or authors.

201, 202 Intermediate French, German, Spanish Language 1, 2 cr.
Intermediate study develops more fully the ability to understand, read and speak the languages. Courses are instructed according to level of achievement. One year of high school foreign language is a prerequisite for one semester of university study. See footnote about retroactive credit. P: 554-562 or 558-102 or equivalent.

206 Women in Literature 3 cr.
The course surveys both women as writers and women as characters in literature. It emphasizes the women's experiences, and the ways their lives have been influenced by their cultural environments, looks at the works from a variety of critical perspectives, and analyzes the values inherent in and/or in contrast to those of the works. The course is considered a part of the literature major.

212 Introduction to Creative Writing: Fiction 1 cr.
A first course in the writing of short stories. This course is intended for students who have some background in literature and a desire to explore the possibilities of the written word.

213 Introduction to Creative Writing: Poetry 1 cr.
A first course in the writing of poetry. This course is intended for students who have some background in literature and a desire to explore the possibilities of the written word.

214 Introduction to English Literature 3 cr.
An introductory course in the study of English literature from the 16th century to the present day. It introduces students to major authors and works, such as Shakespeare, Milton, Defoe, Swift, and others whose works comprise the major heritage of European literature.

215 Introduction to English Literature II 3 cr.
A continuation of the study of English literature from the 16th century to the present day. It introduces students to major authors and works, such as Wordsworth, Keats, Byron, Tennyson, Browning, Dickens, Thackeray, and Trollope.

216 Introduction to American Literature I 3 cr.
An introductory course in the study of American literature from the 17th century to the present. It introduces students to major authors and works, such as Washington Irving, Cooper, Poe, Emerson, Hawthorne, Thoreau, and Melville.

217 Introduction to American Literature II 3 cr.
An introductory course in the study of American literature from the 19th century to the present. It introduces students to major authors and works, such as Whitman, Twain, James, Crane, Eliot, Pound, Fitzgerald, Hemingway, Faulkner, and Cummings.

223 French, German, Spanish Conversation and Composition 3 cr.
Helps develop greater fluency of the language through classroom practice and conversation. Emphasizes on developing ease and correctness of oral expression through discussion and extemporaneous conversations, dialogues, class presentations and debates. Reading of texts. Also includes practice in essay writing and grammar. This is an appropriate course for students with four years of high school language study or two years at the University level. See section on retroactive credit. P: 202 or equivalent.

228X Selected Topics 1-4 cr.
See page 98.

229 Intensive German 15 cr.
An intensive course aimed at developing foundational proficiency in the language. It requires six hours a day, four days a week. Emphasis is on communication. Represents the equivalent of four years of high school French or German. This course is available to students with a minimum high school GPA of 3.0. As a follow-up, students are encouraged to refrain from attending summer school for two years after beginning the course at the University level.

294 Independent Study 1-4 cr.
See page 98.

301 Intermediate Creative Writing 3 cr.
An intermediate course for writers of poetry, fiction, drama and journalism. Begins with a companion of creative writing with their source materials, their students devote writing projects based on research of historical documents or other source materials. P: 322 or 213 or 246-300 or consent of instructor.

302 Fiction Writing Workshop 3 cr.
An advanced course in the study of fiction. A group of student workshop. May be repeated for credit. P: 212 or consent of instructor.

304 Advanced Expository Writing 3 cr.
The study and practice of non-fiction writing of various kinds, including autobiography, argument, descriptive essay, and the formal essay. Particular attention is given to development, organization, and style. The writing and writing assignments of some sections of this course may be focused on a particular area, such as business, education, or professional studies. P: 352-164 or equivalent or consent of instructor.

315 The English Novel: 1700-1860 3 cr.
A survey of the development of the English novel from the beginning of the English language to the early 19th century. Major topics include: the development of the novel, the development of the English language, and the development of the English novel. An introduction to the English novel as a literary form.

316 The English Novel: 1860 to Present 3 cr.
A study of the development of the English novel from the mid-19th century to the present. Major topics include: the development of the English novel, the development of the English language, and the development of the English novel. An introduction to the English novel as a literary form.

325 Advanced Written and Oral Expression in French, German, Spanish 3 cr.
Follows 225. Continues development of fluency through intensive practice and study of the spoken and written language. Stress on accuracy of grammatical structures. Intensive work on building vocabulary and the ability to express oneself freely in the language.

330 Literary Theories 3 cr.
A study of the major literary theories and movements of the 20th century. The course is intended for students with a background in literature. May be repeated for credit when a different theme is studied.

335 Literary Eras 3 cr.
A survey of the major literary periods in English literature. May be repeated for credit with a different theme.

350 Major Foreign Drama 3 cr.
A study of French, German, Spanish drama either by period or by theme. May be repeated for credit with a different theme.

351 Major Foreign Prose Fiction 3 cr.
A study of French, German, Spanish prose, either by period or by theme. May be repeated for credit with a different theme.

352 Major Foreign Poetry 3 cr.
A study of French, German, Spanish poetry either by period or by theme. May be repeated for credit with a different theme.

354 France Today 3 cr.
A study of the contemporary French novel and traditional values and values, the course proceeds to study in as many as possible the contemporary French culture. It is intended for students who have taken courses in French literature and culture. P: 352-164 or equivalent.

356 Contemporary German Culture 3 cr.
An introduction to the culture of the countries of Germany and the German-speaking countries of Europe. P: 352-164 or equivalent. See 453-356.

358 Latin America Today 3 cr.
A study of the contemporary Latin American culture. It is intended for students who have taken courses in Latin American culture. P: 352-164 or equivalent. See 453-356.

378 The Americas Look at Each Other 3 cr.
Through the study of Latin American writers, this course examines the way the Latin American cultures perceive our North American culture. The aim is to provide students with a new and increased awareness of their own cultural environment as it is today. P: 352-164 or equivalent. See 453-356.

411 Shakespeare 3 cr.
The study of a representative selection of Shakespeare's plays, including comedies, tragedies, and histories. Required for English/American literature majors.

434 Major British Writer(s) 3 cr.
A study of one or more outstanding figures in British literature, such as Chaucer, Milton, Blake, Wordsworth, Conrad, Joyce, Virginia Woolf, T. S. Eliot, Elizabeth Bowen, Iona Campagn.

435 Major American Writer(s) 3 cr.
A study of one or more outstanding figures in American literature, such as Melville, Twain, Dickinson, Whitman, F. Scott Fitzgerald, Hemingway, Faulkner, or important themes, techniques, and influences, as selected.

436X Selected Topics 1-4 cr.
See page 98.

480 Seminar in Literature 3 cr.
An intensive study of a major writer, literary movement, literary period, or influence. Extensive research in the chosen topic is required. P: 6 cr.

490 Independent Study 1-4 cr.
See page 98.

553 Academic Support Program Courses

553-479 Composing on the Microcomputer 1 non-degree cr.
A general introduction to the use of microcomputers in the writing process, with particular attention to the use of word-processing software at the present time, in the composition of early stages. No prior microcomputer experience is required.

553-487 Rapid Reading Workshop 1 non-degree cr.
A study of reading strategies that will improve reading speed and comprehension. The course is designed to increase each student's reading rate and improve comprehension. Each student is evaluated using a reading test with standardized norms. The course is available to students who are interested in improving their reading skills.

553-490 Writing Workshop 1 non-degree cr.
A study of the methods and techniques of composition, writing, and the formation of writing groups, the development of important elements of writing, such as structure, language, and style, and the use of ism style, and the use of the correct elements of written communication, such as proper grammar, punctuation, and capitalization. No prerequisites. P: Prerequisite.

553-499 Dealing with the College Experience 1 non-degree cr.
A study of how to deal with the challenges of college life. Explores the methods and techniques of dealing with college life, including time management, study habits, and the formation of study groups. The course focuses on the development of important elements of written communication, such as structure, language, and style, and the use of the correct elements of written communication, such as proper grammar, punctuation, and capitalization. No prerequisites. P: Prerequisite.
575-202 Business and Its Environment 2 cr.
The major functions of the business enterprise and its envi-
ronments of resources, competition, and regulation are studied
by participation in a simulated world of competitive manu-
facturers attempting to accomplish appropriate business goals.
Profit, pricing, financial planning, controls, ethics, environmental
impact, social responsibility, and other important concepts.
Emphasis is placed on how to use the student's awareness of
environmental issues that challenge the business leader.

575-205 Law and the Individual 3 cr.
An introduction to the American legal system, its processes,
language, ethics, and laws from the viewpoint of the individual.
The student is asked to consider what the principles of
our legal system and epochs which directly relate to the indi-
vidual—family, personal injury, property, consumer, criminal,
privacy, probate and probate law.

575-217 Quantitative Methods in Administration 2 cr.
Applications of elementary mathematics including
probability, statistics, linear programming, and games, and
associated models to practical business decisions. The use of
computers is essential. Emphasis is placed on the student's
ability to obtain and examine relevant numerical answers. Theory
is tied to practical business problems. P credit or consent
required. See section in 300-259.

575-281 Student-Led Courses 1-4 cr.
See page 98.

575-283 Selected Topics in Managerial Systems 1-4 cr.
See page 98.

575-298 Independent Study 1-4 cr.
See page 94.

576-300 Introductory Accounting 3 cr.
Basic concepts and terminology of financial accounting: the un-
derlying principles of accounting as well as the processes by
which accounting data are recorded, summarized, and reported,
accounting problems concerned with cost behavior, pro-
fit analysis, and cash budgeting are introduced in the second
half of the course. P: 575-305 and 575-310 must be successfully completed before
taking 576.

575-385 Procedures in Financial Statement Analysis 3 cr.
Examines the theory and practice of the analysis of published financial
statements. The course includes a review of the balance sheet and income statement as well as an in-depth
analysis of such topics as cost and long-term liquidity, flow
analysis, R&D analysis, the analysis of operations and the
problems related to the project of earnings. P: 575-305 & 575-343 or
courses.

575-481 Internship in Business Administration 1-4 cr.
Practical experience in individualized assignments within busi-
gess, government, and social service organizations. Student
may work on either a full-time or part-time basis for compensa-
tion and academic credit according to arrangements reached
with the student and employer. NOTE: Enrollment subject
by availability of internships and interest in available con-
tact program director. P: 5 yr or 3.6 grade point average or better
except by permission of coordinator.

575-498 Independent Study 1-4 cr.
See page 98.

575-301 Intermediate Accounting 4 cr.
Theories underlying financial accounting, practical, special prob-
lems associated with preparation of the income statement and balance sheet; accounting principles underlying the valuation of
inventory, receivables, inventories, long-term investments, fixed
assets, liabilities, and owners' equity accounts; relevant AICPA
and FASB standards. P: 575-300.

575-302 Accounting for Administrators 1 cr.
Accounting concepts and their use in the development and use of
accounting reports and analyses for the managerial purposes of
planning, coordination, and control; cost-volume-profit relationships
between ability to set prices and profit level changes on decision-
making. P: 575-300.

575-312 Managerial Accounting 2 cr.
Principles and procedures utilized in the accumulation of unit data in
an organization; the role of cost accounting in manage-
ment and how cost data are secured in the accounting and
process cost systems; the use of flexible budgeting and
standard cost accounting in the overall context of budgetary

Explores concepts of financial accounting, topics of interest to both
AICPA and FASB, the basic concepts underlying accounting,
statements of changes in financial position, tax allocation,
accounting for leases and pensions, special sales arrangements,
and partnerships. P: 575-301.

Business combinations; principles and techniques involved in the
preparation of consolidated financial statements; special prob-
lems in corporations pertaining to intercorporate inventory
profit, preferential interests and liquidating dividends, "earnings
per share" calculations; accounting for branch operations, and

575-316 Governmental and Institutional Accounting 3 cr.
History of financial accounting; presentation and analysis of
governmental and institutional budgeting and accounting.
AGA and UMBC standards. P: 575-300.

575-410 Introduction to Income Tax Theory and Practice 1 cr.
Federal and state income tax as it applies to individuals, partner-
ships, and corporations; tax and source materials, written
problems; tax planning and tax determination. P: 575-300.

575-411 Financial Information Systems 3 cr.
Principles of systems design with an emphasis on organizational
structure, internal controls; flow charts and the impact of systems on
organizations; analysis of computerized accounting systems; use
of computerized systems to improve accounting and auditing. P: 575-300.

575-416 Auditing Standards and Procedures 4 cr.
Auditing standards, professional ethics, legal liability of auditors.
Auditing procedures as they apply to assets, liabilities, equity as
well as reserves, and financial statements. Includes an examination
of the effect of the computer on auditing, statistical sampling, and
internal auditing. P: 575-411 or consent.

575-418 Advanced Managerial Accounting 3 cr.
Critical problems in decision making which include cost-volume-
breakdown analysis, break-even analysis, differential and comparative
cost, capital budgeting, and risk performance measurements and
control procedures for the business environment. P: 575-416 or
consent.

575-420 Personal Finance 3 cr.
An examination of a variety of consumer problems encountered by
individuals and families. The course presents an understanding of
consumer behavior and the legal aspects of consumer rights.

575-421 Personal Finance 3 cr.
An examination of the consumer's role in the economy, the
consumer credit market, and the legal aspects of consumer
rights.
575-415 Advanced Income Tax Theory and Practice 3 cr.
A study of advanced topics in income tax on both the state and federal levels. Primary emphasis is on federal tax law relating to corporate, estates, trusts and partnerships, including both tax planning and determination. P: 575-300, 575-416.

Marketing
575-320 Basic Marketing 3 cr.
As an overview of the marketing system and the managerial techniques used to market goods, services, and/or organizations. Analysis of the relationships between marketing activities and economics, political, and social institutions; understanding the actions of consumers, and making appropriate product, promotion, price, and distribution decisions. P: as.

575-355 Principles of Public Relations 3 cr.
External relations of the business enterprise or governmental unit, and influence of the public and the effects of their actions on the conduct of the unit.

575-387 Selling and Sales Management 3 cr.
Covers principles and techniques of successful selling that relate to the mutually profitable relationship between customer and seller. Emphasis is placed on the nature and scope of sales management, specifically training, selling and directing sales personnel, the use of communication between customer satisfaction and the relationship of company philosophy to the sales force, and fundamentals of communication process. P: 575-312 or cons inst.

575-422 Principles of Retailing 3 cr.
Management practices in the operation of retail and wholesale enterprises. Failure of retailing in the U.S., basic requirements for successful store management, opportunities and careers, store location, building, fixtures, equipment, inventory, layout, organizational structure, personnel management, merchandise management, sales promotion and customer service, controls, coordination and management. P: 575-322.

575-423 Principles of Advertising 3 cr.
Types of advertising and their characteristics; planning, execution, and evaluation of advertising campaigns. P: 575-322.

575-424 Marketing Research 3 cr.
The techniques of collecting and analyzing information about marketing problems. Obtaining data from primary and secondary sources, and interpreting the data for marketing decisions. Development of market demand placement tools to test the feasibility and relevance of a proposed new small business or the expansion of an existing enterprise. P: 575-292 or cons inst.

575-425 Promotional Strategy 3 cr.
Analysis of the environment in which persuasive efforts take place. Appropriate concepts from communication theory. The promotional tools that can be used to communicate a variety of products to various publics; services, ideas and institutions are treated from a promotional system perspective. P: 575-292 or cons inst.

575-426 Marketing Management 3 cr.
Contemporary environmental issues and management problems faced by marketing management. Analyzes analytical abilities. P: 575-292 or cons inst.

575-436 Consumer Behavior 3 cr.
Includes an in-depth analysis of various theories of buyer behavior including ultimate and industrial consumers, implications for marketing management are stressed. P: 575-322.

575-429 Marketing Strategies for Non-Business Institutions 3 cr.
The application of marketing concepts and strategies to the problems faced by non-profit institutions in their operations, including foundations, civic groups, agencies. Current literature is analyzed and field experience is gained in solving institutions' problems. P: 575-322.

Finance
575-343 Corporation Finance 3 cr.
Organization for management of finance of business units; management of fixed and working capital; short-and long-range financial planning, money and capital markets failures (reliqusan; P: 575-360.

575-344 Real Estate Principles and Practices 3 cr.
A survey of the subject of real estate. Examines the importance of land, the role of investment in real estate, and the importance of mortgage instruments. Special attention to the theory of real estate valuation, real estate finance, and real estate investment. The impact of taxation, marketing, and securing and current legislation affecting real estate are examined. A broad survey course, not intended to prepare students for the real estate licensing examination. P: 575-343.

575-345 Principles of Risk Management 3 cr.

575-347 Management of Financial Institutions 3 cr.
An analysis of the role of financial institutions in our economy in forming and managing capital resources. The course examines the processing of financial intermediation and intermediaion. Various types of financial institutions, such as commercial banks, credit unions and insurance companies are studied in terms of their financial organization, structure and their investment management strategies. P: 575-343.

575-410 Problems of Investment 3 cr.
Principles and problems of the creation and management of investment portfolios, meeting investment needs of personal and institutional investors, reducing investment risks inherent in investment; inflation, depression, and money market fluctuations. P: 575-347.

575-443 Financial Planning and Control 3 cr.
The effective management of working capital: analysis and presentation of financial data for planning, control, and for dealing effectively with the financial decisions of management. P: 575-343.

575-444 Financial Decisions and Federal Taxes 3 cr.
The course examines federal tax承德ies necessary to facilitate planning and financial decisions, and to acquaint the student with how substantially different tax liabilities can attach to nearly identical economic events. In addition to teaching tax law, the course examines tax considerations in selecting a business form, solving capital gains and loss problems, buying and selling real estate, acquiring and disposing of fixed assets, workouts and disputing corporations, and choosing accounting methods. Not aimed at preparing tax practitioners. P: 575-343.

575-456 International Finance 3 cr.
The course examines the issues of foreign exchange rates, international capital flows, risk management, and the financial management of multinational enterprises. P: 575-347.

575-457 Advanced Corporation Finance 3 cr.

575-445 Security Analysis 3 cr.
Expanded discussion of fundamental and technical analysis within the framework of efficient markets and uncertainty. Modern portfolio theory and techniques for analyzing portfolio returns for risk are examined in detail. Development of overall investment strategy within the environment facing the investor or portfolio manager. P: 575-445.

575-446 Financial Management of Nonprofit Organizations 3 cr.

575-447 Bank Administration 3 cr.
Introduction to the management of financial institutions and to the management of the financial institution. P: 575-340.

575-385 Management of the Nonprofit Organization 3 cr.
The operation and management of organizations that operate within the stated for purposes other than generating profits for owners or shareholders. Models such as the hospital and the university focus on the operational principles, optimizing external and management control techniques characteristic of such institutions. In addition to examining the areas of accounting, finance, marketing, organization, and personnel, the nonprofit organization is examined in the context of the internal and external stakeholder expectations and the political and economic conditions in which it operates. P: 575-384 or equivalent ex. P: 575-384 or equivalent ex.

575-390 Managerial Finance 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-391 Small Business Management 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-392 Behavioral Science Applications for Managers 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-393 Business Ethics and Social Issues in Business 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-394 Ethics and Social Issues in Business 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-395 Behavioral Science Applications for Managers 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-396 Business Ethics and Social Issues in Business 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-397 Business Ethics and Social Issues in Business 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.

