
GRADUATE STUDIES CATALOG

**UNIVERSITY OF WISCONSIN
GREEN BAY**

OFFICERS OF THE UNIVERSITY

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Vice Chancellor for Academic Affairs

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AFFIRMATIVE ACTION POLICY

In conformance with applicable federal and state regulations, the University of Wisconsin-Green Bay is committed to nondiscrimination, equal opportunity, and affirmative action in its educational programs and employment policies. Inquiries concerning this policy may be directed to the Affirmative Action Office, Cofrin Library 830, University of Wisconsin-Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311-7001; (920-465-2228).

UW-Green Bay implements Chapter UWS 22, Wisconsin Administrative Code, which assures students' right to meet academic requirements while also accommodating their own sincerely held religious beliefs. Questions about policies should be directed to Dean of Students, Student Services 1905, University of Wisconsin-Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311-7001; (920-465-2152).

DATES AND INFORMATION

This catalog is in effect from July 1, 1997 until it is superseded by a new catalog.

Information contained in this catalog was current at the time of its printing. Some of this information may change through action of the University of Wisconsin System Regents and/or the Wisconsin Legislature. New courses may be added and some listed courses may be altered to remain current with needs.

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 Office of the Registrar. The most up-to-date information on fees is available through these publications; by calling the Office of the Registrar, phone 920-465-2055; or by accessing the UW-Green Bay homepage via Internet: <http://www.uwgb.edu>.

Course information for each session is published in the *Timetable*. Changes in course schedules for each session which occur too late to be included in the timetables are listed on addenda sheets given to students at the time of registration and are posted at the Registrar's Office.

FOR MORE INFORMATION

Graduate Studies Office
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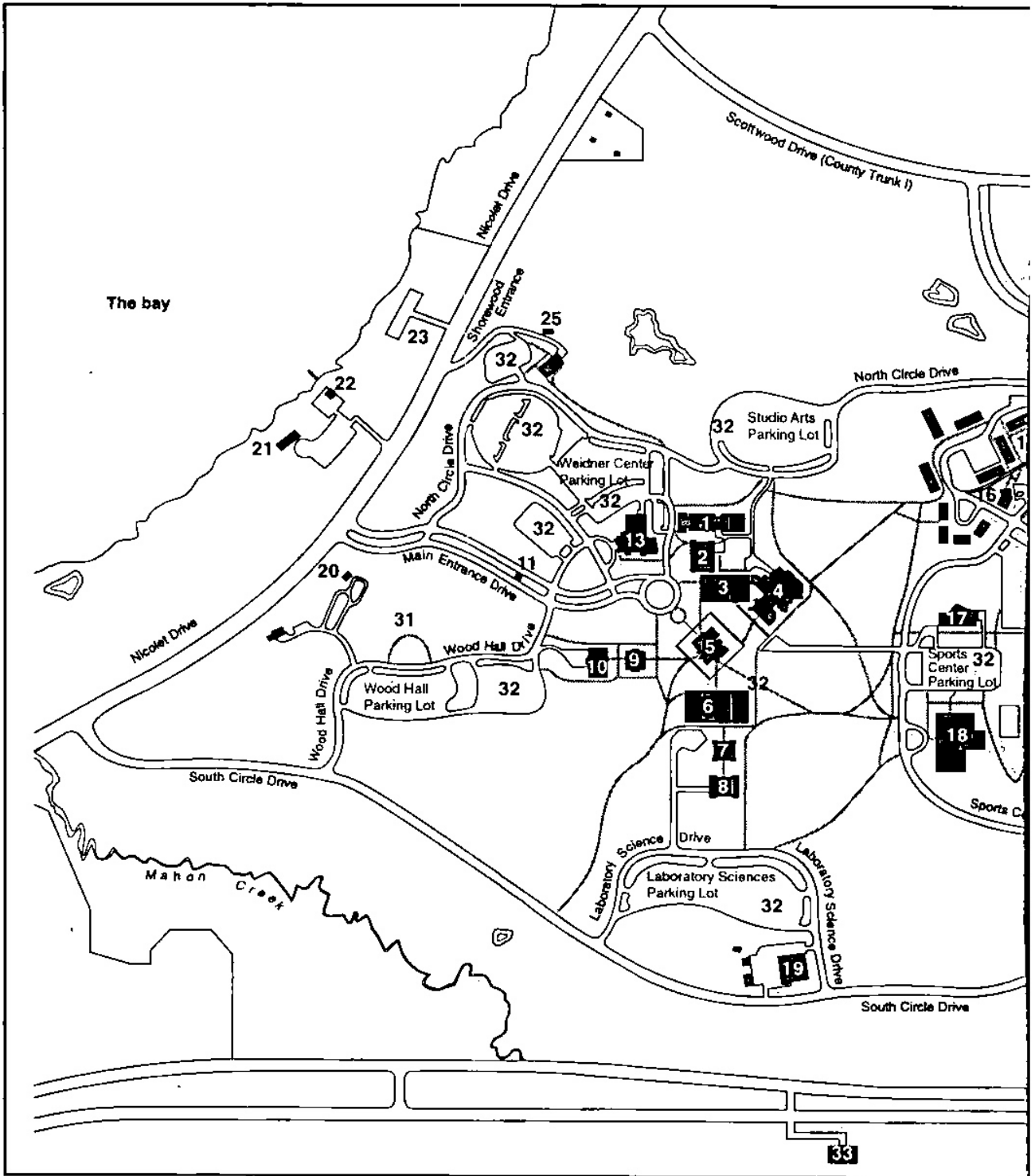
Campus Information
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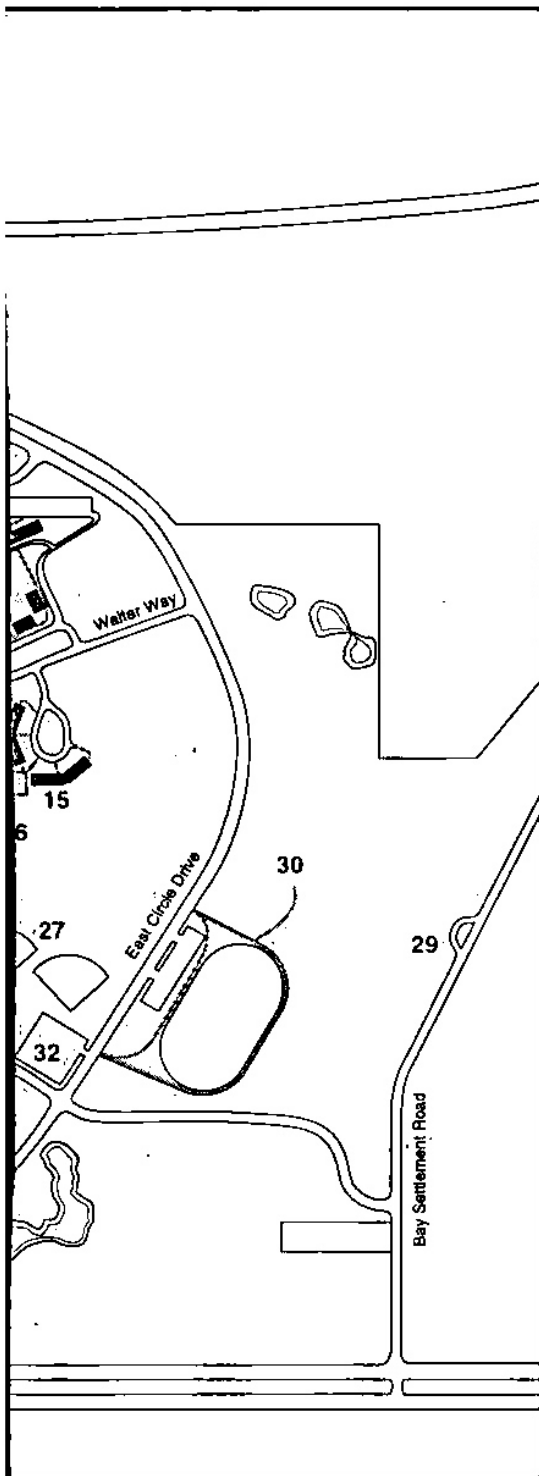
TDD (Telecommunications Device
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Campus Map