575-398 Business Ethics and Social Issues in Business 3 cr.
The course examines the principles and concepts concerning the development and operation of small businesses. P: 575-380.
575-442 Seminar in Personnel Management 3 cr.
Introduction through discussion of personnel problems and experiences which can be translated into developing corporate personnel policies. Case studies related to urban, cultural, and legal realities along with making decisions which affect the administration and development of personnel policies are included. P. 575-362 or cons. ins.

575-461 Labor Legislation and Administration 3 cr.
Federal and state workplace and administrative regulation of social legislation and benefit programs; other regulations, including: workers’ compensation, unemployment compensation, social security, and labor laws with respect to women and children. P. 575-320 or cons. ins.

575-467 Fundamentals of Compensation and Benefits Planning 3 cr.
Examines theories of compensation and work motivation, their impact on various reward systems, and the rationale for decisions affecting the selection of benefits. Case studies illustrate the problems in choosing benefits, communicating to employees groups, and cost factors in making benefit decisions. P. 575-362.

575-465 Managerial Economics 3 cr.
Application of the basic theoretical tools of economic analysis microeconomics, market analysis, industrial organization, and microeconomics to problems of production, including topics on demand, production, costs, pricing, forecasting, etc. Current economic issues of interest to the manager, such as environmental policies and regulations are discussed. P. 575-302, 203 and 204 ins.

575-468 Small Business Financial Analysis 3 cr.
Prerequisites is small business development research related to determining the feasibility of proposed businesses regarding the developer’s objectives and choosing market targets suitable to the economic, political, physical, ethical, and environmental constraints of the site and the industry. Determination and analysis of student proposed small businesses relative to development costs, operating expenses, financing arrangements, and computerized cash flow projections. P. 575-264 and 575-320 or cons. ins.

575-478 Rational Decision Making in Administration 3 cr.
Through case analysis of actual cases in which business decisions are made, rational process techniques are developed for making administrative decisions in business and government. P. 575-362.

575-489 Problems of Business Management 3 cr.
Contemporary problems in business and public administration. In addition to lectures, class exercises, and readings, the student undertakes a major project paper which requires a contemporary administrative problem to an organizing or creative business or administrative organization. P. 575-362 or cons. ins.

Nonprofit Organization Management

575-319 Governmental and Institutional Accounting 3 cr.
Accounting theory and practice unique in governmental and institutional jurisdictions; control of revenues and expenditures through budgets and statements; comparison with commercial accounting, including revenue and expense of nonprofit bodies. P. 575-304.

575-385 Management of the Nonprofit Organization 3 cr.
The operation and management of organizations that operate within our society for purposes other than generating profit for owners or shareholders. Models such as the hospital and the university focus on the operational principles, optimizing criteria and management control techniques characteristic of such institutions. In addition to examining the areas of accounting, finance, marketing, organization, and personnel, the nonprofit organization is discussed in terms of its social responsibility and the ethical conditions in which it operates. Case studies used in a seminar format. P. 575-304 or cons. ins.

575-409 Marketing Strategies for Non-Business Institutions 3 cr.
The applicability of marketing concepts, strategies and techniques to the problems faced by non-profit institutions in their attempts to relate to various societal needs. Relevant current literature is analyzed and firsthand experience is gained in institutional problems. P. 575-320.

575-448 Financial Management of Nonprofit Organizations 3 cr.
Applies the theory and methodology of finance to a variety of financial situations. The human services/ non-profit organization and its decision making is in an understanding of decision making appropriate to securing financial resources for operating and effectively allocating those resources among competing needs. This course examines such topics as: grantmanship, fund raising, pricing of services, income from investment, managing endowments, financial planning and budgeting (including performance budgeting, zero-based budgeting and program planning), program feasibility analysis and program performance, maintenance. Case studies are used to provide experience in applying theory and concepts.

600 Mathematics**

600-101 Intermediate Algebra 3 cr.
Preparation for 600-104; for students with high school background of first-year algebra. Properties of the real numbers; solving linear and quadratic equations and inequalities; polynomials; fractional expressions and equations; exponential and logarithmic functions, polynomials and roots; systems of linear equations. P. one year of high school algebra and satisfactory placement score.

600-104 Elementary Functions: Algebra and Trigonometry 1 cr.
For the student whose mathematical background is inadequate for 600-202. The real number system; equations; functions and their inverses; exponential and logarithmic functions, trigonometric and inverse trigonometric functions; complex numbers; polynomial and rational functions; systems of equations. P. 600-101, or two years of high school algebra and satisfactory placement score.

600-151 COBOL I: A Business Data Processing Language 3 cr.
Introduction to COBOL, the predominant computer language for commercial applications. P. 600-151 or two years high school algebra and satisfactory placement score.

600-185 Computers and Microcomputers 3 cr.
Accredited for computer science designed to develop an understanding of computer concepts, computer systems, use of computer software and computer programming techniques. Examines the use of computer science as it is used by computers and microcomputers in the work setting. Students select existing software packages to gather, display, and interpret information. The programming language BAKUSCO is taught. P. 600-101 or 2 yrs. high school algebra and satisfactory placement score.

600-201 Calculus for the Management and Social Sciences 3 cr.
The basic concepts and techniques of differentiation and integration. Applications to the fields of economics, marketing, finance, and management are emphasized. Full credit is not given for both 600-201 and 202. The student who enrolls in 600-202 after receiving credit for 600-201 will receive 1 credit for 600-202. P. 600-101 or 2 yrs. high school algebra and satisfactory placement score.

600-202 Calculus and Analysis I 3 cr.
Differential and integral calculus of the elementary functions with associated analytic geometry. Applications. P. 600-104 or satisfactory placement score. (See note on credit in 600-201.)

600-203 Calculus and Analysis II 4 cr.
Differential and integral calculus of the elementary functions with associated analytic geometry. Applications. P. 600-202. (Unsatisfactory for economics majors.)

600-204 Calculator Calculus 1 cr.
Provides students with empirical examples which illustrate the theory of Calculus I. Students are supported with programmed calculators, trained to write and execute programs, and directed to conduct mathematical experiments. Laboratory sessions cover material from Calculus I, including limits, derivatives, and the mean value theorem. Graphing, integrals, etc. P. 600-202 or concurrent registration.

*A prerequisite is essential, satisfactory performance. In most mathematics courses, a grade of "C" is sufficient; to enroll in a grade of "B" is advisable.

500-000 Multivariable Calculus 3 cr.
Real-valued functions of several variables; tangent and normal lines; chain rule for partial derivatives; extrema; least squares method; higher-ordered derivatives, integration; polar and cylindrical coordinates; vector fields, line integrals, physical applications. P. 600-202.

500-242 Discrete Mathematics 4 cr.
A first course in methodology with discrete mathematics structures. Fundamentalness of enumeration, partitions, algebraic counting techniques, generating functions, recurrence relations, graph theory, and combinatorial designs. Selected special topics. P. 900-104.

500-255 FORTRAN: A Scientific Programming Language 2 cr.
A thorough introduction to FORTRAN programming and the design of elementary algorithms. Includes integral, real number, and spline interpolation processing; one, two, and three-dimensional arrays; CHAINLIST; iterations; subprograms. P. 600-202.

500-256 Introduction to Computer Science 3 cr.
Designed to develop an understanding of basic concepts of computer science. Topics include problem solving, algorithmic processes, data structures and introduction to programming in a high level language using techniques of good programming style. Assignments include the use of applications in the physical, social, life, and management sciences. P. 600-101 or 2 yrs. of high school algebra and satisfactory placement score.

500-257 Introduction to Computer Science 3 cr.
Continues the development of discipline in program design, style and expression, as well as debugging and linking begun in 600-256. Students are introduced to larger programming projects covering such topics as assembly computing, recursion, internal aspect of FORTRAN methods, simple data structures, machine organization, and assembly program. Algorithm analysis, documentation, role of subroutines and other techniques used in advanced programming projects are also studied. P. 600-256.

500-260 Introductory Statistics 3 cr.
Descriptive and inferential statistics, frequency distributions, graphical techniques, measures of central tendency and dispersion, probability distributions, large and small sample estimation and inference, regression, correlation, analysis of cause and effect, analysis of variance. P. 500-101 or two years of high school algebra and satisfactory placement score.

500-281 Conceptual Foundations of Elementary Mathematics I 3 cr.
Continues the overview through the mathematics curriculum of the elementary school. Emphasis placed on the foundations of arithmetic. The processes of abstraction, symbolic representation, relational manipulation and modeling will be explored in all arithmetic contexts. Significant features of the discipline of mathematics will be discussed. May not be taken on a pass/credit basis. P. 500-101 or high school algebra and satisfactory placement score.

500-282 Conceptual Foundations of Elementary Mathematics II 3 cr.
Continuation of Math 281. This course examines non-uniform mathematical topics of elementary education, including geometry, probability, statistics, algebra, and programming concepts. May not be taken on a pass/credit basis. P. 500-281 or high school algebra and satisfactory placement score. P. 600-281 or concurrently.

500-283 Selected Topics 1-4 cr.
See page 36.

500-289 Independent Study 1-4 cr.
See page 36.

500-306 Ordinary Differential Equations 3 cr.
Solutions and applications of first and higher order linear differential equations; the meanings of existence and uniqueness theorem, non-linear differential equations, modeling physical and biological systems. P. 600-203.

500-309 Systems of Ordinary Differential Equations 3 cr.
600-311 Advanced Calculus 3 cr.
Jacobian: transformation of coordinates; functional dependence; constrained extrema and Lagrange multipliers; limits, surface, volume, and plane integral scalar and vector fields; gradient, divergence, and curl; divergence theorem; Stokes' theorem. P: 500-299 and 320.

600-312 Real Analysis 3 cr.
Basic concepts of real analysis; sets and functions; topology of the real numbers; sequences and series of real numbers; limits of functions; the derivative, the Riemann integral, sequences and series of functions. P: 600-209 and 320.

600-320 Linear Algebra 3 cr.
Matrix and vector space concepts; Systems of linear equations, matrices, determinants, vectors in 2 and 3-space, vector spaces, linear transformations, eigenvalues, and eigenvectors. P: 600-390.

600-321 Linear Algebra II 3 cr.

600-328 Introduction to Algebraic Structures II 3 cr.
Groups, rings, and fields as organizing ideas. Basic structure theorems. Applications. P: 600-320 and 325.

600-340 Numerical Analysis 3 cr.
Application and optimization in the solving various mathematical and engineering-related problems. Types of problems to be considered are: solutions of equations, factorization of polynomials, solutions of systems of equations, interpolation, curve fitting, differentiation, integration, and solutions of differential equations. Indications on writing computer programs to solve some of these problems. Interpolations will be made among various techniques to determine errors in approximation schemes, advantages and disadvantages of applying a particular technique to a particular problem, and the intended nature of some methods. P: 500-203, 600-320 or concurrent registration in 659-320 and FORTRAN ability.

600-351 Data Structures, Storage and Retrieval 3 cr.
An introduction to concepts involved in storage, retrieval, and processing of data for use in computer applications. Included are structures such as arrays, stacks, queues, linked lists, trees, and networks. Particular emphasis is placed on design of efficient algorithms that use these different structures for various processing needs. These include searching, sorting, evaluation of arithmetic expressions, construction of symbol tables, and memory management. P: 990-257.

600-352 Computer Graphics 3 cr.
Basic terminology of computer graphics, such as point and line picking, clipping, and windowing are introduced and the use of graphics drivers is illustrated. Students use and build graphic packages. P: 600-287.

600-353 Computer Organization and Programming 3 cr.
An introduction to binary, octal, and hexadecimal number systems, and data representation. A study of assembly language programming, including actual assembly language programming exercises. Includes an overview of computer software and hardware components. Topics considered are assemblers, booters, compilers, memory organization, and applications of Boolean algebra to circuit analysis. P: 600-287 and a background in algebra.

600-359 Applied Mathematical Optimization 3 cr.
Analytical and numerical optimization techniques: linear, non-linear, integer, and dynamic programming. Applications. Solutions of programming problems: problems of world, forest, air, and solid waste management, P: 600-202 and 320, or concurrent enrollment in 320.

600-397 Theory of Programming Languages 3 cr.
Several commonly used high-level programming languages will be used for instruction. The advantages and disadvantages of compiling and interpreting will be discussed. Language design and syntax will be studied. Other topics include data structures, storage allocation, and error handling. P: 600-290.

600-394 Probability Theory 0 cr.
Probability as a mathematical system, with applications: basic probability theory; combinatory analysis; distribution functions and their properties; expectation and variance; probability laws; independence of events; random variables, probability laws random variables. P: 600-290.

600-361 Mathematical Statistics 3 cr.
Sample moments and their distributions; tests of hypotheses; point and interval estimation; linear regression and nonlinear hypotheses; parametric methods; sequential methods. P: 600-390 and 360.

600-364 Biomathematics 4 cr.

600-385 Foundations of Geometry 3 cr.
Introductory and deductive introductions to Euclidean, affine, hyperbolic, spherical, elliptic and projective geometries. P: 600-260.

600-410 Complex Analysis 3 cr.
Analytical and geometry of complex numbers; analytic functions; elementary transformations, integration, Taylor and Laurent series, contour integration, residues, conformal mapping. P: 600-208.

600-416 Orthogonal Functions and Partial Differential Equations 3 cr.
Fourier series, Fourier transforms, orthogonal functions, Legendre and other orthogonal polynomials, Bessel functions, spherical functions, and Legendre functions, and values. Green's function; wave equation in one and more dimensions. D'Alembert's solution: separations of variables; solutions of boundary value problems; waves in membranes; heat flow, electric flow, P: 600-305 and 320.

600-456 Theory of Algorithms 3 cr.
Introduction to design, analysis, and comparison of algorithms along with average and worst case time complexities. Includes divide and conquer techniques, greedy algorithmic methods, dynamic programming, and graph searching. Applications (optional: max-minimization with constraints [knapsack problem]; job sequencing, matrix and set using multifunctions, ask-assigning, optimal tape storage, graph coloring, processor scheduling, inventory-saturation problem, and others). A class of nonpolynomial time-completeness problems called NP-complete problems is also discussed along with algorithms to approximate solutions to these problems when the search for exact solutions is not feasible. P: 600-208 and 600-350.

600-451 Data Base Management Systems 3 cr.
A project-oriented course. Each student is responsible for designing and creating a real data base using the Data Definition Language contained in the computer's Extended Data Management System. The project is to include a program capable of entering information into the data base and extracting information from it to be output as report form. The project uses the same Data Definition Language and Data Base Manager calls that administrative programs use in the existing student and library databases. The data base itself is a network type based on the CODASYL data base model. P: 600-361 and CSCI 300, ability.

600-452 Operating Systems 3 cr.
An introduction to operating systems, techniques, and principles behind management of computing resources. Topics include memory management (paging, real and virtual storage), process management (preemptive and nonpreemptive), auxiliary storage management (disk, file structures, recovery, backup); and case studies of some popular current operating systems. P: 600-350.

600-454 Artificial Intelligence 3 cr.
A study of methods used to improve the performance of computers in those tasks which require "intelligent" recognition of abilities, ability to understand language, interpretation of visual images, problem-solving, and manipulation of machinery. A list processing language (LISP) is used. P: 600-351, 600-357.

600-455 Microprocessors and Microcomputer Systems 3 cr.
An introduction to the computer systems, microprocessors, microcomputer interfacing, and microcomputer programming. P: 226-104 and course in computer programming.

600-455 Advanced Topics in Microcomputers 3 cr.
A lecture/labatory course on the hardware and software techniques for interfacing instruments and peripheral devices to a microcomputer, development and use of system software; and advanced programming of microcomputer systems. P: 600-455 or coreq in.

600-671 Compile Theory 3 cr.
A project-oriented course involving software concepts, focused primarily on the theory of compilers. Students study theory to be covered in several different chapters or substantially modifying a compiler includes formal language definition, grammars, symbols, tables, error handling, parsing, arithmetic expressions and procedural languages. P: 600-355.

600-681 Business and Industrial Statistics 3 cr.
A statistical method is commonly applied in business and industry. Topics covered are quality control, control charts and acceptance sampling, multiple regression, time series, forecasting and forecasting; index numbers. P: 600-269.

600-453 Selected Topics 1-3 cr.
See page 98.

600-492 Special Topics in Mathematics 1-3 cr.
This course brings together students and professors who have mutual interest in some topic not otherwise available among the usual mathematics offerings. Examples are: Number Theory, History of Mathematical Thought, Mathematical Logic, Combinatorics, Computer Graphics, Computer Architecture, Compiler Software, Operating Systems, Data Management, Simulation and Modelling, Artificial Intelligence, Equations Analysis and Prediction, Mathematical Biophysical Sciences, Modelling of Economic Growth, Mathematical Models of Facilities Location, Mathematical Methods for the Life Sciences. P: 5 of 5 academic yrs.

600-880 independent Study 1-4 cr.
See page 98.


601 Advanced Support Program - Mathematics

601-093 Arithmetic Review 1 non-degree cr.
A review of the arithmetical concepts needed for 601-094. Topics include operations with decimals, percent, fractions, and integers, with special emphasis upon practical applications. It will be taught in a modular form through lectures and tutoring sessions. No prerequisites. P: 400-level.

601-094 Elementary Algebra 3 non-degree cr.
Intended as a preparation for Math 101. Topics include linear equations, solving equations, solving inequalities, absolute value, and operations with rational expressions. Offered on pass/no-credit basis except by petition. No prerequisites.

644 Military Science

644-102 Exercise Leadership 1 cr.
See 742-102.

644-211 Introduction to Military Science I (NS I) 11 cr.
(Pre-Professional Course) Introduces first year students to the ROTC program. (An overview of Army ROTC, the Department of Defense and the Army's tasks and roles in national defense and community activities. Provides fundamental knowledge and applicable skills in map reading, radio and telephone procedures, CPTF, and orienteering through practical application in the classroom and field. Includes a summary of Army branches and their responsibilities and roles as part of the Army team.

644-212 Introduction to Leadership and Navigation (NS II) 2 cr.
(Pre-Professional Course) Expands upon interims in NS I. Provides a foundation in understanding leadership and management theory and how it applies in military and civil environments. A continuing of fundamental knowledge and skill in first aid, basic marksmanship training, and survival and first-aid techniques. Provides a review of the Army's role in national defense and community service and an overview of the professional organizations, units, skills and training contributing to the professional success of our organization.
707 Applied Music

707-304 Brass Techniques 2 cr.
Leads to advanced techniques in the performance of brass instruments including trumpet, trombone, French horn, and tuba. Requirements are performance proclivities of all instruments and completion of a reference syllabus. P. Pr. st.

707-343 String Techniques 2 cr.
Leads to advanced performance in the performance of string instruments including violin, viola, violoncello and bass. Requirements are performance proclivities of all instruments and completion of a reference syllabus. P. Pr. st.

707-344 Choral Techniques 2 cr.
A course addressed to the problems of conductors of school choirs and choirens, and to students who wish to improve their understanding of the art of choral singing. Its design and content are intended to deal with the principles, techniques and methods of choral conducting. Areas of particular concern are: tone, intonation, reharmonization techniques, planning and organization. P. Pr. st.

707-345 Percussion Techniques 2 cr.
Leads to advanced performance in the performance of percussion instruments including snare drum, tympani, and ecosistos. Requirements are performance proclivities of all instruments and completion of a reference syllabus. P. Pr. st.

707-346, 347 Keyboard Accompaniment I, II, 1 cr.
Principles of accompanying the vocal soloist and the choral ensemble at the piano, including laboratory experience in various types of accompaniment. P. 707-042.

707-351 Literature and Styles in Music I 4 cr.
Provides historical and theoretical examination of music literature and musical style in the 19th century. Music and musical attitudes are also viewed in the perspective of other arts as well as in relation to their social and cultural milieu. Related ear training and sight-singing skills are developed and students also do some "composing" in the Romantic style. P. 705-252.

707-352 Literature and Styles in Music II 4 cr.
Involves a historical and theoretical examination of music literature and musical style in the 20th century. Music and musical attitudes are also viewed in the perspective of other arts as well as in relation to their social and cultural milieu. Related ear training and sight-singing skills are developed and students also do some "composing" in the 20th century style. P. 707-352.

707-411, 412 Composition I, II, 3 cr.
Exercises and original compositions on media from solo to quintet. In forms from binary to sonatina, etc., depending on the needs of the individual students. P. 705-202.

707-417 Arranging for Jazz Ensemble 2-3 cr.
Develops the students' skills in arranging music for jazz ensembles. Prerequisites are the musical knowledge necessary to write an effective jazz arrangement. Pr. four semesters of music or equivalent background.

707-423 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 will carry more than one credit during the semester.

707-431 Jazz Ensemble Techniques 1 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 clinicians and lectures in jazz theory, arranging, improvisation, piano, bass, guitar, drums, trombone, and saxophone. During the second week, some time will be devoted to watching guest directors for the UWBM sum- mer jazz camp work with their ensembles. P. Pr. st.

707-493 Selected Topics I, II, 1-4 cr.
See page 88.

707-498 Independent Study I, II, 1-4 cr.
See page 88.

707-190 Movement for Theater 3 cr.
An experimental course in non-verbal communication especially designed for those interested in the performing arts. Course work is based on a number of mind-body techniques, e.g., modern dance, circus, mime, sensory awareness, voice/physical im- provisation, bioenergetics, which students can apply to their sub- sequent work in a number of areas, including dance, theater, music. Learning experiences progress from free form movement expressions, to developing and using a concrete technique, and finally to applying that technique to the communicative experience.

707-231 Intermediate Acting I 3 cr.
Scene work in realistic dramas, with particular emphasis on the plays of Chekhov and Ibsen. Techniques of script analysis and character development are practiced. P. 707-132 or cons inst.

707-232 Intermediate Acting II 3 cr.
Scene work in modern American and British comedies, including plays by Neil Simon and Noel Coward. Techniques of intros- pecting, comic invention and characterization are practiced. P. 707-231 or cons inst.

707-331 Advanced Acting I 3 cr.
Scene work in poetic drama and period plays emphasizes tech- niques of scene interpretation, research into production history and performance styles, and use of appropriate movement, man- ners and behavior. P. 707-232, or cons inst.

707-332 Advanced Acting II 3 cr.
The actor's role in contemporary theater and experimental theater is studied and experienced through research into avant-garde theater companies and development of a performance group. P. 707-232 or cons inst.

Developmental Drama

707-376 Principles of Developmental Drama 3 cr.
Developmental drama is the application of dramatic play to the total personal development of the individual. This course offers a definition 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. 707-351, 707-132 or cons inst.

707-376 Application of Developmental Drama 3 cr.
Developmental drama techniques are practiced, and methods of organization are studied. Through work in the Green Bay community, elements in applying developmental drama suggest methods of leadership, defining objectives, and using dramatic play as a basis for social interaction, education, and therapy. P. 707-376.

Voice and Speech

707-233 Voice for the Actor 13 cr.
Introduction to principles of vocal training systems, which are widely used in actor training and which provides students with a working knowledge of their vocal and physical capabilities. Work on breathing, posture, projection, and development of warm-up procedures. Detailed work in the systems as appropriate.

707-334 Voice for the Actor II 3 cr.
Development of key concepts of vocal and physical exploration. Application of vocal techniques to problems facing the performer, control of rhythm, rate, volume, word stress, text analysis, narrative procedures and audition; preparation P. 707-233.

Dance

707-137 Beginning Ballet 2 cr.
Introduction to techniques of dance technique of ballet, specifically to the theories and practice of the ballet genre. Recommended to 6 credits.

707-137 Beginning Ballet 2 cr.
Development of strength, flexibility, coordination, rhythm, and correct body placement as these elements pertain to the tech- nical and stylistic demands of ballet upon the human body. Re- peatability up to 6 credits.
705-145 Beginning Modern Dance 2 cr.
The use of the medium of modern dance both technically and stylistically to develop strength, flexibility, coordination, and rhythmic feeling in the human body which leads to physical self-expression. Repeatable up to 6 credits.

709-222 Intermediate Jazz Dance 1 cr.
Continued study, analysis, and production of jazz dance. A study of the styles of major choreographers in the American musical theater. P: concurrent enrollment in ballet and modern dance. Repeatable up to 4 credits.

709-237 Intermediate Ballet 2 cr.
A progression from Elementary Ballet with more complex rhythmic, spatial, and technical problems. Introduction of character work for women; importance of body lines to technical development with the relationship of weight and line emphasized. P: 10 crs. min and/or 2 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. Incorporates advanced understanding, and execution of major modern dance styles. Importance of body lines to technical development with the relationship of weight and line emphasized. P: concurrent enrollment in either ballet or modern dance. Repeatable up to 5 credits.

709-337 Advanced Ballet 2 cr.
A progression from Intermediate Ballet with advanced technical problems, study and analysis of various ballet pieces, emphasis on Ore pointe work for women, partnering, and ballet performance techniques. P: 10 crs. min and/or Intermediate Ballet. Repeatable up to 10 credits.

709-340 Dance Techniques 2 cr.
Technical ballet forms improvised into modern interpretations. In depth study specializing in a particular style. P: 709-237 and 709-255 or 709-245.

709-345 Advanced Modern Dance 2 cr.
Progression from Intermediate Modern Dance to a high proficiency level of modern dance. Emphasis on performance level of ability in modern dance. P: concurrent enrollment in ballet or Intermediate Modern Dance. Repeatable up to 10 credits.

709-440 Choreography 2 cr.
Technical terminal applications for composition of movement for school and professional use. In-depth study of rhythm, pattern and their relationship to movement, as well as creative content, musical interpretation, projection, and dynamics. Movement and placement for large ensemble is included. P: 709-415 and 709-288 or 709-237 or 709-245.

Technical Theater

709-220 Stage Management 1 cr.
Acquaints students with the procedures and functions of both the professional and nonprofessional stage manager. It takes service students who in other capacities will be in contact with stage managers as they analyze and the reports, functions, and usefulness of the stage manager’s position. Skills such as department organization, scheduling, procedure, and budget responsibility are gained which may be isooted in other fields as well as theater.

709-221 Theater Production Techniques I: Stagecraft 3 cr.
Lectures and laboratories in the organization and operation of theater productions, with emphasis on beginning stagecraft, lighting, sound, and scenic design. Participation in a theater production (minimum of 48 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 professional study and composition of the style and technical use of costumes, makeup, and an introduction to costume design. Participation in a theater production (minimum of 40 hours). Required of students with an emphasis in theater.

709-231 Scene Design 3 cr.
Concentration on the practical techniques of scene design. Lectures and laboratories on the skills of mechanical drawing, rendering, and modeling building in the theater. Develops capability to visualize and mechanical environment to support the presentation of theater pieces. Plays are studied and design assignments and individual projects are required.

709-322 Costume Design 3 cr.
History of costumes as they relate to specific historic costume in relation to the play and the actor. A study of the process behind costume design with emphasis on fabric, color and line, mass, and light. Participation in a theater production (minimum of 40 hours). P: 709-221, 2 crs. min.

709-333 Lighting Design 3 cr.
The aesthetic principle of design of lighting in theatrical production. The study of composition and psychological effects of stage lighting. An understanding of contemporary equipment and control systems with supporting laboratory practice. Individual projects and participation in a theater production (minimum of 40 hours). P: 709-221, 2 crs. min.

709-335 Three Dimensional Stage Makeup 3 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: 709-221, 2 crs. min.

709-423 Advanced Scene Lighting 3 cr.
The aesthetic principle of lighting in theatrical productions, with emphasis on the use of lighting for the lighting designers union exam. Practical application of the tools used in lighting. Advance and individual projects required. Continuation of 709-223. P: 709-221, 1 & 233.

709-424 Advanced Technical Practice 3 cr.
Studies in modern theater technology, electronics, optics, and stage mechanics with an emphasis on the artistic potentialities contained by these developments. Individual projects and participation in a theater production is required. P: 709-222, 325 or 305.

Theater History/Literature/Criticism

709-205, 330 Theater Performance in the Community 1-2 cr. ea.
For students who wish to experience participating in a theater production with the opportunity to become involved in their area of greatest interest. May not be performance as well as technical work in plays, dance, or theater students perform in high school, for children, or for community groups. May be repeated for a total of 6 credits or 2 credits of 205 and two credits of 330 and credits of 305.

709-300, 310 Theater History I, II, 3 cr.
Theater art and craft, its functions in and significance to the different cultures in which it has Thrived.

709-301, 352 Directing I, II, 1-2 cr.
Theories and techniques of theatrical production, relationship of the director to the actors. Students direct scenes of varying lengths and complexity from different kinds of drama and types of staging. Study of drama, dramatics, critics, and literature; staging exercises. Students interested in directing should plan their program in consultation with the theater chairperson.

709-403, 404 Seminar in Theater Arts 3, 3 cr.
Individual or small group study focused on a specific area or series of theater interest and related to other disciplines whenever possible. Permits in the study of theater of various periods and cultures.

709-405 Theater Management 3 cr.
A course in theater management on both the professional and non-professional levels. Will include the organization and administration of professional theaters and types of organization and nonprofessional theaters, Financial or business management, box office procedures, advertising and promotion and publicity units will then to both the professional and nonprofessional theaters. P: 6 credits of theater courses or consent for non-theater students.

709-409 Theater Criticism 3 cr.
A careful look at the major statements in various theater criticism. The approach is one of rhetorical development, together with some original criticism. Selected major dramatic texts are analyzed in light of their contemporary and historically precedent critical theories of what theater is all about. The format is that of a seminar-level seminar. P: 709-300 and 739-3104 crs. min.

736 Philosophy

736-101 Introduction to Philosophy 1 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 reference to the present world.

736-102 Problems in Ethics 3 cr.
Discussion and application of ethical problems which are significant to an individual in the contemporary world. In addition to traditional issues, the course states examines current ethical issues as they arise in such areas as sex, medicine, public policy, terrorism, and education.

736-104 Freedom and Individuality 3 cr.
The notions of freedom and individuality and their significance for an individual in a complex and highly structured society. Emphasis on the relation of historical considerations to contemporary issues.

736-106 Pacifism and Violence 3 cr.
The value and possibility of the pacifist desire to eliminate violence from human affairs will be examined through reflection upon possible sources, types, and functions of human violence. This course involves reading and discussion of books in such fields as literature, psychology, and philosophy.

736-111 Elementary Logic 3 cr.
A course structured to help students distinguish and judge the validity of various types of reasoning, especially those which are employed in nontechnical contexts.

736-207 Philosophy and Literature 3 cr.
A study of issues shared between philosophy and literature as reflected in literary works. Emphasis is on the nature and meaning of literature for an understanding of the world.

736-208 Science and Human Values 13 cr.
An examination of the relationship between scientific and moral values for human values: a study of the history of the distinction between fact and value in segments of human life such as politics, art, and medical technology.

736-209 Reason and Passion: Philosophical Issues in Film 3 cr.
An exploration, through discussion of films, readings, and lectures, of the tension between reason and passion in human life. This general topic is treated under four headings: reason, justice, faith, and practicality, each of which are represented in it's own separate essay. Required reading of books by authors such as Plato, J.S. Mill, and Freud, and viewing of films by such producers as Bergman and Kubrick, serves as a basis for philosophico-reflective understanding on the central issues of the course.

736-210 Civilization and Culture 3 cr.
This course investigates the value to humans of being civilized and of belonging to cultures, by raising and pursuing answers to such questions: as the following: what is the relation between being civilized and being human? Is it necessary to belong to a culture in order to be human? Or can cultures promote human development while others obstruct it?

736-211 The Arts and Human Existence 3 cr.
A study of the nature and meaning of the various fine arts such as painting, literature, music, and film, with some emphasis on the history of the works of art and the creative activity of the artist. The course focuses on the significance of art for human existence.

736-283X Selected Topics 1-4 cr.
See page 98
736-236 Independent Study 1-4 cr.
See page 66.

736-311 Criticism of Values 3 cr.
An examination of the possibility for rationally adopting any value or set of values in the nature of value. Such issues concern the nature of value, the ability to know value, the problem of change and ends of values are studied through examination and discussion of works by various traditional and contemporary authors. P: all and some course in philosophy.

736-302 History of Philosophy 13 cr.
An examination of the emergence and early development of Western philosophy in the context of classical Greek culture. The course provides an introduction to the thoughts of Plato, Aristotle, and is selected to pre-modern thinkers and movements, with an emphasis on clarifying issues which have endured as abiding concerns of the Western philosophical tradition. P: 736-102.

736-334 American Philosophy 3 cr.
A survey of some of the major thinkers and movements representative of the American philosophical thought from the 18th century to the present. P: 736-362.

736-332 Aesthetics 3 cr.
A survey of some of the main philosophical theories of art and beauty in Western culture with an emphasis on developing a critical understanding and appreciative of the nature and purpose of art. P: a course in philosophy.

736-334 Contemporary Philosophical Movements 3 cr.
A study of current philosophical movements in Europe and America. Different movements are studied at different times (e.g. phenomenology, existentialism, analytic philosophy, positivism, pragmatism and Marxism). Variable content. P: 736-314.

736-325 Marxist Humanism 3 cr.
A study of Marx's writings, concentrating on his concern for the value of human life and activity. Certain issues are examined in detail such as alienation, class struggle, historical process, the relation of the individual to society. P: course in philosophy.

736-326 Philosophy, Politics and Law 3 cr.
A critical and systematic study of the nature of politics and law and their interactions, of general legal theory, legal rights, political theory, philosophy of science, economics, and ethics. P: a course in philosophy.

736-337 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 professionalism and patients, the rights of patients, public health and medical resources, truth-telling, euthanasia and death, medical experimentation and technology, law, politics, and medicine. The goal is to provide a general humanistic introduction to problems of ethics in the medical profession.

736-434 Major Philosophical Figures 3 cr.
A study in depth of the thought of a selected figure who has made a significant philosophical contribution. Different thinkers are studied at different times (e.g. Plato, Aristotle, Leibniz, Hume, Kant, etc.). Variable content. P: cons inst.

736-455 Major Philosophical Issues 3 cr.
A study in depth of selected philosophical issues: Different issues are studied at different times (e.g., the problem of knowing, problems of knowledge and reason, problems of value, etc.). Variable content. P: cons inst.

736-486 Philosophical Problems in the Sciences 3 cr.
Philosophical examination of the logic and knowledge claims of the various natural and social sciences, with emphasis on questions of their foundations and assumptions bearing on their interpretations of nature, the social world, the human individual. A study of such problems as freedom and determinism, the nature of human actions, etc., in the light of the methods and results of the various sciences. Different sciences are studied at different times (e.g., physics, mathematics, biology, psychology, economics, political science). Variable content. P: two courses in philosophy.

736-48X Selected Topics 1-4 cr.
See page 66.

736-488 Independent Study 1-4 cr.
See page 66.

742 Physical Education

742-112 Swimming 1 cr.
Fundamental swimming, basic water survival skills, and safety taught to students with an emphasis on water safety. American Red Cross certification available.

742-116 First Aid and Emergency Care Procedures 2 cr.
Provides information and practical training in Red Cross, medical first aid, and emergency medical procedures. American Red Cross certification available.

742-177 Cardiopulmonary Resuscitation 1 cr.
Cardiopulmonary resuscitation (CPR) and basic first aid instructions and procedures are emphasized. CPR and basic first aid certification is required.

742-171 Personal Conditioning 1 cr.
The principles of exercise physiology are introduced as they relate to muscle and organic stress from participation in calisthenics and with light apparatus. Conditioning programs teach how to control and internal training, locomotor and static exercises, etc., are explained. Students select a specific program and goal, design a personal exercise program within that context and chart progress. Such insights and awareness serves to motivate students toward lifelong fitness.

742-122 Training with Weights 1 cr.
The theory of weight resistance training and its effects upon the musculature is presented along with the basic principles of the weight lifting equipment. Students select a specific training state, design a personalized exercise program and plot progress. Safety considerations are stressed.

742-123 Exercise Leadership 1 cr.
Introduction to a formal, organized and progressive program of calisthenics based upon the U.S. Army's physical readiness program. Students learn the function as group leader. The physical readiness test is administered. Supplementary information on weight control, cardiovascular training, posture, etc., is included.

742-124 Conditioning Through Running 1 cr.
Designed for the individual who prefers a program of vigorous exercise to one of primarily recreational nature. Emphasis is on step-bystep utilization benefits of running and the practical application of various types of running to improve physical fitness.

742-125 Backpacing 1 cr.
The mechanics of walking with an auditory signal is emphasized. Pacing, stretch construction, proper equipment and cool weather survival are integral to the course. Snowshoes or cross country skis may be used in season. An overnight field trip is required.

742-145 Golf 1 cr.
The fundamentals of grip, stance and swinging with iron and woods are taught with emphasis upon efficient mechanics and control. Information about history, equipment, rules, etiquette, safety, and scoring will be included. Prerequisite: no previous play included. Students are required on their practices on the range and play upon the campus course.

742-146 Karate 1 cr.
Instruction in basic techniques of striking and kicking and their deterrence as a self-defense art. Particular conditioning and self-discipline are inherent to the course.

742-154 Tennis 1 cr.
Designed to develop basic skills and techniques in tennis. Emphasis is placed on competition and sportsmanship. Practice, service and return are included. P: 742-201 or equivalent.

742-159 Racquetball 1 cr.
Instruction in basic skills and understanding necessary to engage in racquetball as a competitive recreational activity. Service, service returns and rallying skills are taught. Information about history, rules and equipment, and companion centers are included.

742-161 Basketball Team Play 1 cr.
Intended for students who wish to improve their knowledge of or insight into the game as players or as spectators. Not passed for the course or the varsity player. Provides instruction and practice on the offensive and defensive fundamentals of team play and individual basic skills. Offensive and defensive techniques are presented along with the strategies commonly employed in attack or defense.

742-170 Volleyball Team Play 1 cr.
The proper execution of setting, spiking, and serving are emphasized. Information about the development of the game, its rules and etiquette, and equipment used is included.

742-171 to 184 Officiating (sport) 1 cr.
Provides interpretation of the rules and officiating mechanics of the designated sport for the season. For students in the physical education class members are encouraged to register with the Wisconsin Interscholastic Athletic Association and may become eligible to officiate interscholastic, recreational, or other league contests.