CAMPUS MAP KEY

1. Studio Arts
2. Theatre Hall
3. Student Services
4. University Union
5. David A. Cofrin Library
6. Instructional Services
7. Environmental Sciences
8. Laboratory Sciences
9. John M. Rose Hall
10. L.G. Wood Hall
11. Parking Office
12. Circle Entrance
13. Weidner Center for the Performing Arts
14. Student Apartments
15. Student Residence Halls
16. Community Center
17. Ecumenical Center
18. Phoenix Sports Center
19. Physical Plant/Stores
20. Language House
21. Bayshore Center
22. Dock Facility
23. Communiversy Park
24. Shorewood Center
25. Golf Course
26. Tennis Courts
27. Playing Fields
28. Soccer Fields
29. Observation Tower
30. Weather Station
31. Amphitheatre
32. Parking
33. Heating/Cooling Plant

GUIDING PRINCIPLES OF THE UNIVERSITY OF WISCONSIN-GREEN BAY

In all its endeavors, the University of Wisconsin-Green Bay is committed to the generation and transmission of knowledge, and in that context:

Provides an experience that challenges students to

- Think critically and solve problems
- Develop communication and quantitative skills
- Prepare themselves as engaged and contributing citizens
- Practice learning as a lifelong activity

Establishes and maintains programs and services that

- Integrate both interdisciplinary and disciplinary perspectives
- Strive for excellence
- Selectively seek national prominence
- Are flexible and responsive
- Facilitate campus and community partnerships
- Serve the educational, cultural, and research needs of the region and the larger society

Supports a community devoted to

- Inquiry, creativity, and scholarship
- Excellence
- Innovation
- Involvement, collegiality, cooperation, and caring
- Diversity of thought and experience
- Learning throughout life

Maintains its financial health by

- Developing private and public support
- Managing its resources effectively

Introduction

PROGRAMS AND DEGREES

The University of Wisconsin-Green Bay offers two types of programs leading to master's degrees.

The first consists of degrees awarded by UW-Green Bay. These are in two distinct areas of study:

- Master of Science in Administrative Science
- Master of Science in Environmental Science and Policy

The second group is comprised of cooperative programs with the Universities of Wisconsin at Oshkosh and Milwaukee. Course work in these programs normally is completed on the UW-Green Bay campus, but degrees are awarded by the sponsoring institution. Cooperative programs are:

- Master of Science in Administrative Leadership—Educational Administration and Supervision Emphasis (UW-Milwaukee)
- Master of Science in Curriculum and Instruction (UW-Milwaukee)
- Master of Science in Educational Psychology—Counseling (UW-Milwaukee)
- Master of Business Administration (UW-Oshkosh)
- Master of Science in Education—Reading (UW-Oshkosh)

PHILOSOPHY AND HISTORY

The University of Wisconsin-Green Bay is committed to a distinctive academic plan characterized by a strong interdisciplinary education grounded in the liberal arts. It is a practical education that prepares students to evaluate issues and solve problems. The University has a strong commitment to serve the needs of the region and to extend the learning environment beyond campus boundaries.

Graduate programs at UW-Green Bay are offered in areas reflecting particular strengths of the academic program and needs of the region.

In 1965 when the Wisconsin Legislature authorized a new campus of the University of Wisconsin System for Northeastern Wisconsin, Green Bay was already the home of a two-year University of Wisconsin Center enrolling about 1,000 students. It was integrated with the new University of Wisconsin-Green Bay in 1968. In the fall of 1969, classes opened in the first three buildings of the new campus overlooking the waters of Green Bay east of the city. The University is one of 13 degree-granting institutions in the UW System.

With over 5,000 undergraduate students and 250 graduate students, the University is large enough to offer a diversity of programs, and small enough to offer students an individualized educational experience. The diverse student body includes students from most of Wisconsin's counties, half of the states, and about 30 foreign countries. Nearly one-third of the University's students are over the age of 25. The University has more than 160 full-time faculty, 95 percent of whom have earned a doctorate or its equivalent.

ACCREDITATION

UW-Green Bay is fully accredited by the North Central Association of Colleges and Schools for the bachelor's degree and for the master's degree. Accreditation is granted after a thorough examination of all aspects of a college or university by a team of faculty and administrators from other established institutions.

CAMPUS

The University is situated on a beautifully landscaped 700-acre site seven miles from the city center of Green Bay, Wisconsin. All of the University's academic buildings have been built since 1969.

The academic center of campus is the eight-story Cofrin Library. Clusters of academic buildings are grouped like points of the compass on the north, south, and west around it. The new Weidner Center for the Performing Arts is adjacent to the Theatre

Hall and Studio Arts buildings. The academic buildings and the University Union are connected outdoors by paths and walkways and indoors by a system of concourses. The concourses and ramps and elevators in every building make the University particularly accessible to students and visitors with disabilities.

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

Student apartments and residence halls are near the University Union and academic buildings and not far from the gym, swimming pool, and other sports facilities.

Canoes, sailboats, and other recreational equipment are available for rent at the University's dock facility on the bay. Also on the bay is Communiversy Park, a picnic and recreation area.

Since the primary buildings are clustered, much of the campus is left open for recreational use. The nine-hole golf course is used in winter for cross-country skiing. Bicycle, skiing, and pedestrian paths connect all parts of the campus.

FACILITIES

Facilities used by the graduate programs, in addition to general classroom and office space, include laboratories, the library, computer center, and a number of ancillary programs or research centers. Each of these is described below.

Area Research Center

The Area Research Center of the Cofrin Library is a depository for municipal and county manuscript records. These records provide a rich source of organizational information for students of history, genealogy, and local culture. This center is one of the most active units in the network established by the State Historical Society.

Center for Public Affairs

The Center for Public Affairs at UW-Green Bay provides an opportunity for students to participate in team research, internships, and technical assistance experiences in public policy, politics, government and public management.

Students work with state and local government officials, legislators, public managers and other public professionals in such diverse areas as hazardous materials assessment, recycling and other environmental policies, health care administration, seismic risk assessment, community design and development, zoning analysis, cultural diversity, public opinion surveys and government/business relations. Some of these projects have been funded by agencies such as the National Science Foundation and the Wisconsin Department of Natural Resources; others have been inspired and supported by local hospitals and citizen groups.

The center works closely with the University of Wisconsin General Extension to develop outreach programs in government affairs, and students have opportunities to participate in some of these activities. The goal of the center is to provide quality experiences for students and faculty and to serve the need for research, policy analysis, and training for the local community and northeastern Wisconsin.

Cofrin Memorial Arboretum and Natural Areas

The 270-acre Cofrin Arboretum encircling the campus is a significant resource for field trips, class projects, and individual research. Other University natural areas expand the range of landforms, vegetation communities, and animal habitats available for study.

The Arboretum supports a program of grants for individual student research within the arboretum and natural areas. Students whose proposals gain support may receive up to \$750 to carry out their projects. Students present results of completed projects in an annual symposium.

The Arboretum has mature upland forests, a cedar swamp, several types of restored prairie communities, old fields, several ponds and wetlands, a stream, an extensive dolomite outcrop of the Niagara Escarpment, and more than a half mile of shoreline on Green Bay. Other University natural areas include sites on Lake Michigan and in the interior of the Door County peninsula.