742-199 Snowshoeing 1 cr.
Instruction in the basic techniques of snowshoeing, including uphill travel, downhill travel, turning and trail breaking. Procedures for winter camping are presented. Specific emphasis on safety and cold weather survival. One overnight field trip is required.

742-201 Swimming II 1 cr.
Emphasizes improvement of basic swimming techniques. Satisfactory completion enables student to earn the subaquatic aquatic courses. American Red Cross certification available. P: 742-101 or equivalent.

742-202 Swimming 1 cr.
Satisfactory mastery is the study and use of various conditioning and fitness activities specifically designed for the pool or aquatic medium.

742-204 Lifesaving 1 cr.
Instructor and techniques of personal safety, victim rescue, resuscitation, artificial and mouth to mouth, small craft safety, and first aid. Red Cross Advanced Lifesaving certification available. P: 742-201 or equivalent.

742-205 Water Safety Instruction 2 cr.
Trains instructors to conduct swimming programs sponsored by the American Red Cross. Swimming skills are performed as instructed can serve as good models and gain the confidence of students. Successful methods of planning, organizing, logistics, classes, presenting material, and evaluating progress are studied. American Head Cross certification is available. P: 742-204 or Advanced Lifesaving Certificate.

742-306 Scuba 3 cr.
The nature and use of equipment peculiar to skin and scuba diving is taught along with basic diving skills and considerations necessary for functional and recreational aspects of divers, the physics of diving, the physiological and environmental hazards of diving, and pranayama first aid procedures for emergencies. Certification by PADI is required. P: 742-201 or equivalent.

742-313 Sailing I 1 cr.
Introduction to sailing including terminology, kind of boats, water safety, and practical sailing experience. Individualized instruction is given in boats. Designed for those with little or no previous sailing experience.

742-315 Sailing II 1 cr.
Advanced techniques of sailing including safety, weather, and navigation.

742-321 Skinboating I 1 cr.
Introduces a variety of conditioning programs, including diet and exercise techniques for attaining and maintaining a positive body image.
742-226 Orientering 1 cr.
Described persons interested in outdoor recreation and wilderness travel. Orientering is the ability to navigate across familiar and unfamiliar territory by imaginative and intelligent use of map and compass.

742-248 Karaka 1-1.5 cr.
Builds upon basic skills and physical and mental development of beginning skaters. The opportunity to improve students' karaka rank is provided by continuing instruction in offensive and defensive techniques in conjunction with voluntary competition.

P. 742-41 cr. or equivalent.

742-304 Tennis 1-2 cr.
Improves basic skills and develops intermediate skills such as the loop swing, tip-spun ground strokes, spin serve, one-handed drop volley, and overhead return. Approach shot, and more advanced strategy for both singles and doubles.

P. 742-154 cr. or equivalent.

742-329 Racquetball 1-1.5 cr.
Provides students with comprehensive insight into all aspects of the sport: hitting, conditioning, strategy, and skill analysis for singles and doubles.

P. 742-131 cr. or equivalent.

742-402 Psychology of Sport and Sociology of Sport 2 cr.
The theory and practice of cooperation, values, spectators, and group interaction on overall performance are examined and compared in relation to sociological and psychological factors affecting athletes. Individual differences in motivation, personality, and socialization are analyzed to provide a basis of meaningful study for prospective coaches.

P. 826-129 cr. or equivalent.

742-403 Organization and Administration of Athletics 2 cr.
A functional course in various phases of organizing and admin- istering an interscholastic athletic program with application to ath- letics in non-academic environments as well as (e.g., own clubs, tennis clubs). P. 742-401 cr. or 742-402 cr.

742-405 Scientific Conditioning of the Athlete 2 cr.
Interrelationships between growth and development and scientific participation by preadolescents, principles of physiology of exercise, and general and specific techniques of physical and psychological conditioning are studied. P. 249-103 cr. or equivalent.

742-406 Prevention and Treatment of Athletic Injuries 2 cr.
Provides prospective coaches with basic insight into the nature of common athletic injuries. Emphasis is upon prevention, physical conditioning, strapping, property fixed and designed equipment, and the competition site, conduct of practices, and respect of avoiding injuries. Treatment considerations include estimating the extent and nature of the injury, feasibility of moving the victim, emergency treatment at the scene, modes of required transport, dressing case, training room modalities, referral for definitive diagnosis, and treatment of simple follow-up rehabilitation. P. 4 cr. or 90 cr. in equivalent courses in gross human anatomy and P. 762-101 cr. or equivalent.

742-416 Principles of Coaching 2 cr.
Examines into the materials, skills, off-season, and depth of specific sports. The literature of the field, personal interviews and observations, staff lectures and conferences are the tools of this course.

P. 742-417 cr. and permission of instructor of coaching certification advisor.

742-435 to 439 Field Experiences in Coaching 2 cr.
Calmanates study and preparation for a practical coaching experience. Participation in practice; preparation of other coaching activities under the supervision of an experienced cooperating coach. Student coach maintains daily log and consults with instructor. P. 742-401, 402, 403, 405, 406, 410 cr. or Principles of Coaching 2 cr. and permission of instructor/coaching certification advisor.

754 Physics

754-103 Fundamentals of Physics 1 4 cr.
A non-calculus physics course covering fundamentals of mechanics, energy, power, thermodynamics and sound. Applications to the areas of biology, chemistry, the earth sciences and technology. P. 665-104 cr. or equivalent. Graduation credit will not be awarded for both 754-103 and 754-201.

754-104 Fundamentals of Physics 1 4 cr.
A non-calculus physics course covering fundamentals of electricity and magnetism, electronics, light, atomic and nuclear structure and related topics. Applications of the principles of biology, chemistry, the earth sciences and technology. P. 754-103 cr.

754-291 Principles of Physics I 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, vibration, waves and sound.

P. 760-201 cr. and concurrent registration in 600-202 cr. with cons. grad. Graduation credit will not be awarded for both 754-201 and 754-103.

754-292 Principles of Physics II 1.5 cr.
A calculus physics course intended for students of science and engineering. Electric forces and fields, DC and AC circuits, magnetism, alternating electromagnetic waves, light, relativity, quantum effects, nuclear physics and elementary particles. P. 754-201 and 603-201 cr. and concurrent registration in 600-202 cr. with cons. grad. Graduation credit will not be awarded for both 754-202 and 754-104.

754-293 Selected Topics 1.5 cr.
See page 98.

754-298 Independent Study 1-4 cr.
See page 98.

754-306 Biophysics 3 cr.
See 762-206 cr.

754-311 Mechanics I 3 cr.
See 862-313 cr.

754-314 Mechanics II 3 cr.
See 862-314 cr.

754-315 Mechanics III 3 cr.
Origin and development of mathematical physics; mathematical techniques especially the use of vectors, tensors, Fourier analysis, and generalized coordinates in physical problems; conservation laws and their relationship to mechanical problems; the physical basis of control and feedback; introduction to rigid body dynamics, accelerated coordinate systems, introduction to acoustics. P. 754-202, 600-202 cr. and 305 cr.

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 instru- ments and the measurements of electromagnetic radiation. Topics may include solar radiation, atmospheric optics, photo- chemistry, and plant growth chambers. P. 754-202 cr.

754-319 Optics Laboratory 1 cr.
Experiments in geometrical and physical optics, optical instru- ments and measurements, properties of lenses. P. 754-319 cr.

754-320 Thermodynamics and Kinetics 2 cr.
See 225-320 cr.

754-321 Structure of Matter 3 cr.
See 225-321 cr.

754-322 Thermodynamics and Kinetics Laboratory 1 cr.
See 225-322 cr.

754-325 Structure of Matter Laboratory 1 cr.
See 225-325 cr.

754-341 Intermediate Astronomy 3 cr.
See 862-341 cr.

754-350 Meteorology 3 cr.
See 862-350 cr.

754-404 Electricity and Magnetism 3 cr.

754-405 Electrodynamics for Scientists 4 cr.
Fundamentals of electron and electromagnetic fundamentals, basic circuits, combinations of these in measurement and control instru- ments. P. 754-104 cr. or 202.

754-414 Conventional Energy Technology 3 cr.
See 852-411 cr.

754-415 Solar and Alternative Energy Systems 3 cr.
See 852-413 cr.

754-417 Nuclear Physics and Radiochemistry 3 cr.
See 825-417 cr.

754-418 Nuclear Physics and Radiobiology Laboratory 1 cr.
See 825-416 cr.

754-455 Microprocessors and Microcomputer Systems 3 cr.
See 600-455 cr.

754-483 Selected Topics 1-4 cr.
See page 98.

754-498 Independent Study 1-4 cr.
See page 98.

770 Political Science

770-100 Introduction to Political Science 3 cr.
An introduction to the institutions and political processes of American government, including the role of political parties, national and state constitutions, systems of politics, and international relations. Topics covered include: the nature of power, liberty and freedom, justice and equality.

770-101 American Government and Politics 3 cr.
An introduction to the institutions and political processes of American government, with emphasis on the national level. The course covers the nature of political analysis; the structure, ideologically, and culturally based of American political and economic, public and political institutions; the role of political parties, elections, and interest groups; political-military processes in the Congress, the presidency, the courts, the bureaucracy, and state and local government; and issues and controversies in politics and public policy.

770-215 Understanding Presidential Elections 14 cr.
An examination of the electoral system affecting presidential campaigns and elections. Topics include the role of political parties, political action committees, the mass media, and campaign professionals; the nomination process, electoral votes and procedures; voter behavior; and political strategies. Students participate in a particular campaign and compare practical political strategies and activities to theoretical ideas. Offered only during presidential election year.

770-218 Political Behavior 3 cr.
An introduction to political behavior, with emphasis on individual political beliefs and behavior. Special attention is given to the relationships between political knowledge and personal political behavior. Topics include: political socialization, public opinion, personality and politics, the mass media, and political participation. Students will learn the politics of political analysis, both qualitative and quantitative.

770-306 Selected Topics 1-3 cr.
See page 98.

770-358 Independent Study 1-4 cr.
See page 98.

770-359 Urban Policy and Politics 3 cr.
Concentrates on urban social welfare and its relationship to urban political processes and public policy. Of central concern is the question: To what extent are human needs, as identified by urban theorists, frustrated and fulfilled by urban public processes and policies. Policy arenas examined include: urban renewal, welfare policy, urban transportation, fiscal policy. See page 945-303.

770-510 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 role of presidential power; presidential nominations and elections; and the organization and operation of the executive office, the relationship between the president and other key political actors, including the Congress, the bureaucracy, interest groups, public opinion, and the media, and presidential leadership and personality. P. 770-510 cr. or 304-311 cr.

Political Science Courses
778-312 Community Politics 3 cr.
An examination of power and decision making at the community level, focused on the question: "Who governs?" Central attention is given to alternative theories that explain community politics and to methods for the conduct of empirical research in the field. Class assignments include the study of local power structures and local policy formation. P: 778-106 or 778-110 or consent of instructor.
See 344-311 and 400-314.

778-200 Constitutional Law 3 cr.
An examination of the law of the United States Constitution as that law has been developed by decisions of the United States Supreme Court. Topics include: the general structure of the Constitution, federalism, the doctrine of incorporation of powers, the limitations upon the powers of the United States and the state supreme courts, the state of the guarantees of rights and liberties to individuals made in the Constitution and amendments to it. The structure, operation and jurisdiction of the United States courts are also considered. P: jur. or cons. clerk.
See 475-320.

778-330 Law and the Judicial Process 3 cr.
An examination of the institutions of government and law as an instrument of government. Topics examined include the judiciary in the American system of government, the nature of the judicial process and judicial decision making, judicial policy-making, compliance with judicial policies, and theories of law and jurisprudence. P: 778-110 or cons. clerk.
See 475-330.

778-340 Political Theory 2 cr.
The foundations of Western political thought from the Greek poleis to the 20th century. Leading political thinkers are analyzed and discussed in their historical contexts and in terms of their basic ideas and concepts. The basic axiom of the course is that in order to understand the present, and in order to strengthen our democracy, we must know the general characteristics of government, government, and politics. To help students gain such an understanding, the course attunes the study of politics to the history of Western political thought and practice. P: 400 or cons. clerk.

778-351 Comparative Political Systems 3 cr.
An introduction to comparative political analysis, stressing both the structure of political systems and major functions. Particular attention is given to the politics and government of Great Britain, France, the Soviet Union, and selected other developed nations. P: 778-100 or 778-110 or cons. clerk.

778-355 Politics of Developing Systems 3 cr.
Political processes in contemporary developing systems, with particular attention to problems of nation building, the formation of cross-national communities, and emerging patterns of regional cooperation. P: 778-180 or 778-151 or cons. clerk.

778-360 International Political Economy 3 cr.
An overview of international politics, including an analysis of "the international system." The nation-state system, nationalism, arms control and disarmament, international conflict, and conflict resolution are examined. Examples are drawn both from the American and non-American perspectives. P: 778-110 or cons. clerk.

778-366 Geopolitics of World Regions 3 cr.
An examination of the impact of social, physical, and cultural factors on geographic behavior and relationships, including political conflict. Topics include concepts such as political space, political territoriality, the organization of space for political purposes, and the nature of boundaries. The course also considers human movement and migration as a political and social process, and examines the impact of regional relationships on global, social, economic, and political structures. P: 778-110 or cons. clerk. See 404-285.

778-371 Geography of Conflict Areas 3 cr.
See 416-319.

778-423 Political and Social History of Modern America 3 cr.
See 446-403.

778-411 Intergovernmental Relations 3 cr.
An analysis of the American system of government as a federal system with governments operating on three levels (federal, state, and local), yet functioning as one integrated and interdependent system. Attention is given to constitutional issues of federalism, how intergovernmental relations affect public policy, and revenue sharing. P: 778-100 or 778-110 or cons. clerk.

778-416 American Legislative Process 1 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 legislative process; the nature of representation in an interest group-dominated public; the role of policy decisions; the political behavior of legislators; the impact of formal and informal institutions and practices on public policy making; political parties, leadership, staffs, committees, interests, and social norms; Congress and lobbying; the role of the media; the role of interest groups in policy innovation and social change. P: 778-110 or 778-111 or cons. clerk.

778-440 American Foreign and Defense Policies 1 cr.
An examination of the major foreign and military problems facing the United States. Includes discussion of such topics as the organizational and political role of the military in American life, strategic and tactical military theory, the intelligence community, alliance politics, and the foreign policy-making process in the United States, and an assessment of its effectiveness. P: 400 or cons. clerk.

778-483 Selected Topics 1-4 cr.
See page 98.

778-490 Independent Study 1-4 cr.
See page 98.

820 Psychology

820-102 Introduction to Psychology 1 cr.
Introduction to the understanding of behavior from psychophysiological, cognitive, social, and clinical perspectives, important issues, methods, and findings in the study of psychological processes.

820-202 Introduction to Social Psychology 1 cr.
Introduction to social psychology; attitude formation and change, group processes, communication, roles, social groups, social influence, and social interactions. P: soph. or cons. clerk.

820-295 Psychology of Human Adjustment 1 cr.
Personality adjustment and maladjustment in normal situations; needs, frustrations, and conflicts; adaptive techniques; analysis and rehabilitation. P: soph. or cons. clerk.

820-293 Selected Topics 1-4 cr.
See page 68.

820-290 Environmental Psychology 1 cr.
A basic introduction to human-environment relationships that examines ways in which the physical environment influences human behavior. Introduces students to a variety of human-environmental relationships such as attitudes and beliefs about the physical environment, measuring and reevaluating human responses and behavior in physical environments, relating and knowing the physical environment, human social behavior in urban environments, and geophysical factors that influence human behavior.

820-296 Independent Study 1-4 cr.
See page 68.

820-300 Experimental Psychology 4 cr.
Experimental methods in psychological research; designing and drawing conclusions from experimental research; critiques of research reports, individual and laboratory projects in design, conducting, interpreting and reporting research. P: soph. or cons. clerk.

820-306 Psychology of Perception 3 cr.
Nature of perceptual processes and their functional relationships to environments, behavior, and cultural factors such as motivation, learning, and personality. P: 400 or cons. clerk.

820-305 Psychology of Motivation 3 cr.
The inflation and direction of behavior, role of physiology, personality, and environment in motivation, conflict, persistence, and change of motives; social motivation of achievement. P: 400 or 820-160 or 481-210.

820-310 The Self-Concept in Social Context 3 cr.
Survey current theories and knowledge of the self-concept with particular emphasis on variation among groups which varies in ethnic background, gender, social class and age. Implications for interpersonal relations and achievement related behavior will be examined. P: 820-160 or 820-205.

820-312 Psychology of Sports and Exercise 2 cr.
An upper division introduction to the study of the psychological aspects of involvement in sports. The course examines the relationship between participation in physical activity and psychological variables such as mental health, affiliation, aggression, motivation, and the role of sports in society. Little emphasis is placed on specific applications to coaching. P: 820-102, 820-202, or 930-202 required; 478-102, 255-305 recommended.

820-315 Educational Psychology 2 cr.
An overview of the psychological processes involved in teaching, learning, and their interaction. Topics include motivation, individual differences, classroom management, cognitive, group processes, and educational assessment. Students will be required to complete several written assignments integrating observations of learning with educational analysis based upon toric research. P: 820-102 or 480-112.

820-335 Psychology of Attitude and Public Opinion 5 cr.
Analysis of attitudes: social factors in the formation and change of attitudes, expression of attitudes in public opinion, voting, and consumer behavior; polling techniques and problems. P: 400 or cons. clerk.

820-337 Social Behavior Dynamics 3 cr.
Impact of factors in respect to the role, role, rules, and norms on the psychological behavior of individuals operating in social groups. P: 400 or cons. clerk.

820-411 Organizational Psychology 2 cr.
Relate between social structure and psychological behavior of bureaucracy; leadership flexibility and control; group processes; decision-making processes, and group productiveness. P: or cons. clerk.

820-414 Psychology of Intergroup Relations 3 cr.
The psychology of conflict and cooperation, displace and integration; principles and aspirations in such policy as industrial relations, cross-generation adjustments, race relations, and international relations. P: or cons. clerk.

820-417 Psychology of Cognitive Processes 3 cr.
Examines some 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 Test and Measurement 3 cr.
Methods and principles of measuring human characteristics, including determination of validity, reliability, and interpretive schemes for such measures. Examination of selected tests in intelligence, achievement, aptitude, interests, and personality. Typical of tests and methods for retesting. P: 400 or cons. clerk.

820-492 Theories of Personality 3 cr.
Major ideas and systematic statements about the organization, function, structure, and development of human personality. Readings include the work of personality theorists; such as Freud, Adler, Jung, Sullivan, Erikson, and Miller. Skinner, and several existentialists. P: 491 (32) and 820.

820-430 History and Systems of Psychology 3 cr.
This seminar focuses on the major schools, figures, trends, and systems of thought in the field of psychology. Reviews the development of the field by looking at shifts in the conceptualization of the problems, phenomena, methods and tasks in psychology. P: 820-102, 820-300, 1 upper division psychology course. P: or cons. clerk.