Within this diversity are opportunities to study sites that are preserved, areas undergoing restoration and development, and formerly cultivated sites in various stages of colonization by woody plants. A large number of the plant and animal species of northeastern Wisconsin exist in these natural areas.

Computing Facilities

Computing and Information Technology (CIT) serves both administrative and academic users. Academic usage may be either classroom instruction or research. All students are given accounts the first semester they are a registered student.

Digital Equipment Corporation servers are the backbone for the campus network which provide both LAN and WAN to all parts of the campus. These systems support over 500 workstations as well as provide remote services and dial-in capability. UW-Green Bay is also a member of WiscNet which provides Internet access to every networked station. Through WiscNet, UW-Green Bay has access to many other worldwide networks and the Internet.

Each student user has ample storage space with over seven gigabytes of disk storage available on the student server. Researchers can expand their storage capacity through tapes. Text and graphics output are available through the central line printer, laser printers, plotter, and remote printers. Language software for computer science students includes BASIC, FORTRAN, COBOL, PASCAL, C, and LISP. Data analysis packages include SAS, SPSS, MINITAB, LINDO, and MASSBAL. There are relational (RDB) and networks (DBMS) databases available

as well as a query language which supports both databases. Graphics hardware includes laser printers, colored inkjet printer, scanners, and a plotter.

CIT supports several microcomputer labs for all students. These labs contain MS-DOS PCs, Apple Macintosh, and mainframe terminals. All labs are connected to the campus backbone network providing access to PC software as well as mainframe and e-mail access. These workstations support software including programming languages, worksheets, word processing, databases, engineering software, and many course-specific applications.

Student accounts are free as long as the student is registered for a class in the current session. All lab areas are open 7 a.m. to 12 midnight Monday through Thursday, and 7 a.m. to 9 p.m. Friday. The labs are open weekends during the fall and spring semesters. Consultants are available during most of these hours to assist students in accessing the equipment, to provide print services, and to help interpret instructors' requirements.

Other labs exist across campus and are available to students enrolled in courses associated with the use of the labs.

Data, Video and Voice Network

A universal wiring system allows UW Green Bay to support a campus-wide network for data, video, and voice. Data and voice wiring connects all classrooms, laboratories, faculty offices, administrative areas, and on-campus student housing. Video wiring makes possible a campus video network among classrooms, laboratories, the student residential complex, and some conference rooms.

Comprehensive data access is the most visible enhancement offered by the universal wiring plant. The network enables students, faculty, and staff to use all of the campus computing resources regardless of their location. The network is accessible by dial-in from off-campus as well as from campus locations. Approximately 1,000 Intel and Apple Macintosh workstations and 50 laser

printers in offices and various laboratories are interconnected via the campus network. The campus network is based on state of the art 10BaseT ethernet wiring, intelligent hubs, fiber optic inter-building links, centralized network servers, and a 4.5 gigabit per second ethernet network switch. All campus mainframe services are connected to the network. This allows a user access from his or her desktop to any of the academic, faculty/staff, student information, or library mainframe systems.

The campus network is connected to the Internet via a 1.45 megabit T1 communications circuit which provides high speed access for worldwide web, file transfer, and remote login applications. Via the campus Internet link, and in conjunction with the library mainframe system, campus users are able to access all UW System library online catalogs and online catalogs from other libraries. The Cofrin Library also supports Internet-based connections to many online database services which provide retrieval of citation and/or full text/graphics versions of selected items.

Herbarium

The UW-Green Bay Herbarium houses a collection of over 20,000 specimens of vascular plants and provides many opportunities for student research, collection, and cataloging projects. Students have collected and prepared a large number of specimens from northeastern Wisconsin, including endangered and threatened species. They continue to catalog specimens from the Cofrin Arboretum, Toft Point, and other UW-Green Bay natural areas. With the addition of computer support, students are also able to map the distribution of plants and their responses to environmental changes. Specimens from the Herbarium are also used for classroom demonstrations and laboratories. Researchers from the Wisconsin Department of Natural Resources, other University of Wisconsin campuses, and universities in other states have frequently made use of the Herbarium collection.

Institute for Land and Water Studies

The Institute brings together a group of faculty who have interdisciplinary interests in solving environmental problems. Faculty and students participate in researching diverse aspects of ecosystems preservation and restoration, ground water and surface water resources, waste management and resource recovery and applications of geographical information systems. Projects have been funded by the U.S. Environmental Protection Agency, the Wisconsin Department of Natural Resources, and local government agencies and industries. The Institute offers opportunities for graduate assistantships.

Institute for Research

The Institute for Research assists faculty members in obtaining support for research. Graduate students working with faculty can learn to develop proposals for funding from federal agencies, private foundations and industry. The Institute has access to the latest information on funding sources through the Sponsored Program Information Network of New York as well as the Grants Information Office of the University of Wisconsin System.

Laboratories

The University has devoted a significant portion of its resources to developing laboratory facilities to support the natural and social sciences. A number of these labs are devoted mostly to research and include a water analysis laboratory, a waste management resource recovery lab, and a computer-based cartography lab. Available equipment includes gas and liquid chromatographs, spectrophotometers (UV, IR, visible), microscopes, auto-analysers, atomic absorption spectrometer, liquid scintillation apparatus, growth chambers, and other equipment. Microcomputers are available in the Laboratory Sciences building. A commercial high pressure briquetting machine is available in the waste management laboratory for the study of processing of coal or other fines. Other spaces available for research use include a herbarium and greenhouse. The

University also has boats, a four-wheel drive vehicle and a variety of other equipment for field studies.

David A. Cofrin Library

Centrally located among the academic buildings, the Cofrin Library supports the academic program with a collection of over one million items and computer database access to the accumulated knowledge of humankind.

Library facilities include a quiet study area, individual and group study rooms, a micro-computer area for individual word processing use, and general reading and study areas. The library's card catalog is accessed by online computer stations.

Information available to library users goes far beyond its own holdings. Library patrons can gain access through the OCLC database to 23 million books and other materials held by 8,000 libraries in the U.S., Canada, and England. Users also can access the DIALOG system which provides entry to 300 databases in a broad scope of disciplines, containing over 160 million records. Several compact disk databases are available in the library.

Richter Natural History Museum

The Richter Natural History Museum is a valuable resource for student study and research. Its collections include representative animal species from northeastern Wisconsin and an extensive collection of birds eggs, nests, and study skins derived mainly from the life's work of the late Carl H. Richter of Oconto, Wisconsin. Richter, one of North America's foremost oologists, in 1975 donated all of his specimens, including more than 10,500 egg sets. Some are dated as early as 1884. The donation included a large series of vertebrate specimens, Indian artifacts, mollusks and butterflies, geological specimens, historical documents, and photographs.

Today the Richter Museum includes approximately 11,000 sets of bird eggs representing more than 90 percent of the North American avian species and subspecies.

Valuable sets include endangered species such as whooping crane, snail kite, and Kirtland's warbler, and several extinct species, including the passenger pigeon. The egg collection is North America's 13th largest. In addition to fluid-preserved specimens, study skins, and skeletons, the museum has a library of books, journal, and reprints in support of the collections.

The museum collection includes nearly 100 percent of the locally breeding bird species, 95 percent of the mammals, 80 percent of the reptiles and amphibians, and 80 percent of the fishes. Specimen collections continue to grow through contributions by students, faculty and staff, and by the Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, and U.S. Forest Service.

Materials from the natural history collections and from the University's Herbarium are displayed in the museum in Laboratory Sciences room 201.

Sea Grant Program

UW-Green Bay faculty members participate in the University of Wisconsin Sea Grant College Program. The Green Bay program, involves public education and research projects dealing with water quality, fisheries, coastal marshes, and human impact on the Bay of Green Bay and the Great Lakes. Several University boats are available for research.

Wiley Collection

The development of pollution control efforts by the Wisconsin pulpmaking industry is documented in more than 5,000 research reports, articles, and conference proceedings. The collection and accompanying bibliography is housed on the UW-Green Bay campus. It was the gift of Averill Wiley of Appleton, retired technical director of the former Pulp Manufacturers Research League, which merged in 1970 with the Institute of Paper Chemistry. The collection, begun in 1940, focuses on spent liquors of the acid sulphite pulping industry and includes more recent developments in wood chemicals and pulping by-products.

General Information

CREDITS REQUIRED

A minimum of 34-36 credits, depending upon the chosen program, is required for completion of the UW-Green Bay master of science degree.

GRADES

All courses and assigned studies are graded on a 4.0 scale. A cumulative grade point average of at least 3.0 is required to earn the M.S. Thesis credits or internship credits are given an in-progress (PR) grade each semester until the thesis or internship is formally accepted as completed at which time the grade will be changed to pass (P) or no credit (NC). A pass (P) grade must be achieved in order to graduate.

Students are expected to maintain a cumulative grade point average of at least 3.0. Students who fail to maintain this average are subject to probation and or suspension as specified in the Graduate Academic Rules and Regulations.

TIME LIMIT

Matriculated graduate students must complete all requirements for the M.S. degree within five years. This time period begins with the first day of the first term of enrollment with a classification of MSGR. Classification and year designations are described on page 12.

COURSE REQUIREMENTS

The student and his or her graduate committee must develop an individual program plan to satisfy requirements of the student's specific program — Administrative Science or Environmental Science and Policy. An acceptable program plan must include:

1. Graduate core courses
(12 or more credits)
2. Specialization courses
(credits to bring total to 27-30)
3. Thesis
(6 credits)

Each is explained in more detail.

Graduate Core Courses

(12 or more credits)

Graduate core courses are the courses numbered at the 700 level (700 through 794, excluding 783). These courses are open only to graduate students.

Specialization Courses

(credits as needed to bring total to 27-30)

A typical program plan may also include several different types of specialized courses to gain particular knowledge, skills, and experiences. These may include dual-listed undergraduate/graduate courses, selected upper-level undergraduate courses, independent studies, transfer credits, and internships.

UNDERGRADUATE/GRADUATE COURSES

(numbered XXX-500 to XXX-595 and XXX-600 to XXX-695)

Graduate students may register for specific undergraduate courses designated as undergraduate/graduate (UG/G) without submitting an assigned study card. These courses are identified by course numbers at the 500 and 600 levels.