820-435 Abnormal Behavior 3 cr.
Deviations from normal intellectual, physical, emotional, and social development (e.g., retardation, psychopathology, emotional) and their treatment. Issues include biological and environmental origins of disorders are examined. P: 481-331, 332.

820-436 Group Dynamics 3 cr.
Psychological principles as they apply to the individual in social groups, experimental analysis of communication, maintenance, morale, and productivity. P: or cons. clerk.

820-450 Psychological Stress and Adaptation 3 cr.
An examination in-depth of the nature of stress, its effects on fundamental aspects of human behavior, its interactions with emotion, learning, and cognition. Some emphasis is placed on psychological methods of dealing effectively with stress, tension and anxiety. P: 150-100, 475-215, 820-102, 820-202 or 930-202.
83A-348 Clinical and Community Psychology 3 cr.
Describes the theoretical 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. Discussions include goals and training for aspiring psychologists, licensing qualifications, and occupational opportunities. Presents research on characteristics of practitioners. Most suited for persons considering careers in these fields. P: 320-103.

826-483X Selected Topics 1-4 cr.
See page 98.

826-490 Independent Study 1-4 cr.
See page 98.

834 Regional Analysis

834-205 Introduction to Cooperative Principles and Functions with Regional Variations 3 cr.
A study of the economic, social, and political development of land-use patterns and development, present status and scope and future opportunities. Member relations, communication, financial and legal structures, policies, and objectives.

834-220 Introduction to Regional Analysis 1-3 cr.
The citizens of people cannot make the utilization of the limited space and resources available to them to satisfy their needs. Methods of defining areas, issues based on human activities and the nature of the total environment are developed.

834-222 The Ocean of Air: An Introduction to Weather and Climate 3 cr.
Fundamentals processes of the atmosphere, the resulting weather and climate, and the effects of the atmosphere on the other aspects of the earth's environment and on humans. See 296-222.

834-281 Student-Led Courses 1-4 cr.
See page 98.

834-283X Selected Topics in Regional Analysis 1-4 cr.
See page 98.

834-298 Independent Study 1-4 cr.
See page 98.

834-322 Regional Planning 3 cr.
The concept of planning, the history of its use in the development of regions, and the present status of planning in the United States with some international comparisons. P: 3 cr.

834-333 Land-Use Controls 3 cr.
Provides an opportunity to appreciate various forms of public land-use controls to students interested in land-use planning and administration, as such the course aims to meet the needs of the students of Regional Analysis, Urban Studies, and Public and Environmental Administration in particular, and of those who are interested in the spatial manifestations of social-economic functions in general. The course addresses "what, why, and how" aspects of land-use controls. The "what and why" aspects are dealt with through lectures/discussions in the classroom, and the "how" aspect, being applied in nature, is illustrated with reference to an "real world" situation. Students analyze zoning and subdivision regulations of a selected community. P: 3 cr.

834-335 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. Contributing variables and techniques of measuring environmental behavior relationships. P: 3 cr. See 344-325.

835-336 Behavior in Designed Environments 3 cr.
The application of techniques and knowledge of the environment-behavior relationship to studies of the designed area. The student develops and carries out all aspects of detailed study of a selected environment-behavior problem. P: 3 cr. See 344-326.

836-323 Transportation Systems in the United States 3 cr.
Intermodal transportation systems in the United States, their development, impact, present character problems and trends. P: 3 cr.

838-348 Economics of Land Use 3 cr.
Study of economic relationship between humans and land. Emphasis is on the principles governing the land use and conservation, and in particular, the institutional arrangements—the zoning tables—of this basic resource. Application of principles in policy making in the areas of land valuation, taxation, and zoning in the worksheet of economic regional development. Small case studies as their relevance to management of public and private lands are studied intensively. P: 3 cr. or cons. inst.

834-342 Community Economic Development 3 cr.
Study of various forces involved in the process of community economic development. Includes the natural potentials—human and natural—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. The social and economic structures—transmission, communication, community services—are examined from the point of view of community development. P: 3 cr. or cons. inst.

281 Elements of Cartography 3 cr.
See 281-351.

283 Air Photo Interpretation 3 cr.
See 283-353.

350 Introduction to Quantitative Methods of Spatial Analysis 3 cr.
See 283-355.

354-405 Environmental Impact Analysis 3 cr.
Procedural requirements of NEPA; State NEPA equivalents; methodologies of and approaches to environmental impact analysis; assessment of alternatives; interdisciplinary exposure to substantive types of impacts using natural and social sciences; emphasis on social impact analysis; local field project in impact analysis. P: 4 cr.

384-258 The Geopolitics of World Regions 3 cr.
An examination of the impact of geographic factors on political behavior and relationships. Topics include concepts such as political space, political territory, the organization of space, and the nature of boundaries. The course also considers movement and migration as a political social process and examines their impact on regional relationships on local, social, economic, and political structures. See 367-398.

384-372 Analysis of the Great Lakes Region of North America 3 cr.
A systematic analysis of the areas surrounding the Great Lakes of the United States and Canada; internal and external relationships; economic activities; regional change and problems. P: 3 cr. See 416-372.

384-377 Analysis of Northern Latin America 3 cr.
A topological and regional analysis of the subarctic and arctic regions of the Yukon, Northwest Territories, British Columbia, Alaska, Northern Canada and Scandinavia. P: 3 cr. See 416-377.

384-392 Analysis of South Asia 3 cr.
Regions of South Asian countries in various stages of development. Emphasis is interaction of physical and human resources. P: 3 cr.

384-393 Summer Transportation Systems in Wisconsin 3 cr.
An analysis of the existing character of intercity railway, 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 January only.) P: 3 cr. or cons. inst.

601 Regional Economic Analysis 3 cr.
See 258-401.

824-421 Techniques and Methods of Regional Planning 3 cr.
The use and application of basic tools for urban and regional planning, source data and other information; techniques and methods of population, economics, land use, housing, and transportation in regional planning, and projects. P: 3 cr.

Large area, small scale analysis of earth surface features by satellite imagery and data. Major emphasis will be on use of LANDSAT (NASA Earth Resources Satellite). Hands-on experience in manual interpretation of multispectral images with respect to vegetation, geology, soils, water resources and land use. Introduction to computer assisted analysis. Overview of other satellite systems: including weather, passive and active microwave (radar) and thermal infrared. Fundamentals of the electromagnetic spectrum, sensors, and data processing systems. Public access to data and imagery. See 662-654.

824-472 Senior Seminar in Regional Analysis 3 cr.
A seminar focusing on regional problems relating to land use, economic development, outdoor recreation, transportation, and others which might be of personal concern. Student research projects of a professional quality are included. P: 3 cr.

824-483X Selected Topics in Regional Analysis 1-4 cr.
See page 98.

824-484 Senior Honors Project 3 cr.
See page 98.

824-488 Independent Study 1-4 cr.
See page 98.

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 one requisite to learning the knowledge and following the development of science in our society. This course seeks to enhance the science literacy of the non-science-oriented student through a focus on the nature and values implicit in scientific reasoning and inquiry. Parallels and contrasts between our common logical reasoning skill and those of science are studied. Criteria for determining the limits of goodness, correctness and beauty of scientific reasoning and inquiry are examined. Readings from the areas of puzzle solving, science investigation histories and the nature of reason and energy provide the basis for these studies.

862-103 Introduction to Environmental Sciences 3 cr.
The relationship of people and the various parts of the biophysical environment including the atmosphere, water, rock, and soil, and biotic communities. Study of both the natural state and current problems of pollution and mismanagement. Scientific principles facilitate understanding of environmental processes. The social and personal consequences of environmental processes and possible solutions to current environmental problems. Designed for non-science majors.

865-106 Elements of Descriptive Geometry 3 cr.
Orthographic projection and its application to analyzing slicing three-dimensional problems including points, lines, planes, and solids, and axonometric projections for pictorial representation with engineering and design applications. P: 100-101.

862-125 Introduction to Horticulture 3 cr.
Introduction to techniques of intensive plant culture. Biological characteristics of herbaceous 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, termi gardens, and plants in the home. Local field trip.

862-141 Elementary Astronomy 1 cr.
A study of the solar system, stars, galaxies, and universes.
863-345 Geology of Energy Resources 2 cr.
A survey of geological energy resources: petroleum and natural gas, coal, uranium and geothermal energy. Geological exploration of these resources, methods of discovery and utilization, and environmental and economic aspects of their commercial usefulness. P. 200-230 or 200-290 or equivalent.

875-356 Meteorology 3 cr.
Examines the composition and structure of the atmosphere, survey meteorological thermodynamics, microclimates, and kinematics of air motion and radiation in the atmosphere. P. 724-725 or cons ins.

875-361 Synoptic Meteorology Laboratory 1 cr.
Applications of diurnal principles studied in 860-350 to actual synoptic scales weather situations. Techniques of weather analysis and forecasting. P. 860-350 or concurrent registration.

875-362 Plants and Forest Pathology 3 cr.
Studied important diseases of forest, shade, and ornamental trees and shrubs and diseases of representative azalea plants. fungous deterioration in wood storage and their economic importance with methods of control. Field trips. P. 204-203.

875-366 Integrated Pest Management 3 cr.
The development and use of integrated pest management approaches for growing populations employing an integrated concept of grower and pest control methods emphasizing maximum dependency upon natural recycling systems of populations. Various techniques and methods are analyzed, e.g., cultural controls, disease, pests, predators, parasites, and natural enemies breeding for resistance, habitat manipulation. Case histories of success and failure with integrated pest management programs for weeds, insects, birds, rodents, pests, and fungous diseases are discussed, as well as obstacles and incentives in the future for integrated pest management. P. 204-503.

875-371 Chemical Ecology 2 cr.
Selected topics concerning the chemical interactions of organisms and the environment. Topics such as chemical communications, chemical defense mechanisms and sex attractants are covered. The course is a lecture/tours format and each student prepares a paper on an aspect of chemical ecology which is related to that of the tour. P. Cons ins.

875-386 Radiobiology 2 cr.
An introduction to the effects of ionizing radiations (C-I, P32, etc.) and sources of ionizing radiation in biology, medicine and environ-
mental sciences. Emphasis is on experimental methods currently used in this field. Focus includes integration in biological, radiation biology, nuclear medicine and radiology. This course provides the background needed to obtain an AEC license to use radionuclides in most major experiments. Credit is not given for both this course and 236-118.

875-388 River Basins in Transition 3 cr.
Uses of river basins as an important environmental planning human activities compatible with existing local natural resources. A review of the natural and human history in a river basin. Content emphasizes on the importance of interfacing the natural resources such as water, land, plants and animals with human activities such as agriculture, industry, transportation and pollution. Elements of hydrology, geomorphology and socio-economic geography are used in this review. The subject is presented in the United States. Methods and techniques are provided, including land forms, human populations, land use, economic development, climate and other important factors of selected river basins throughout the world. The case study approach is used in a comprehensive basis to analyze arid regions' and to develop strategies for the prevention and control of environmental problems, as well as to identify opportunities for more effective land use and resource management. The course covers the use of data analysis and spatial modeling tools to analyze land use patterns, population distribution, and the impact of human activities on the environment. P. 204-230.

875-389 River Erosion in Other Regions 3 cr.
A case study investigation of river erosion between human activity and natural resources in river basins in other regions. Analyzes and discusses erosional processes, river systems, and the use of data analysis techniques, including GIS and remote sensing, to study and assess river processes and their impacts on the environment. P. 200-230 or 200-290 or 290-300 or 200-390.

875-394 Water Erosion 2 cr.
The physical, chemical, and biological factors that alter the composition of surface and ground water. Field and laboratory analysis techniques. Field trip. P. 200-230.

875-384 The Environment’s Response to Human Settlement 3 cr.
Covers all facets of human settlement and resettlement as they impact the environment, with emphasis on the assessment of the environmental impacts. P. 200-230 or 200-290 or 200-390 or equivalent.

875-386 The Environment’s Response to Human Settlement Laboratory 1 cr.
Each student manages an environmental project at a portion of a site of a thread project. Viable case studies are selected and the students work in small groups to prepare a project report. Each group is responsible for: a report detailing the research project. The project is assigned in a seminar in the following sequence: 200-260 or 200-290 or 200-295 or 200-290.

875-388 The Environmental’s Response to Human Settlement 3 cr.
Covers all facets of human settlement and resettlement as they impact the environment, with emphasis on the assessment of the environmental impacts. P. 200-230 or 200-290 or 200-390 or equivalent.

885-301 Evolutionary Science 3 cr.
A study of the structure and function of microorganisms. Emphasis on the evolution of life on the earth, with special emphasis on microbial mat formation and its significance as an indicator of the early development of life on Earth. P. 200-230 or equivalent.

885-301 Microorganisms 3 cr.
An introduction to the basic principles of microorganism growth, reproduction, and environmental interactions. P. 200-230 or 200-290 or equivalent.

885-310 Solar and Alternate Energy Systems 3 cr.
A study of alternative energy systems which may be important sources in the future such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magnetohydrodynamics. P. 200-104 or 200-190 or equivalent.

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885-311 Solar and Alternate Energy Systems 3 cr.
A study of alternative energy systems which may be important sources in the future such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magnetohydrodynamics. P. 200-104 or 200-190 or equivalent.
867-408 Science and the Quality of Life 3 cr. (J. O’Hear) Students conduct indepth analyses on the impact of selected scientific developments on the quality of contemporary life using the analytic tools developed in their respective concentration methods. The primary objective is the analysis of the impact of scientific and technological developments in design and to help students develop expertise in practical problem analysis, in communicating results to a crosssection of individuals with varied backgrounds and training, and in examining the results for implications of public policy.

867-410 Biophysics 3 cr. (W. Kaufman) A reconsideration of "biology" and its pivotal effects on society, biology, and their attitudes toward realistic practices in research. The applications of scientific findings and the relation of political and wall currents in science and research, and the desirability, attitudes and welfare of society as it relates to "biology."

867-412 The Impact of Science and Technology on Society 3 cr. (J. Wiesner) Examines various technologies from both historical and presentv day perspectives and major projections for the future. In general, the course attempts to examine the responsibility of scientific and technology to society and vice versa. Mechanisms used by government, industry, and the public for monitoring and developing responsible technology are scrutinized.

867-413 Imagination and Myth 1 cr. (E. Lander) Instead of presenting myths and their role in the development of ancient culture, this course investigates the ongoing process of mythmaking in our own society. After the introduction to several approaches to myths, students read several contemporary texts on how to learn to recognize, evaluate, and participate in myths with intelligence. A final project engages students in the act of mythmaking.

867-415 Applied Imagination 3 cr. (F. Fischbach) Examines the nature and uses of a variety of practical means for defining and developing solutions for complex problems of a society that range from everyday problems to more complex ones. This course is designed to develop skills in practical problem solving and decision making.

867-418 Science as Metaphor 3 cr. (D. Galaffy) Students from a variety of disciplines and interdisciplinary programs examine the use of metaphor in all aspects of the environment. We will consider the metaphorical thought processes that assist us in understanding scientific processes, and we will discuss how metaphors are used in everyday life.

867-420 The Organization in Modern Society 3 cr. (M. Trytcan) Analyzes the social, philosophical, and political interconnections which result from the relationship between institutions and modern society. Special issues explored include relationships of organizations and commercial spokesmen and social leaders to society; positive and negative economic effects which organizations have on modern society; and other social problems of organizations.

867-421 Science Fiction: The Social, Political, and Physical Literature Through Time 3 cr. (M. Greenberg) Examines problematic and timeless alternating fictions as viewed through the work of leading science fiction writers. Special attention is paid to soir and critical implications of new technology, new forms of social norms and organization, changing religious perspectives, and new lifestyles.

867-424 Stereotypes and Minority Groups 3 cr. (E. Blum, B. Baker) Examines why human beings stereotype each other and why society creates minority groups; how stereotypes affect those who are stereotyped; the effect of the group on the individual; the influence of minority groups; and what we—as individuals, as groups, and as a society—should do about stereotyping and maintenance of minority groups.

867-425 The Search for an Ideal Community: Flames in New Towns and Cities 3 cr. (J. Murray) Begins with a brief description of early literature from the proponents of the Greek city-state to the 19th century utopians, and the 20th century town planners and city planners. The class will examine how the model of Flame was planned community incorporating their own values and characteristics.

867-426 Value, Reason, and Action in Art and Society 3 cr. (G. Null) A transdisciplinary exploration of the problem of action in the arts, the social and the political, and the cultural. The student will explore the problem from the arts, the social sciences, the political sciences, and the cultural sciences.

867-427 Rebellion and their Causes: Explorations in Biographies of Political Revolts and Social Change 3 cr. (H. Kaye) This seminar will attempt to see your own individual journeys of discovery to understanding of other people’s actions in history and political context. Students will read and discuss biographies of people from different backgrounds, actions, and points of view to understand how people have interpreted events and beliefs in history.

867-428 Ecological Revolution: the Search for an Ideal Community: Flames in New Towns and Cities 3 cr. (J. Murray) This seminar will attempt to see your own individual journeys of discovery to understanding of other people’s actions in history and political context. Students will read and discuss biographies of people from different backgrounds, actions, and points of view to understand how people have interpreted events and beliefs in history.

867-429 Community Ecology: A Predictive Model of the Future 3 cr. (J. Marcano) The theory of cultural evolution is proposed and several hypotheses are drawn from it and applied to designated problems in modern industrial cultures. The students examine various implications derived from testing this theory based upon the student’s individual research and research objectives. In addition, the historical development of similar social evolution models is explored by the students. The predictive models of culture are drawn from the work of Jerramy Laramore and Kari Maron to Herbert Spencer’s ideas and analyzed. Students are encouraged to relate culture and the present challenges to the models and other contemporary interpretations.

867-430 Topics in Human Rights 3 cr. (K. Politi) Explores the transition of what human rights are and should be and the social engineering that might be required to effectively implement human rights policy.

867-440 Global Desertification: A Seminar in Alternative Future Investments 3 cr. (H. Palomakopulos) It is becoming increasingly clear that the world cannot afford unending hostility as the cost of "defence." A Caspian is approaching the $500 billion per year worldwide; this startling figure is designed to stimulate the students into thinking about the future of the world. The seminar also discusses the implications of global desertification for the quality of life. In what ways might people find solutions for desertification? What kinds of scientific, analytical, cultural, and material growth are feasible? Can the transition toward a global economy be achieved?

867-441 World Views: Perceptions That Shape Actions and Values 3 cr. (S. Dallal) This seminar begins with the assumption that all people (and races) are interdependent and that they live in a world-view by which they make sense of their lives. Furthermore, people try to act in a way that they understand the world-view by which they are influenced. This seminar will explore some world views and encourage students to aspire to problems within this conceptual framework.

867-442 Language: Power and Style 3 cr. (A. Brandi) In our thoughts and actions we both shape and are shaped by the language we use. People who share a language share an agreement on what words and phrases mean. This agreement is constantly being renegotiated. We are not often aware of the processes of that renegotiation and we are probably even less aware of how the agreement is made. Students will examine the power of language, its social and cultural context, and the way in which it is used to influence thought and action. They will also examine the ways in which people use language to express their values and beliefs.