Other undergraduate courses at the 300 and 400 levels may be taken for graduate credit if they contribute to a coherent program of study. An assigned study card must be submitted with registration as XXX-596 or XXX-696 as appropriate.

Academic standards for graduate credit in graduate/undergraduate courses exceed standards for undergraduate credit. Increased standards may be in the form of additional academic work and/or an increase in grading standards.

EXPERIMENTAL COURSES

(numbered 002, 006, or 008-783X)

From time to time, graduate faculty may offer courses in response to special demand, to address current issues, or to make use of special resources offered by visiting faculty. These are offered once on an experimental basis; they may later become regular course offerings. Courses offered with the 783X number may not be counted as part of the graduate core requirement.

INDEPENDENT STUDY

(numbered 002, 006, or 008-798)

Independent study may be undertaken in the form of reading and research completed under the supervision of a member of the graduate faculty. This type of study can be undertaken only after an approved program plan is filed including the independent study course as an integral part of the individual program. Under normal circumstances, a maximum of six credits of independent study may be applied toward the degree; however, with strong recommendation and a rationale provided by the major professor, additional independent study credits may be allowed. To arrange for independent study courses, students must prepare a proposal that includes a statement of objectives, a list of readings and/or projects to be completed, and a statement of how the work will be evaluated and graded. The proposal is filed in the Graduate Studies Office and will be included in the student's file.

INTERNSHIP

(numbered 002, 006, or 008-797)

An internship, usually undertaken outside of the University setting, must be an experience that provides a genuine training ground for the application of knowledge and understanding relevant to the student's area of study.

Internships must be preplanned and incorporate predetermined criteria for grading. A full description of internship activities, including methods of academic evaluation, must be submitted to the student's major professor and the associate dean of graduate studies. It will be included in the student's file. The internship must be sponsored by a member of the graduate faculty, although day-to-day administration of the experience may be by a non-faculty supervisor. An internship may be required by some graduate tracks. Experience gained in permanent employment cannot normally be counted as an internship. The amount of credit acquired through an internship is determined by the student's graduate committee, subject to approval by the associate dean of graduate studies. Normal maximum

is six credits. The graduate program does not award credit for prior experience. However, valid, an internship undertaken prior to enrollment in the program cannot carry credit toward the M.S. degree.

SPECIAL TOPICS

(numbered 002, 006, or 008-795)

From time to time, professors or groups of professors may organize courses, seminars, colloquia, field trips, and so on, around some topic of interest or special need. Such courses are not normally intended to become part of the regular curriculum. Courses offered with the 795 number can not be counted as part of the graduate core requirement.

CREDIT FROM OTHER INSTITUTIONS

The specialized study component may also include a maximum of 12 graduate credits earned at other institutions prior to admission to UW-Green Bay. Transfer credit evaluation is the responsibility of the student's graduate faculty committee at the time the student's program plan is approved. These credits are subject to the review of the associate dean of graduate studies and the registrar.

Any additional courses to be taken at other institutions and to be included as credits toward the degree must receive prior approval from the student's major professor and the associate dean of graduate studies.

Thesis

(6 credits registered as 002, 008-799)

Students must register for a minimum of one credit of thesis during the semester in which the thesis defense is to occur. A student may earn more than six credits for thesis, but only six credits may be applied toward degree requirements.

PROGRESS TOWARD THE DEGREE

Following is a guide to the steps required to earn the M.S. degree in Administrative Science or Environmental Science and Policy, from admission to completion of the program.

Steps Toward the M.S. Degree

1. Applicant is admitted to the graduate program.
2. No later than the semester in which student completes at least six credits, he or she selects major professor and, if possible, graduate committee members. Student submits individual program plan (form GR-1) to Graduate Studies Office.
3. After at least 15 credits, student develops thesis proposal. Proposal is reviewed and approved by the committee and submitted, along with form GR-2, to Graduate Studies Office for approval by associate dean.
4. Student may register for thesis credits and continue work on thesis project.
5. Student files an intent to graduate with the Registrar's Office.
6. Student schedules thesis defense by filing form GR-3 when the project and thesis document are nearly complete.
7. Open thesis defense meeting. Satisfactory completion of thesis and defense indicated by filing form GR-4 with the Graduate Studies Office.
8. Final format of thesis is checked by associate dean.
9. Student submits to graduate Studies Office the required number of thesis copies for final approval and deposition in University library.
10. Graduate receives diploma.

The following narrative explains the process in detail.

Graduate Committee

It is important to select a major professor and committee early. The coordinator or adviser for the student's chosen program normally assists in this process. A student's individual committee is comprised of at least three graduate faculty members approved by the appropriate program coordinator. One committee member is requested by the student to act as the major professor. Students are encouraged to ask a person from outside the University to join

their committees, in addition to the faculty members.

The committee is responsible for supervising the student's program of study and should:

- guide the student in appropriate selection of graduate courses and specialization studies to ensure that the student is aware of all relevant materials necessary to completely understand the chosen field of study;
- determine whether the student has accumulated and demonstrated sufficient ability to engage in analytic processes of problem solving;
- make certain that the student's thesis project is consistent with the degree, confronts the interdisciplinary relationships of the subject area, and focuses on problem-solving methods.

If during the student's course of study, he or she wishes to change committee members, the student must explain to the committee why the change is necessary or desirable. *If the change is acceptable to both outgoing and incoming professors, the student must notify the Graduate Studies Office in writing.*

Student Program Plan

The primary responsibility for ensuring that each student's program plan meets the requirements and regulations of the M.S. program rests with the student's graduate committee. The student develops the program plan with his or her committee. If the student has not selected a complete committee, the major professor can approve and sign the program plan. In the absence of both committee and major professor, the graduate program coordinator can approve the program plan as the student's adviser. All program plans are subject to final approval by the graduate program coordinator and the associate dean of graduate studies. They may suggest changes to ensure that the plan conforms to the overall philosophy and requirements of the M.S. program. The Graduate Studies Office will contact the major professor and student if

changes are necessary. A program plan must be submitted to the Graduate Studies Office in the semester in which the student completes six credits of graduate-level course work. It must be approved before a student can register for additional courses. Subsequent changes may be made, but these are subject to further review by the associate dean of graduate studies. *All changes must be submitted to the Graduate Studies Office so that the student's file remains current.*

Documents substantiating certain course work should accompany the program plan to the associate dean of graduate studies, if appropriate. These may include:

- Documents of transfer credits accepted by the student's committee.
- Petition for changes in graduate program requirements.

In preparing the program plan the student should use the *Guidelines for Completing the Graduate Program Plan* which will be mailed with the admission letter.

Thesis

The thesis project and the formal paper which documents it are distinctive to the UW-Green Bay graduate program. All students complete a thesis project working with their major professor and committee. The project provides an opportunity for graduate students to focus and apply their course work and make a public contribution to knowledge. Successful completion of a thesis is a clear indication of a student's ability to define, investigate, and solve problems.

THESIS PROPOSAL

The thesis proposal is a formal document which provides an overview of the planned thesis project. It must include an explanation of the research problem, issue, or situation to be addressed, its relevance or application, the methods and resources that will be used in completing the thesis, and a list of references cited.

In preparing the proposal the student should use *Guidelines for Preparing the Thesis Proposal*. A copy of thesis guidelines and a copy of form GR-2 will be mailed to students along with notice of their program plan approval.

After a student has completed 15 credits of course work he or she prepares a thesis proposal. It must be approved by the major professor and committee at a formal meeting. If they approve the proposal, the major professor and committee members sign form GR-2 and forward it with a copy of the thesis proposal to the associate dean of graduate studies for final approval.

Also at this time or no later than completion of 21 credits, the student files a request to graduate form with the Registrar's Office, listing the earliest possible graduation date.

THESIS REGISTRATION

Only students with a MSGT classification may register for thesis writing credits (799). This classification is assigned to matriculated graduate students following acceptance of an approved graduate program plan and thesis proposal. Enrollment for thesis credits (799) may be for one to six credits per term and may be spread over several terms as appropriate. A student must be registered for a minimum of one thesis credit during the term in which a thesis defense is scheduled.

THESIS PREPARATION

The thesis is a formal document and must be prepared to conform to UW-Green Bay library requirements and graduate program standards. In preparing the thesis, students should use *Style and Format Requirements for the Master's Thesis*. A copy of thesis guidelines and copies of forms GR-3 and GR-4 will be mailed to students along with notice of thesis proposal approval. It is the student's responsibility to prepare and present the thesis in an acceptable format. Several writers' guides and style manuals are commercially available.

THESIS DEFENSE

The thesis defense is an open event

attended by the candidate's graduate committee, and anyone else who wishes to attend. The defense permits the committee to ascertain whether the student has adequately understood and seriously attempted to solve a thesis problem.

The student must file form GR-3 to schedule the thesis defense. The form must be filed with the Graduate Studies Office at least one week in advance of the proposed date. The thesis defense should be scheduled during one of the academic terms unless other specific arrangements are acceptable to all parties.

Before attending the thesis defense, the candidate should provide form GR-4 to the major professor. After a satisfactory defense, the major professor and committee members sign the form and return it to the Graduate Studies Office. A dissenting signature must be accompanied by an explanation from the dissenting member. The associate dean of graduate studies may withhold approval of the thesis defense pending resolution of any differences. A candidate is considered to have passed his or her thesis defense only after all issues have been resolved and the completed GR-4 is returned to the Graduate Studies Office.

THESIS DEPOSITION

Upon satisfactory conclusion of the thesis defense and an acceptable graduate summary from the Registrar's Office, the candidate is required to supply two copies of a thesis, including two copies of any audio/visual components and one additional copy of a title page and abstract, to the Graduate Studies Office. After the major professor signs the thesis, the associate dean for graduate studies reviews and signs it or returns the document for revision. Two copies of the final document are forwarded with a binding fee (\$7 per copy at the time of printing but subject to change), collected from the student, to the UW-Green Bay library as a permanent record of the student's scholarly or creative activity. If the candidate wishes, additional copies may be bound at the

same per copy fee, payable to UW-Green Bay. Diplomas are not awarded until all these requirements have been met.