867-445 The Scientific and the Persuasive in the Human Self Image 3 cr. (R. Bauman) Examines the scientific method and its impact on human view of themselves and their social institutions. This course studies the rudiments of human and social theories and its impact on the complex nature of human society. The course examines the scientific method and its role in the human self image. It is designed to examine the relationship between science and society and the ways in which science influences our self image.

867-446 Liberal Learning and Decision Making: The Search for Connections and Community 3 cr. (H. Hartley) The seminar will consider the role of critical thinking in education and in the development of effective decision-making processes. The seminar will focus on critical thinking as a means of improving the ability to make informed decisions based on the analysis of complex issues.

867-447 Senior Seminar: Conservation 3 cr. (J. Rodman) Conservation as a value, attitude, belief, program and theology. The seminar will focus on the historical development of the concept of conservation and its relationship to the natural world. Students will study the conservation movement and its role in the development of modern conservation practices. The seminar will also explore the relationship between conservation and other environmental movements, such as the environmental movement.

375-284 Freedom and Social Control 3 cr.
In the struggle between individual freedom and institutional power, our freedoms have become fragile and susceptible, while institutional and governmental authority has become more absolute and powerful. This increasing influence upon individual freedoms, and increasing institutional power and prerogatives, raises ever important questions of ethics, morality, values concerning the tension between freedom and social control which this course explores. A significant portion of time is spent on individual freedoms and institutional controls from other culture perspectives. P: 255-102.

375-250 Sea and Society 3 cr.
Examines some of the major social political and personal issues related to social attitudes, sexual behavior, and sexuality in American society. Areas of study include changing sexual attitudes and behavior patterns; variations in sexual expression (including homosexuality, bisexuality, transsexualism); the political of social sexual issues (pornography, prostitution, health laws, sex education, homosexuality, sexual offenses and offenders); see counseling and therapy, sex and ethical issues. P: one previous social science course.

375-241 Women and Changing Values 3 cr.
Examination of traditional restrictions placed on women in family roles, sexual behavior, economics, politics, and religion in determining whether they are troubling. Discussion of how women role and value systems are changing, whether the more prescribed traditional roles and values are still valid, and how individuals can adapt to change.

375-265 Folk Music and Social Change 3 cr.
Analyzes folk song as a form of social political expression and protest in modern societies. Using an interdisciplinary and comparative social science approach, the course explores a variety of musical developments in different cultural contexts in an attempt to understand the history, functions, and role of popular music in society. Analysis involves topics such as: folk song and tradition, folk song in the United States, folk song in Latin America, and the influence of popular music on society.

375-270 Third World: Development or Deterioration 3 cr.
Surveys causes and consequences of development and underdevelopment selected regions and nations. Examines such issues as natural resources, population, climatic conditions, polities, economies, food and food security, health and political power. Emphasizes various causes indicating possible futures for the world in general. P: 250-100, 251-100, or 250-200.

375-273 Blood, Honor, and Envy: Values and Society in Southern Europe 3 cr.
Examines some values-themes found in historical and contemporary sources in Southern Europe (France, Italy, Southern France, Spain). These include honor and shame, family loyalty, the menace of envy, male and female relationships, and political organization, among others. Values, and the sometimes intertwined racial and anti-racial, symbolic and non-symbolic systems through which they are expressed, are analyzed. P: 150-100, 250-100, or 250-200.

375-291 Student-Led Courses 1-4 cr.
See page 98.

375-293B Selected Topics in Social Change and Development 1-4 cr.
See page 98.

375-298 Independent Study 1-4 cr.
See page 98.

375-361 Social Change and Development Field Studies 6 cr.
Field course designed to be taken in conjunction with other Social Change and Development courses. Concentration is on aspects of social change in Northeastern Wisconsin and elsewhere.
Enables the student to become an effective communication/mediation advocate. The program emphasizes three basic components involved in being a communicator: (1) knowledge of communication/mediation skills, (2) experience in applying communication skills, and (3) an understanding of mental illness and the need of social workers. The program is designed to improve their ability to relate to others. Particularly valuable for persons who plan vacations in which an inconsiderable interaction with other people, such as public relations work, advice giving, personnel, administration, counseling, and social services.

890-355 Theory and Practice of Human Interpersonal Skills 3 cr.
Utilizes theories of human interpersonal skills as developed in the behavioral sciences and the meaning and the application of these theories through small group participation.

890-368 Social Service Delivery Systems and Cultural Differences 3 cr.
Social service programs in culturally and technologically different societies are examined. The nature of the differences between the care-giving institutions are related to the cultures from which they entertain and which, in turn, serve their clients. Offered in January and summer.

893-400, 401 Field Experience in a Social Service Agency, 8, 1 cr.

894-410 Principles of Social Service Methods 3 cr.
Applications of concepts important to understanding of individual, group, organizational, and community dynamics to generic social service practices. Students bring to the class issues generated through their experience to field placement activities. Discussions focus on applying conceptual tools for assessing the impact of response to changing social needs from the perspective of the consumer of the service, the service deliverer, and the needs of society. Students develop an understanding of what they want tools and methods to achieve their goals. Skills to influence individuals, groups, and organizations are reaffirmed through the field experience. Concurrent registration in 893-330; 892-412, 892-202.

894-411 Principles of Social Service Methods 3 cr.
Students apply various social service methods to stimulate the client and the placement agency for greater effectiveness in the direction of their life goals. A dual focus of client-centered and organizational change uses general problem-solving methods for change. Developed Concurrent registration in 892-391 and 892-403. P: 892-410.

892-480 Evaluation of Practice 3 cr.
An introduction to the principles of evaluation in applied helping relationships with the content of various approaches to social intervention (one-to-one, group, agency, community). Practice evaluation is compared and contrasted with program evaluation. The assumptions and limitations associated with various clinical evaluation models are explored. The social, political, and philosophical issues of accountability are studied. Finally, the student has an opportunity to apply an evaluation approach from actual experience. Experience in a social service agency is necessary to provide practical material for the application of the course principles. Students who do not have a clinically practice experience can make alternative arrangements with the course instructor. P: 250-200, or 890-460 or cons. nat.

892-481 Student-Led Courses 1-4 cr.
See page 98.

892-482X Selected Topics in Social Services 1-4 cr.
See page 98.

892-485 Independent Study 1-4 cr.
See page 98.

900 Sociology

900-202 Introduction to Sociology 3 cr.
Introduction to major sociological concepts and ideas and their application to contemporary problems of society.

900-208 Marriage and Family in American Society 3 cr.
A sociological approach to marriage and families in American society. The course covers theories of historical changes in family life, the problem of defining family, social class, ethnicity and gender as key variables in the study of families, love and marriage markets, patrilineal and matrilineal, family power, conflict and decision making, family production and reproduction: life transitions, divorce and remarriage.

900-283X Selected Topics 1-4 cr.
See page 98.

900-298 Independent Study 1-4 cr.
See page 98.

900-301 Foundations for Social Research 3 cr.
An introductory examination of the nature of science, theory, methodology and statistics. The emphasis is on identifying and interpreting relationships between social phenomena. Topics assured by applying the conceptual tools presented in the course to specific problems. P: 210-205 or cons. nat.

900-305 Social Stratification 3 cr.
Class, status and power as determinants of group interests, preferences, ideologies, and struggles; examination of the nation and international levels. P: 960-302 or cons. nat.

900-311 Deviant Behavior 3 cr.
Description and analysis of the range of deviant behavior as problematics in contemporary society: evaluation of theoretical positions on norm construction, labeling, causes, and treatment. P: 960-309.

900-331 Social Theory 3 cr.
A critical analysis of classical and contemporary social theories with attention to their social and intellectual context and contemporary application. P: 900-202 or cons. nat.

900-332 Social and Cultural Change 3 cr.
Analysis of processes and flows of social movements, social change, and social change in the context of social and political changes and relationships to social change. P: 900-212.

900-375 Sociology of Sexuality and Intimate Relations 3 cr.
A social constructionist approach is used to analyze the creation of the modern emphasis on intimacy and sexuality as essential attributes to the development of self and personal life. Particular subjects covered include gender and intimate existence, changing ideas of love, intimacy and erotic pleasure, contexts of sexual health, the politics of sexual identity and communities, social movements related to sexual issues, mass cultural influences on intimate and sexual relations, and impacts on children and childhood. P: 875-330 and 900-202 or 900-202 and/or other social science courses.

900-404 Criminology 3 cr.
Analysis of the relationship of crime and society focusing on causes of crime and programs of control. P: 900-202 and new 300 level course in sociology.

900-482X Selected Topics 1-4 cr.
See page 98.

900-496 Independent Study 1-4 cr.
See page 98.

944 Urban Studies

944-200 Introduction to Urban Studies 1 cr.
Looks at the richness and complexity of the human experience in the contemporary city. We examine the city not as an arena in which we interact, but as a complex social institution of our own making. We ask how the city influences these as well as how the established institutions influence the city.

944-310 Drawing Systems for the Designer 3 cr.
Introduction to the theory and practical application of various drawing systems, including orthogonals, axonometrics, and perspectives. Emphasis is on the use of these drawing systems as aids in the design process. Projects ranging from working drawings to finished display renderings done in a variety of media.

944-230, 231 Values in Black and White America 1, 2 cr.
Designed to increase student's self-knowledge, to help develop a positive system of self-understanding, and to promote understanding between black and white Americans. The course compares basic values and views of life in two cultures, beginning with a brief look at values in White America and moving to a detailed study of the history and culture of black America. The second course, worry to enrich our understanding of and appreciation for the rich tradition of possible expressions of the aspirations of the human spirit and the social context of individual values.

944-921 Student-Led Courses 1-4 cr.
See page 98.

944-383X Selected Topics in Urban Studies 1-4 cr.
See page 98.

944-298 Independent Study 1-4 cr.
See page 98.
344-302 Urban Behavior 3 cr.
This course focuses on the life that people live in cities. It examines how we perceive and form impressions about urban areas, how we use urban areas, and how we interact with others in these settings. Theories used are psychological in nature, but rely on material from a variety of disciplines. Pr. jr. 1 Lower division social science course; 225-205 or equivalent.

344-303 Urban Sociology 3 cr.
The study of social life and population growth in the urban environment and its impact on social and psychological consequences of city life and the political and economic forces which have produced the industrial and corporate cities of the present day. Other topics include theories of "community," the evolution of industrial and commercial areas, the distribution of racial and ethnic groups, and urban problems such as poverty, housing, and public services. Pr. 844-305 required; 900-300 recommended.

344-305 Urban Politics and Policy 3 cr.
Concerned with urban social theory and its relation to urban political processes and public policy. Of central concern is the question: To what extent are basic human needs, as identified by urban theorists, frustrated and/or alleviated by urban political processes and public policy. Policy analysis examines outward aspects of urban renewal, welfare policy, urban transportation, fiscal policy. See 774-505.

344-307 Urban Public Law 3 cr.
Examine the changing cultural laws of United States public law toward urban communities as it is suggested in the Congresses. The analysis involves judicial decisions and administrative rules; regulation of public law to housing problems, localization of municipal services, school desegregation, land use, growth control, etc. Analyze the course requires in-depth description and analysis of national public laws (statutes, rules (administrative), and order (administrative and judicial) having to do with the urban setting. Students study government documents as primary materials. The government document center assists as a laboratory. See 944-206.

344-300 Urban Economics 3 cr.
Addresses at an advanced level, economic problems of urban areas. Topics include urban spatial structure, local government finance, economic development, zoning, and urban renewal. The course content is divided into these parts: in part one, the course develops theoretical models—some quantitative—and urban spatial form and structure. In part two, the course turns to issues in urban economics, including, but not limited to, those above. In part three, regular class meetings will end and students will work on research projects of their own design. Seminar procedures will be used throughout the course; therefore, enrollment should be consistent in their ability to critique rigorous reading materials and present to the class the results of their own research.

344-311 Studies in Urban Resources 3 cr.
The use of urban space and resources is explored through case studies of specific individual year. Examples of topics include: Environmental Perception, Social Responses to Urban Planners, Urban Behavior in Urban Settings, and Urban Behavior Patterns.

344-315 Studies in Urban Behavior 3 cr.
The interrelationship of human behavior and the physical and sociocultural environments of cities is examined through case studies of specific years. Examples of topics include: Environmental Perception, Social Responses to Urban Planners, Urban Behavior in Urban Settings, and Urban Behavior Patterns.

344-315 Administrative Law 3 cr.
Focuses on administrative law in the American legal (i.e., intergovernmental) system. Its purposes are: (a) to provide students with a comprehensive understanding of the fundamental principles of administrative law; (b) to assist students in understanding the connections between administrative law issues and issues of public policy. It is intended to introduce students to the legal dimensions of administrative problems. Administrat law has to do with the powers and procedures generally applicable to all administrative agencies. It is derived from several sources, constitutions (federal and state), statutes, common law and the rules, regulations, and ordinances of administrative agencies themselves.

344-315 Law & Society 3 cr.
See 875-325.

344-315 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. Introduces the concept of environment-behavior relationships. Pr. 844-305.

344-312 Behavior in Designed Environments II 3 cr.
Application of techniques and knowledge of the environment-behavior relationship to the study of the designed environment. Students develop and carry out all aspects of a detailed study of a selected environment-behavior problem. Pr. 844-305.

344-314 Cities in Literature and Art 2 cr.
Focus is on American writers and artists. Selections of novels, poems, plays, autobiographies, paintings, drawings, and photographs highlights historically important images of the city in America. The course considers how works of literary and visual art reflect the the real urban experience and how the cultural imagery can expand or limit our urban possibilities. Pr. 844-205 or 2 cr. or cons inst.

344-345 Women in American Perspective 3 cr.
Provides a historical survey of the changing status and role of women in American society. It covers the colonial, frontier, Jeffersonian, urban-industrial, and modern eras, and includes an in-depth study of the roles and power of the century women's movement. It uses social analysis in individual historical experiences to explain the impact of various social roles on contemporary women from different socioeconomic, ethnic, and personal backgrounds.

344-301 Transportation and the City 3 cr.
The impact of the transportation infrastructure on the city and urban centers was discussed. The course contains real and applied cases of urban infrastructure.

344-401 Environmental Design Workshop I 3 cr.
Design problems at the individual's scale. Investigation of personal, space, privacy and environmental characteristics. Laboratory includes field destroy and analysis of specific community experiences.

344-402 Environmental Design Workshop II 3 cr.
Environmental workshop on the basis of a research project. Project must be developed by the student and approved by the instructor. The project will normally be a report on a research project, a survey of a neighborhood, a report on a social or environmental problem, or a survey of a specific community.

344-422 Urban Planning II: Community Project 3 cr.
A field research project focusing on the planning/design/making process in an ongoing program for developing Green Bay, Green Bay neighborhood. Seminar meets as a planning team, expected to make all of the organizational and operational decisions necessary to make the team an integral part of the community program. Topics and/or activities which the seminar may investigate include the planner as advocate and change agent, information requirements in planning, interest groups, the role of the community decision-making process, the role of the community decision-making process, and implementing intervention strategies in community planning.
University of Wisconsin-Green Bay
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Appendix

Undergraduate Academic Rules and Regulations

Definitions

Credit - a quantitative unit of measurement of effort devoted to reading, discussion, lecture, and other activities associated with the learning process. Usually a credit requires a minimum of 15 hours of classroom time and an additional 30 hours of out-of-classroom effort.

Credit Load - the number of credits a student is carrying as a program at a given time in a term, e.g., at registration or at the end of the semester. All credits, regardless of grading status, count toward the credit load for certain purposes.

Maximum Credit Load - 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 15 credits and for a student on probation this maximum is reduced to 12 credits; for shorter terms lower credit limits are specified.

Minimum Credit Load - is a specific number of credits that must be carried to be eligible for a variety of programs and benefits, e.g., athletics and financial aid.

Grade Point Credits - the number of credits which are taken for a grade that will affect the grade point average. Some attempted credits may not count as degree credits, e.g., some physical education courses do not always result in degree credit and do not affect the gpa either.

Degree Credits - those credits which will count toward the 124 credits required for a bachelor's degree. Certain courses in physical education and all Academic Support Program courses do not result in degree credits even though they may have a credit value assigned for certain load measurement purposes.

Completed Credits - is the number of credits, excluding audited credits, for which a final grade, other than a temporary grade of F, has been recorded. P-NC credits passed, degree credits, and attempted credits are included.

Audited Credits - are credits associated with courses in which the student has elected to enroll as an auditor. While these credits are subject to consideration for maximum credit load and fee assessment purposes, they are of no significance for any other purpose. Enrollment on an auditor basis is subject to special conditions.

P-NC Credits - are credits taken under special grading options; these credits do not have any effect on the grade point average, but, if passed, may add to the degree credits earned.

Grade Point Average (GPA) - is a numerical value derived from dividing the number of grade points earned by the number of credits attempted on a regular grade basis. P-NC, incomplete, and audit grades and credits have no affect on the grade point average. Only those courses attempted at UWGB are included in the gpa.

Example for a semester:

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophy</td>
<td>A</td>
<td>3</td>
<td>12gp</td>
</tr>
<tr>
<td>Math</td>
<td>B</td>
<td>4</td>
<td>12gp</td>
</tr>
<tr>
<td>German</td>
<td>C</td>
<td>4</td>
<td>10gp</td>
</tr>
<tr>
<td>ASP English</td>
<td>P</td>
<td>3</td>
<td>00gp</td>
</tr>
</tbody>
</table>

Total credits attempted: 11
grade points: 34
GPA: 3.09 gpa

Cumulative Grade Point Average - is a gpa for all terms at UWGB and is calculated by dividing the cumulative total grade points earned by the cumulative total attempted credits.

Probation - is a status assigned to a student for lack of academic progress as measured by completed credits or for inadequate performance as measured by the grade point average, and should be considered as an advisory warning that improved performance is necessary to continue as a student.

Academic Drop - is a status assigned when the record of academic progress and/or achievement is unacceptable to the extent that the student is not permitted to continue to enroll at the University.

Good Standing - is a status assigned when a student is making adequate academic progress and his/her cumulative gpa is 2.0 or better.
Grading System and Grade Points

Grades 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>Grade Symbol</th>
<th>Definition</th>
<th>Grade Points/ Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Very Good</td>
<td>3.5</td>
</tr>
<tr>
<td>C</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>Average</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>UC</td>
<td>Unclassified/No Credit</td>
<td>0</td>
</tr>
<tr>
<td>WF</td>
<td>Unofficial Withdrawal</td>
<td>0</td>
</tr>
</tbody>
</table>

Grades Excluded From Grade Point Average:
P—Pass; grade of C or better
NC—No credit; grade of D, F, or WF

Other Symbols:
S—Satisfactory Audit
U—Unsatisfactory Audit
D—Droped Course
W—Official Withdrawal From All Courses
NR—No Papit
I—Incomplete

*NOTE:* This grading system is effective beginning September 1996.

A student may earn courses on a pass/no-credit basis with certain restrictions; see the specific section on P/NC grading.

Since grading standards differ from institution to institution, grades received from other institutions outside the University of Wisconsin-Green Bay are not included in computing the grade point averages.

Academic Standing

Every student is expected to maintain certain standards of academic achievement in all work carried at this University. The University has established these standards in terms of the quality of the work, as measured by the semester and cumulative grade point averages, and the quantity of work satisfactorily completed, as measured by the proportion of the credit load completed each semester.

Certain exceptions are allowed for part-time students, but unless otherwise stated part-time students are expected to meet the same academic achievement standards as any other student.

Academic standings are reviewed at the end of each term and a revised standing will be reported to every student on the final grade report which is issued after each academic term.

Probation and Drop Status

The University is concerned about students whose academic achievements seem to indicate that they are not able to meet the expectations of their instructors or are experiencing other problems that may be interfering with their studies. A probation action is an advisory warning that a student should take appropriate actions to improve his/her achievement. A drop action is taken when this University finds that the student’s academic achievement record to date indicates a need to interrupt enrollment status to reassess and realign goals and plans. A student who has been placed on probation or drop status should give careful consideration to the factors that may be involved. The University encourages such students to seek assistance from counselors, advisors and other instructors, and to provide various testing services and study skills development programs such as the Academic Support Program.

Every student is expected to maintain at least a C average (2.0 cumulative GPA) on all work carried, whether passed or not. Failure to achieve this minimum C average (2.0 GPA) or to remain in good standing at the end of that term, as shown below, Drop actions are taken at the end of each term. However, if a student was not enrolled for the fall semester, a drop action will not be taken solely on the basis of inadequate achievement in the January interim.

Every student is expected to complete a certain portion of the credits for which he/she originally enrolled. Failure to meet this second standard in each semester will result in a status of probation, continued probation, or drop, as shown below. In completion means that a grade of A, B, C, D, F, W, P, or NC was earned, exclusive of previously passed courses which are being retained voluntarily.

A student on probation may return to good standing if he/she fulfills certain requirements, as shown below.

1. Student in Good Standing (a and b)

a. Grade Point Requirement and Action:

- 1.0 to 1.89 end of semester or term cumulative GPA will result in probation status.
- 0.99 or less end of semester cumulative GPA will result in a drop status.

核算 at the end of the course add period.

b. Credit Completion Requirements and Actions:

<table>
<thead>
<tr>
<th>ORIGINAL* CREDITS</th>
<th>CREDIT COMPLETED</th>
<th>END OF SEMESTER LOAD</th>
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<tr>
<td>12 or more</td>
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<td>6 or less</td>
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<tr>
<td>6 or less</td>
<td>3 or more</td>
<td>Probation</td>
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Students who enroll for an original credit load of less than 6 credits are exempt from completion requirements. A student may drop at least one course from her/his original credit load without incurring a drop or probation action. (EXAMPLE: a student enrolled for an original credit load of 12 credits could drop one 1 credit course without incurring an action of probation or drop for lack of progress.)

3. Student on Probation (a and b)

a. Grade Point Requirements and Actions:

- Less than 2.0 cumulative GPA will result in a drop status.
- 2.0 or better end of semester or term GPA and a 2.0 cumulative GPA will result in return to good standing.

b. Credit Completion Requirements and Actions:

- Same as for probation standing.

Drop status is assigned for a period of one semester for the first drop earned. If a student is dropped for a second time the drop status will be for a period of two semesters. A student who is dropped at the end of the fall semester may enroll in the January interim with the understanding that he/she is not eligible to continue for the spring semester unless he/she achieves the grades during the January interim and meets all other required criteria. A student who is dropped at the end of the spring semester may enroll in the summer session with the understanding that he/she is not eligible to continue for the fall semester unless he/she achieves the grades during the summer session and meets all other required criteria.

Conditional matriculants must meet special conditional requirements specified at the time of admission. When a CM student is removed from CM status he/she must meet all normal requirements. While enrolled as a conditional matriculant classrooms, the determination for the drop or continued conditional matriculant status will be made by the Conditional Matriculant Review Committee.

Appeals

Academic probation is a non-punitive warning and is not subject to an appeal. Academic drop status may be appealed by means of a special academic appeal brochure issued by the Academic Affairs or his/her designated representative. The vicar chancellor may seek advice from the Academic Affairs representative. Any appeal must be filed within two weeks after the end of the semester. A student who is to continue to be on probation and will be subject to any other special conditions may be designated. An academic drop period provides time for a student to give careful thought to the situation that resulted in the drop action. To seek an appeal, a non-cumulative remedial preparation or in the same academic achievement record that has been completed. Any appeal must include a clear explanation of the problems that resulted in the academic achievement and new the student proposes to resolve those problems.

In the event that an appeal is contemplated, the following items should be considered:

1. Are the relevant facts clearly stated and documented?
2. Are the extenuating circumstances sufficient to outweigh the measurable nature?
3. Are the relevant recommendations from the instructor included?
4. Are the needed and appropriate for the academic achievement record?
5. Are the appeal properly made in the educational requirements for the academic achievement record?

Limited Rights to Appeal an Academic Drop Action

A student who enrolls for an academic drop action must fill the any written appeal for an exception within seven days from the date printed on the grade slip or the student record report which is mailed out to all students at the end of each term. Failure to meet this deadline shall result in an assumption that there will
be no appeal of the drop status and several possible consequences may result from that assumption, including the following:

1. Cancellation of housing in the Village Apartments or residence halls.
2. Cancellation of any advance registration or seat for the next semester.

Appeals shall be filed with the assistant to the vice chancellor in the Office of the Registrar.

If the appeal is filed before the deadline, a student may expect to:

1. Know the outcome of the appeal within seven (7) working days of the date the appeal was filed. If notification by mail is desired, the student must enclose a self-addressed stamped envelope with the appeal. If no other arrangement has been made, the student may pick up a copy of the results of the appeal in window 7 of the Office of the Registrar.

As indicated elsewhere in the academic rules and regulations, a student who is dropped at the end of the fall semester may complete the January Interim and a student-staffed drop at the end of the spring semester may complete the summer session. However, completion in either of those special terms does not modify the requirement of filing an appeal within the deadline cited nor does it guarantee permission to register for the ensuing semester.

If the appeal is denied by the vice chancellor's designee, a student who is dropped at the end of the fall semester may complete the January Interim and a student-staffed drop at the end of the spring semester may complete the summer session. However, completion in either of those special terms does not modify the requirement of filing an appeal within the deadline cited nor does it guarantee permission to register for the ensuing semester.

Course Drops

The course drop deadline has been established to allow the student the opportunity to decide whether to continue a course or withdraw before the end of the scheduled period. At this time, withdrawals that have not been approved will not be allowed. However, approval of withdrawals will be given after the student has signed a waiver indicating that the student understands the consequences of withdrawal.

The drop deadline is intended to stimulate a student to withdraw carelessly all of the important considerations and decisions as far as the student is able. If a student decides that a course does not fulfill expectations, a reasonably early drop means that the student may then devote a greater portion of available time and effort to remaining courses, and the instructor will be able to devote more time and effort to the students participating in the course.

The drop deadline for each course is determined by the instructor at the start of the course. It is the student's responsibility to contact the instructor before the drop deadline to ensure that the drop is permitted, and that the instructor is available to provide advice on the implications of the decision.

Readmission

Readmission after an academic drop is not automatic. The Office of Admissions may take into account all factors that may influence the decision, including but not limited to the student's academic records, personal circumstances, and demonstrated ability to succeed. A student's readmission status is determined by the Registrar's Office.

A student whose readmission is denied may appeal the decision in writing to the Registrar, who will review the case and make a final decision within 30 days. The student may also appeal the decision to the Vice President for Student Services or the President of the University.

Withdrawal From the University

A student who desires to withdraw from all academic courses work at any time after completing the study list request form or final registration must contact the counselor in the Student Counseling and Development Office, the advisor in the Office of Academic Advisor, or the Dean of Students. A complete withdrawal without failure may be requested at any time before the end of the last day of regularly scheduled classes during the first five weeks of the semester, the sixth week of an eight-week summer term, or the second week of a January Interim term...

Maximum Credit Load

The maximum credit load is 15 or 16 credits. A student in good academic standing may register for any number of credits up to a maximum of 16 per semester. A student is not allowed to register for credit in excess of 16 credits. The student is responsible for notifying the instructor(s), in writing, of the reasons for nonattendance and intentions to complete the course. The Registrar's Office is obligated to follow the student's request and notify the appropriate personnel accordingly.

Late Program Changes and Withdrawals

A student may be granted permission to drop a course or return to the normal withdrawal process after the fall or spring semester deadlines. Each student is responsible for reviewing the deadline for each course and adhering to the requirements for withdrawal.

Course Add/Drop

A student must present a written notice to the Registrar's Office, signed by the student, indicating the course or courses they wish to add or drop after the fall or spring semester deadlines. Each student is responsible for reviewing the deadline for each course and adhering to the requirements for withdrawal.

Class Attendance

A student is expected to attend all classes on time. The Registrar's Office is responsible for maintaining records of attendance for each student. A student who is unable to attend classes may be required to withdraw from the course. The Registrar's Office may refuse to register for courses in excess of 16 credits. A student is responsible for notifying the instructor(s) of the reasons for nonattendance and intentions to complete the course.

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Grade and Grade Appeals

Each student will receive a grade from the instructor in charge of a course at the end of the respective semester or session. Grades must be in the Office of the Registrar no later than 96 hours after the final examination. Accompanying the grade received, the registrar each semester will be informed on current grading policies.

If a student is dissatisfied and wishes to appeal a particular course grade, he/she must first contact the instructor who issued the grade. If the student is still dissatisfied he/she may appeal to the dean of the college concerned or professional program chairperson who will, in turn, consult with the instructor in the course. If the student wishes to appeal further he/she may consult with the vice-chancellor of Academic Affairs who also consults with the instructor and the appropriate chairperson. The vice-chancellor or chairperson acts in an advisory capacity to the student and instructor.

Grade Changes

All final grades, with the exception of incomplete (I), will become permanent grades after the last day of classes for the next semester. Any discussions with faculty regarding grade levels or missing (F) grades must be pursued within this time period.

Incompletes

If, due to unusual and/or acceptable circumstances, a student is unable to take or complete a final examination or other course work, he/she may arrange with the instructor to receive a grade of "Incomplete" in the course. The incomplete is filed with two tentative grades, one indicating the quality of the work to date, and a second to be assigned no more work is completed and a final grade is decided on. An incomplete grade is not a permanent grade and does not carry credit toward graduation. It is removed from the record if the student completes the work satisfactorily within 12 months of the date of the incomplete.

Incompletes for Graduating Seniors

Senior-anticipating graduates must remove all pending incompletes by the end of the sixth week of the final semester of attendance. Outstanding incompletes will be considered "I" grades for purposes of estimating eligibility for graduation and, if applicable, honors.

Removal of Incompletes

The course instructor is responsible for informing the student, the Office of the Registrar and the college dean or professional program chairperson as to the specific deadline for removal of an incomplete. No earlier deadline is specified, an incomplete (I) grade is removed no later than the last day of classes for the next semester. By the absolute maximum allowable deadline, if no other grade is assigned by the instructor within this deadline, incomplete (I) grade shall become a permanent grade of "F" with normal effect on the student's grade point average and earned credits.

A student may file a special petition for an exception to the removal deadline if bona fide unanticipated extenuating circumstances prevented compliance with the removal deadline, such as the following:

1. The student has serious physical or mental health problems which have been documented by a physician or professional counselor's statement.

2. The student has had a death or serious illness in the immediate family and this has been documented by a physician's statement.

3. The course instructor is on leave during the semester for removal.

If a student is a graduating senior, all "I" grades must be corrected by the permanent passing or failing grade before his/her commencement date. All grades on the record shall become permanent as of that date with no possibility for removal or change.

An incomplete (I) grade is a normally temporary grade which is given when, due to unforeseeable extenuating circumstances, a student is unable to complete the course requirements within the normal term, e.g., illness during the final examination period.

Repeating Courses

A student may choose to repeat any course. All repeated courses will be designated with a letter "R" after the title on the transcript. When a repeated course is completed, the original grade and entry on the transcript remain on the transcript but the credits, grade, and grade points earned for the most recent completion shall be the only enrollment completion that will have effect on the cumulative attempted credits, grade points earned, and grade point average. Courses repeated or taken by another institution have no effect on the grade point average at UWGB.

Repeated courses do not count toward fulfillment of standards of progress requirements, for probation and or status purposes, unless the previous grade was F, W, D, or U.

Pass-No Credit Enrollment Information

Pass-no credit (PNC) grading is a student elected grading option which is available to students who, in consultation with a regular grade in a course that would affect his/her grade point average, the student wishes to take a course on a PNC basis. The decision must be made within the first two weeks of a semester. The last week of an eight week summer session, the first two days of a January interterm, a PNC request form must be filed in the office staff to request or form the program change form, or the final registration form. Credit courses may not be elected on a pass-no credit basis if they are taken to fulfill certain requirements. These include the following:

Major and/or minor courses (300-400 level)

Professional Program courses (300-400 level) including all courses in the teaching majors and minors, except student teaching.

Senior Distinction (464) project

Independent Study (298-498) courses

All University requirements courses, including any course used to satisfy the writing requirement.

Electives may be taken on a PNC basis.

Non-degree credit (courses, e.g., Academic Support Program) and student teaching are offered exclusively on a PNC basis.

If there is any doubt as to whether it is permissible to count PNC graded courses for the major, the student should consult the Office of the Registrar before the second two weeks deadline for PNC changes.

If a course taken on pass-no credit, grades of A, B, C, D, or E are designated pass and the grade is recorded on the final grade slip and the permanent record card as a "P". These grade are not used in computing the grade point average, but the earned credits do count toward graduation.

If a student should receive a grade of "F", "WF", or "D" in the course, the grade slip and transcript will reflect "NC" or no credit. A "NC" does not affect the grade point average in earned credits.

For example, if a student would like to explore a completely new area of interest it may be advisable to take it on pass-no credit since it may be difficult to estimate the difficulty of the work required as well as the level of other students in the course.

However, if a student is considering applying for graduate or professional schools, transferring to another undergraduate campus, the grading system may have an adverse effective admission. Graduate schools generally prefer letter grades, because this enables them to better judge potential for academic success.

Since instructors generally do not know which students are taking their courses on pass-no credit, they may be an inferior factor. Letter grades are changed to a "P" or "NC" by the computer. This letter grade will be reported only on the student's academic record and the written request of an academic official from the college or university, or professional institution, in which the grade is to be sent. Students are cautioned about taking courses on pass-no credit even though the grade can be released in this way.

Prospective employers often share many of the same inconsistencies about pass no credit grades that graduates schools have.

For more information check with an academic advisor before classes begin.

The decision to select PNC grading should be made at the time of registration and no change in PNC grading deadlines will be allowed after the normal course add deadline. With the exception of Academic Support Program courses, student teaching, and Clinical Physical Therapy courses, no course is graded exclusively on a PNC basis.

Audit Enrollment Information

A student may audit a course if space is available after students who have enrolled for credit have been accommodated. Special policies apply to senior citizen guest students and any other students who enroll under the special half-prices arrangement. These policy statements are published in the Timetable for each term. Conditions and requirements for class participation are completely at the discretion of the course instructor. A student who audited for credit may change to credit in the same course at any time up to the course drop deadline. Audited credits do not count in the determination of credit completion requirements or for any program or benefit eligibility status. Audit credits are subject to consideration for maximum credit load limitations. Any change from audit status to credit status, for grading purposes, must be completed within the course add period.

Program Declaration and Advisers

To ensure the best possible program planning and course selection, all students are strongly urged to seek advice and information on majors, All-University requirements, all minors, and other programs as soon as possible. All maintains students must select an appropriate academic adviser to assist with course selection before each registration.

The adviser's signature must be on the test for request for each registration until the student has selected an academic plan form. A student who attains junior standing (64 or more degree credits) must declare an interdisciplinary or professional major or minor before being allowed to register for another term. A student who has attained senior standing (64 or more degree credits) must file an approved academic plan before he/she will be allowed to register for another term.

Independent Study

Students interested in earning credit for research may wish to enroll in independent study in one of the following categories: independent studies, disciplinary programs, or professional programs, under the course numbers of 298 for lower division work or 498 for upper division work. Enrollment may be for a course to be arranged for an independent study a student should prepare a statement of objectives and a list of readings and or resources and projects that will be pursued. This proposal may be designed by the student or proposed on the form which is available for this purpose. The written proposal, as approved by the instructor should be filed with the Office of the Registrar and the second of the second week of classes. If a student does not file a copy of the proposal on file, the fee is accepted but the proposal is not subject to enrolment. No regular UWGB faculty are allowed to supervise independent studies.

Independent Study courses are subject to certain limitations:

1. Independent studies cannot be designed to duplicate a regular UWGB course in a type of study is intended to expand the curriculum.

2. A freshman or sophomore must have a minimum cumulative grade point average of 2.5 and a junior or senior must have a minimum of 2.0.

3. An independent study cannot be elected by the student on an audit or Pass-No-Credit basis.

4. An independent study may be taken only with a regular member of the UWGB faculty or academic advisor.
Standards of Academic Progress Required to Receive Financial Aid

The University’s policy for standards of academic progress required to remain eligible for financial aid is governed by federal regulations published in the October 6, 1983, Federal Register Part 668.16. Following is a statement of the policy that has been enforced for UWGB aid recipients since January 1, 1984.

Undergraduate Students

1. Duration of Eligibility. Students enrolling on a full-time basis (12 credits or more) are eligible to receive financial aid for a maximum of 6 years or 12 semesters. Students enrolling on a part-time basis (6 to 11 credits) are eligible to receive financial aid for a maximum of 11 years or 22 part-time semesters. If a student enrolls for some semesters as a full-time student and for others as a part-time student, a proportional total number of semesters will be computed. Attendance during summer session for 6 credits or more will be counted as one part-time semester.

2. Credit Hours to be Completed. A student must have successfully completed the following minimum cumulative credits by the end of the designated academic year and the minimum credits per semester as a full or part-time student. Students starting mid-year (spring term) will be reviewed for partial year compliance at the end of that term.

Graduate Students

1. Duration of Eligibility. Graduate students enrolled in a Master's Degree program may receive financial aid for a maximum of 3 years or 6 semesters as full-time students and for a maximum of 5 years or 10 semesters as part-time students. Attendance during summer school for 3 or more credits will be counted as one part-time semester.

2. Credit Hours to be Completed. A graduate student who receives financial aid must complete a minimum of 6 credits per semester as a full-time student or 3 credits per semester as a part-time student. The student must also successfully complete the following cumulative number of credits by the end of each year.

General Information About Aid Eligibility

1. Credit hour enrollment will be established by the number of credits enrolled as of the end of the second week of classes for any term.

2. Successful completion means that a grade of A, B, C, D, or P was earned, exclusive of previously passed courses which are being retaken voluntarily.

3. Other aid regulations must be adhered to, and may limit aid awards to students because of other program regulations.

4. Non-degree students (specials) are eligible for guaranteed student loans only.

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**Undergraduate Students**

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<thead>
<tr>
<th>Year In School</th>
<th>Semesters Completed</th>
<th>Required Cumulative Credits</th>
<th>Credit Completion Scale</th>
<th>Year In School</th>
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Students must complete a minimum of 9-12 credits per semester depending upon year in school.

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**Graduate Students**

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Extended Degree students must satisfactorily complete contract work in progress before new aid may be provided for an equivalent of 12 full-time semesters.
and must meet the regular academic regulations of the university.

5. Review. A review of each aid recipient's eligibility will be made at the end of the academic year (between spring and fall semesters). Notification of probation or ineligibility will be sent to students at that time. Students on probation will be reviewed at the end of the next semester to determine continued aid eligibility. Students will be eligible to receive aid during the initial probationary warning period.

6. Ineligibility for Aid. If a student has not made adequate progress, the student will be ineligible for additional aid. In order to again become eligible for aid, the student must enroll and earn sufficient credits to regain good standing according to the credit completion scale. The student must enroll and make up the deficiency without aid before future aid can be reinstated.

7. If a student is denied aid due to lack of progress, the student may appeal the determination by writing a letter explaining the reasons for lack of progress and providing evidence of mitigating circumstances. The appeal must be submitted to the financial aid office. The financial aid staff will review the appeals in committee and reach a final determination.

8. Effective September 1964, each student will have a semester starting point calculated from which future completion requirements will be measured. This starting point will be either the total number of semesters for which a student has been enrolled or the cumulative total of successfully completed credits, whichever is most advantageous to the student. For transfer students, the starting point will be determined by the cumulative total of successfully transferred credits.

9. Based upon the required credit completion scale, the student must achieve both the cumulative total and per semester credits for the subsequent semester in order to avoid probationary or termination status.

This policy is subject to review as needed. For questions or additional information contact the Financial Aid Office (414) 465-2075.

---

Financial Aid Refund Payment Schedule

Students receiving financial aid who drop credits must repay financial aid funds they have received. The amount of repayment is based upon federal Department of Education regulations (paragraph 668.21 of the federal financial aid regulations).

Students will be notified in writing about the amount of repayment due after the Financial Aid Office is notified about the withdrawal or credit drop. The aid must be repaid by the student before future aid may be granted. Also, failure to repay or to make appropriate arrangements will result in a hold being placed on the release of the student's official university records.

Students enrolled for sessions of less than the usual term duration who drop credits or withdraw, shall have a proportional repayment calculated on an individual basis.

Students who wish to appeal the amount of repayment due may provide written documentation of the request and should discuss the situation with a financial aid counselor.

---

<table>
<thead>
<tr>
<th>Refund and Repayment Schedule</th>
<th>Fall/Spring Semesters</th>
<th>Summer Session</th>
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<tbody>
<tr>
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<td><strong>Tuition Refund</strong></td>
<td><strong>Repayment of Aid for Noninstitutional Costs</strong></td>
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**UW-Center System Course Equivalency Tables**

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<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>
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<td>ANT 102</td>
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<td>ANT 105</td>
<td>HUA/ANT 110</td>
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<tr>
<td>ANT 106</td>
<td>HUA elective</td>
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<td>ANT 200</td>
<td>ANT 100</td>
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<td>ANT 301</td>
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<td>ANT 545</td>
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<td>Biological Sciences</td>
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<td>(plus CS ZOO 110)</td>
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* No HUA 203, 204 for full credit.

** CSZOO 234 plus PHS255 is equivalent to Green Bay HUA 203, 204.
### Center System Course Equivalency Tables

#### Center System Courses | UWGB Courses
---|---
BUS 299 | Determined by topic
BUS 374 | BU A 217
ECO 101 | ECO 102
ECO 203 | ECO 202
ECO 204 | ECO 203
ECO 230 | ECO 330
ECO 243 | BUA/ECC elective
ECO 250 | ECO elective
ECO 271 | ECO elective
ECO 297 | Determined by topic
ECO 299 | Determined by topic

**Chemistry**
- CHE 100: No transfer
- CHE 124: SEC elective
- CHE 125: CHE 108
- CHE 145: CHE 211**
- CHE 155: CHE 212**
- CHE 203: CHE elective
- CHE 211: CHE elective
- CHE 214: CHE elective
- CHE 233: NSC elective
- CHE 244: CHE 311
- CHE 272: CHE elective
- CHE 290: Determined by topic
- CHE 299: Determined by topic
- CHE 343: CHE 302
- CHE 352: CHE 304, 305
- CHE 363: CHE 303

**Communication Arts**
- COM 100: CPR elective
- COM 101: CPR 166
- COM 102: CPR elective
- COM 103: CPR 133
- COM 110: CPR elective
- COM 130: COA elective
- COM 131: THE 235
- COM 150: COA 210
- COM 160: CPR elective
- COM 201: CPR 202
- COM 202: CPR elective
- COM 203: CPR 203
- COM 204: CPR elective
- COM 206: CPR elective
- COM 220: CPR elective
- COM 230: CPR elective
- COM 231: THE 221
- COM 232: THE 151
- COM 234: THE 221
- COM 266: CPR elective
- COM 267: CPR elective
- COM 268: CPR elective
- COM 268: Determined by topic
- COM 269: Determined by topic
- COM 348: THE elective
- COM 349: THE elective

**Computer Science**
- CPS 100: Elective
- CPS 101: General elective
- CPS 110: MAT 155
- CPS 113: MAT 296

**Education**
- EDU 100: EDU elective
- EDU 101: EDU elective
- EDU 200: EDU elective
- EDU 223: EDU elective
- EDU 251: Departmental review (3)
- EDU 283: Departmental review (3)
- EDU 300: EHU 410
- EDU 330: PSYCh 315

**Engineering**
- EGR 100: No equivalent
- EGR 106: CPRF elective
- GRA 102: SEC 106
- GRA 113: SEC elective
- MEC 201: SEC 313
- MEC 202: SEC 314
- MEC 203: SEC 316

**English and Literature**
- ENG 101: ENG 100
- ENG 102: ENG 105
- ENG 200: ENG elective
- ENG 202: ENG elective
- ENG 203: ENG 212 or 213
- ENG 204: ENG 212 or 213
- ENG 210: ENG elective
- ENG 220: COA 160
- ENG 250: ENG 104
- ENG 260: ENG 214
- ENG 261: ENG 215
- ENG 262: ENG 216
- ENG 263: ENG 217
- ENG 264: ENG elective
- ENG 265: ENG elective
- ENG 266: ENG elective
- ENG 267: ENG elective

**Foreign Language**
- FRE 101: FRE 101
- FRE 102: FRE 102
- FRE 118: FRE elective
- FRE 119: FRE elective
- FRE 201: FRE 210
- FRE 202: FRE 202
- FRE 215: FRE elective
- FRE 219: FRE elective
- FRE 223: FRE 329
- FRE 225: FRE 329
- FRE 226: FRE 329
- FRE 226: FRE 226
- FRE 275: ENG elective
- FRE 276: ENG elective
- FRE 277: Determined by topic
- FRE 291: Determined by topic
- GER 101: GER 101
- GER 102: GER 102
- GER 118: GER elective
- GER 119: GER elective
- GER 201: GER 201
- GER 202: GER 202
- GER 215: GER elective
- GER 216: GER elective
- GER 219: GER elective
- GER 221: GER 329
- GER 222: GER 329
- GER 225: GER 225
- GER 226: GER 325
- GER 275: ENG elective
- GER 276: ENG elective
- GER 277: Determined by topic
- GER 291: Determined by topic
- SPA 101: SPA 101
- SPA 102: SPA 102
- SPA 118: SPA elective
- SPA 119: SPA elective
- SPA 201: SPA 201
- SPA 202: SPA 202
- SPA 210: SPA elective
- SPA 221: SPA 329
- SPA 222: SPA 329
- SPA 225: SPA 225
- SPA 226: SPA 325
- SPA 236: HUM elective
- SPA 266: ENG elective
- SPA 275: ENG elective

*** CS CHE 145 plus CHE 155 is equivalent to Green Bay CHE 211, 212.***
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<thead>
<tr>
<th>Center System Courses</th>
<th>UWGB Courses</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>SPA 291</td>
<td>Determined by topic</td>
</tr>
<tr>
<td>SPA 299</td>
<td>Determined by topic</td>
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</table>

**Geography**

| GEO 101              | GEO 202 |
| GEO 104              | EAR elective |
| GEO 110              | GEO 102 |
| GEO 115              | GEO 215 |
| GEO 120              | EAR elective |
| GEO 121              | EAR elective |
| GEO 123              | EAR 222 |
| GEO 124              | EAR 202 |
| GEO 125              | EAR 200 |
| GEO 130              | SEC 102 |
| GEO 277              | GEO elective |
| GEO 281              | Determined by topic |
| GEO 297              | Determined by topic |
| GEO 299              | Determined by topic |
| GEO 300              | GEO elective |
| GEO 324              | GEO elective |
| GEO 341              | GEO 371 |
| GEO 342              | GEO 235 |
| GEO 347              | GEO elective |
| GEO 348              | GEO elective |
| GEO 349              | REA 382 |
| GEO 350              | SEC 303 |

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</table>

**History**

| HIS 101                | HIS 250 |
| HIS 102                | HIS 206 |
| HIS 105                | HIS 101 |
| HIS 106                | HIS 102 |
| HIS 110                | HIS elective |
| HIS 111                | HIS 201 and/or elective (plus CS HIS 112) |

**Center System Courses | UWGB Courses**

| HIS 112               | HIS 201 and/or elective (plus CS HIS 111) |
| HIS 114               | HIS elective |
| HIS 115               | HIS 202 |
| HIS 116               | HIS elective |
| HIS 117               | HIS elective |
| HIS 118               | HIS 203 |
| HIS 119               | HIS 204 |
| HIS 120               | HIS 251 |
| HIS 121               | HIS elective |
| HIS 122               | HIS elective |
| HIS 124               | HIS elective |
| HIS 126               | HIS elective |
| HIS 127               | HIS elective |
| HIS 128               | HIS elective |
| HIS 150               | HIS elective |
| HIS 176               | HIS elective |
| HIS 183               | HIS elective |
| HIS 185               | HIS elective |
| HIS 190               | HIS elective |
| HIS 195               | HIS elective |
| HIS 197               | HIS elective |
| HIS 198               | CA 210 |
| HIS 203               | HIS elective |
| HIS 211               | HIS elective |
| HIS 213               | HIS elective |
| HIS 215               | HIS elective |
| HIS 289               | HIS 310 |
| HIS 290               | HIS 311 |
| HIS 291               | HIS elective |
| HIS 293               | HIS elective |
| HIS 295               | HIS elective |
| HIS 296               | HIS elective |
| HIS 297               | HIS elective |
| HIS 298               | Determined by topic |

**Interdisciplinary Studies**

| INT 100               | Faculty evaluation |
| INT 101               | SCD elective |
| INT 102               | SEC 102 |
| INT 105               | CPR elective |
| INT 195               | SCD elective |
| INT 197               | CPR/ART 243 |
| INT 250               | SEC 263 |
| INT 291               | Determined by topic |
| INT 294               | General elective |
| INT 295               | General elective |
| INT 296               | General elective |

**Learning Resources**

| LEA 100               | No transfer |
| LEA 101               | No transfer |
| LEA 102               | No transfer |
| LEA 104               | No transfer |
| LEA 105               | No transfer |

**Lecture (University) Forum**

| LEC 101               | Social Science elective |
| LEC 102               | No transfer |
| LEC 103               | No transfer |

**Center System Courses | UWGB Courses**

**Mathematics**

| MAT 081               | No transfer |
| MAT 091               | No transfer |
| MAT 102               | MAT elective |
| MAT 105               | MAT 101 |
| MAT 110               | MAT 104 (plus CS MAT 113) |
| MAT 113               | MAT 104 (plus CS MAT 110) |
| MAT 117               | MAT 260 |
| MAT 118               | MAT elective |
| MAT 119               | MAT elective |
| MAT 124               | MAT 104 |
| MAT 130               | MAT 281 |
| MAT 131               | MAT 282 |
| MAT 211               | MAT 201 |
| MAT 212               | MAT elective |
| MAT 220               | MAT elective |
| MAT 221               | MAT 202 |
| MAT 222               | MAT 203 |
| MAT 223               | MAT 209, 305 |
| MAT 230               | MAT 242 |
| MAT 232               | MAT elective |
| MAT 240               | MAT elective |
| MAT 262               | MAT 320 |
| MAT 271               | MAT 309 |
| MAT 272               | MAT elective |
| MAT 298               | Determined by topic |
| MAT 320               | MAT 305, 320 |

**Military Science**

| MLS 101               | MLS elective |
| MLS 102               | MLS elective |
| MLS 201               | MLS 221 |
| MLS 202               | MLS elective |
| MLS 251               | MLS elective |

**Music**

| MUS 070               | Applied MUS 151 |
| MUS 071               | Applied MUS 242 |
| MUS 072               | Applied MUS 261 |
| MUS 073               | Applied MUS 184 |
| MUS 074               | Applied MUS 143 |
| MUS 075               | Applied MUS 163 |
| MUS 076               | Applied MUS 144 |
| MUS 077               | Applied MUS 145 |
| MUS 078               | Applied MUS 132 |
| 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 |

**** Applied music course number determined by instrument and proficiency level.
### Center System Courses vs. UWGB Courses

<table>
<thead>
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**Philosophy**

| PHI 100              | No transfer        |
| PHI 101              | PHI 101            |
| PHI 102              | PHI elective       |
| PHI 103              | PHI elective       |
| PHI 104              | PHI elective       |
| PHI 201              | PHI elective       |
| PHI 202              | PHI elective       |
| PHI 203              | PHI elective       |
| PHI 204              | PHI elective       |
| PHI 205              | PHI elective       |
| PHI 206              | PHI elective       |
| PHI 207              | PHI elective       |
| PHI 208              | PHI elective       |
| PHI 209              | PHI elective       |
| PHI 210              | PHI elective       |
| PHI 211              | PHI elective       |
| PHI 212              | PHI elective       |
| PHI 213              | PHI elective       |
| PHI 214              | PHI elective       |
| PHI 215              | PHI elective       |
| PHI 216              | PHI elective       |
| PHI 217              | PHI elective       |
| PHI 218              | PHI elective       |
| PHI 219              | PHI elective       |
| PHI 220              | PHI elective       |
| PHI 221              | PHI elective       |
| PHI 222              | PHI elective       |
| PHI 223              | PHI elective       |
| PHI 224              | PHI elective       |
| PHI 225              | PHI elective       |
| PHI 226              | PHI elective       |
| PHI 227              | PHI elective       |
| PHI 228              | PHI elective       |
| PHI 229              | PHI elective       |
| PHI 230              | PHI elective       |
| PHI 231              | PHI elective       |
| PHI 232              | PHI elective       |
| PHI 233              | PHI elective       |
| PHI 234              | PHI elective       |
| PHI 235              | PHI elective       |
| PHI 236              | PHI elective       |

**Political Science**

| POL 101              | POL 100            |
| POL 104              | POL 101            |
| POL 106              | POL elective       |
| POL 110              | POL elective       |
| POL 116              | POL elective       |
| POL 119              | POL elective       |
| POL 201              | POL elective       |
| POL 202              | POL elective       |
| POL 205              | POL elective       |
| POL 207              | POL elective       |
| POL 209              | POL elective       |
| POL 211              | POL elective       |
| POL 212              | POL elective       |
| POL 213              | POL elective       |
| POL 215              | POL elective       |
| POL 216              | POL elective       |
| POL 217              | POL elective       |
| POL 218              | POL elective       |
| POL 219              | POL elective       |
| POL 220              | POL elective       |
| POL 221              | POL elective       |
| POL 222              | POL elective       |
| POL 223              | POL elective       |
| POL 225              | POL elective       |
| POL 226              | POL elective       |
| POL 227              | POL elective       |
| POL 228              | POL elective       |
| POL 229              | POL elective       |
| POL 230              | POL elective       |
| POL 231              | POL elective       |
| POL 232              | POL elective       |
| POL 233              | POL elective       |
| POL 234              | POL elective       |
| POL 235              | POL elective       |
| POL 236              | POL elective       |

**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 207              | CSC 206            |
| PSY 208              | General elective   |
| PSY 209              | General elective   |
| PSY 210              | General elective   |
| PSY 211              | General elective   |
| PSY 212              | General elective   |
| PSY 213              | General elective   |
| PSY 214              | General elective   |
| PSY 215              | General elective   |
| PSY 216              | General elective   |
| PSY 217              | General elective   |
| PSY 218              | General elective   |
| PSY 219              | General elective   |
| PSY 220              | General elective   |
| PSY 221              | General elective   |
| PSY 222              | General elective   |
| PSY 223              | General elective   |
| PSY 224              | General elective   |
| PSY 225              | General elective   |
| PSY 226              | General elective   |
| PSY 227              | General elective   |
| PSY 228              | General elective   |
| PSY 229              | General elective   |
| PSY 230              | General elective   |
| PSY 231              | General elective   |
| PSY 232              | General elective   |
| PSY 233              | General elective   |
| PSY 234              | General elective   |
| PSY 235              | General elective   |
| PSY 236              | General elective   |

**Sociology**

| SOC 101              | SOC 202            |
| SOC 120              | SOC 206            |
| SOC 125              | SOC elective       |

### Course Abbreviations

| ANT  | Anthropology       |
| ART  | Art                |
| BIO  | Biology            |
| BOT  | Botany             |
| BUA  | Business Administration |
| CHE  | Chemistry          |
| COA  | Communication and the Arts |
| COM  | Composition        |
| CPR  | Communication Processes |
| CSC  | Community Sciences |
| EAD  | Environmental Administration |
| EAR  | Earth Science      |
| ECO  | Economics          |
| EDU  | Education          |
| ENG  | English            |
| FRE  | French             |
| GEO  | Geography          |
| GER  | German             |
| GRD  | Growth and Development |
| HIS  | History            |
| HUA  | Human Adaptability |
| HUD  | Human Development  |
| HUS  | Humanistic Studies |
| MATH | Mathematics        |
| MGS  | Managerial Systems |
| MLS  | Music              |
| NSC  | Nutritional Science|
| PHI  | Philosophy         |
| PHY  | Physics            |
| POL  | Political Science  |
| PSY  | Psychology         |
| PU  | Public and Environmental Administration |
| REA  | Regional Analysis  |
| SEC  | Science and Environmental Change |
| SOC  | Sociology          |
| SSE  | Social Services    |
| SPA  | Spanish            |
| THE  | Theatre            |
| 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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Map Key

1. Studio Arts (SA)
2. Theatre Hall (TH)
3. Student Services (SS)
4. Student Union (University Commons)
5. Library Learning Center (LC)
6. Instructional Services (IS)
7. Environmental Sciences (ES)
8. Laboratory Sciences (LS)
9. Community Sciences (CS)
10. Wood Hall
11. Circle Entrance
12. Welcoming Booth
13. Visitor Parking
14a. Student Apartments
14b. Student Residence Halls
15. Ecumenical Center
16. Phoenix Sports Center
17. Physical Plant Center
18. Utility Control Center
19. Children's Center
20. Language House
21. Bayshore Center
22. Dock Facility
23. Shorewood Clubs
24. Pro Shop
25. Golf Course
26. Tennis Courts
27. Playing Fields
28. Soccer Field
29. Upahki Pond
30. Amphitheater
31. Communiversity Park
32. Parking
33. Weather Station