COMMENCEMENT

UW-Green Bay holds two commencement ceremonies each year. These are at the end of the fall and spring semesters. For graduation in the fall, a student's defense must be scheduled before December 1 and held before the last day of fall semester classes. For spring, the defense must be scheduled before May 1 and held before the last day of spring semester classes. A request to graduate form must be completed and submitted to the registrar prior to November 1 and April 1 respectively. Students who will complete their work during the summer may participate in the preceding spring ceremony.

DEGREES

The degree awarded will be M.S. in Environmental Science and Policy or M.S. in Administrative Science. Students who complete the cooperative programs (with UW-Milwaukee and UW-Oshkosh) will receive their degrees from one of those institutions.

Admission

ADMISSION REQUIREMENTS

Admission to a UW-Green Bay graduate degree program is a decision by the associate dean of graduate studies and the faculty for the specific program identified by the student on the application form. The decision is a judgment of the student's suitability to succeed in graduate degree work at UW-Green Bay, based on educational background and educational objectives.

While UW-Green Bay has a basic admission policy for graduate study, a philosophy of personalized admission assures that each applicant is considered individually. Entry requirements for full admission include:

1. A baccalaureate degree from an accredited institution.
2. A 3.0 grade point average (GPA), measured on a 4.0 scale, for the final two years of study. Students from schools not using a grading system will be evaluated on an individual basis.
3. Additional prerequisites for entrance to the specific program chosen.

Students who do not meet the 3.0 GPA requirement or who have other deficiencies may be admitted on a provisional basis. Provisionally admitted students who receive at least a B grade in courses totaling nine credits of graduate work after acceptance will be fully admitted.

International students must be prepared to submit a minimum score of 550 on the Test of English as a Foreign Language (TOEFL). International student applicants must show official evidence of financial resources adequate to provide for their educational expenses.

APPLICATION

Application forms are available on campus at the Graduate Studies Office. Forms will be mailed in response to telephone requests to 920-465-2123. Written requests may be directed to: Graduate Studies Office, University of Wisconsin-Green Bay, 2420 Nicolet Dr., Green Bay, Wisconsin 54311-7001.

Required documents are:

1. The application, completed in full.
2. A 200-300 word statement describing principal areas of academic interest, capabilities, experience, and reasons for pursuing the M.S. degree.
3. Official undergraduate and graduate transcripts from each previous college or university attended, sent directly to UW-Green Bay from these institutions.
4. Three letters of recommendation from persons who can assess the prospective student's academic potential.
5. Graduate Record Examination (GRE) general test or Graduate Management Admissions Test (GMAT) scores less than five years old. Consult the appropriate program description in this catalog. Scores will be used in conjunction with the required materials to better assess preparation.

Under requirements of the Buckley Amendment to the Family Educational Rights and Privacy Act of 1974, student files are open to their inspection except for letters of recommendation for which the right of inspection has been waived.

Other supporting documentation such as personal records of professional or community achievement may also be submitted.

DEADLINES

Application, transcripts, and letters of recommendation required for entry into the M.S. degree program should be submitted as early as possible in the semester preceding the desired beginning semester. Because of campus enrollment caps and possible program capacity limitations, priority is given to completed applications received before April 1 for the fall semester and November 1 for the spring semester. Complete applications received by July 1 for the fall semester and by December 1 for the spring semester will be processed as time and space permit. A complete application includes the forms and all supporting documentation listed above. Students not

meeting these deadlines may be able to take courses as graduate special students and apply to the degree program for the following semester.

FEE

A non-refundable application fee of \$45 is required of all students who apply for admission to the graduate program of the University of Wisconsin-Green Bay or any other graduate school within the University of Wisconsin System. The \$45 fee does not apply to students who wish to be admitted as special students (i.e., non-degree students).

UW-Green Bay maintains records for two years for students who are admitted to the program but who do not enroll for classes. The application fee is valid for one year from the start of the initial semester on the application. Students who begin enrollment after a year elapses must pay another \$45 fee and bring their applications up-to-date. Students who delay enrollment beyond two years must reapply for admission and pay another \$45 application fee.

ADMISSION PROCESS

The admission process is initiated by submitting the completed application form to the Admissions Office. The Office notifies applicants whose files are incomplete. When the file is complete, transcripts of previous undergraduate work and any graduate courses are examined by the Registrar's Office. Factors affecting either admission to the graduate program or acceptance of transfer credits are noted.

The file is forwarded to the Graduate Studies Office where the associate dean of graduate studies, on the advice of the Admissions Committee for the program specified on the admissions form, either admits the applicant to the graduate program and area of emphasis, or provisionally admits the applicant, or denies admission.

If an applicant is denied admission, reasons for the denial are provided along with an explanation of available options. Students

denied admission may request reconsideration by writing to the associate dean of graduate studies. The request should include a rationale for reconsideration. Applicants who have been denied admission may reapply after the lapse of one semester.

LETTER OF ADMISSION

A letter of acceptance is sent to each student upon admission to the graduate program. This information appears on the letter:

Student Number

The permanent student number of each applicant is the social security number or, if this is not provided, a University-assigned identification number.

Classification and Year

Each student's status is designated by one of these abbreviations:

MSAGR, MSEGR

First semester M.S. student without approved program plan.

MSAGP, MSEG

M.S. student with approved program plan. A degree seeking student may not register for classes after six completed credits without an approved program plan.

MSAGT, MSEG

M.S. student with approved program plan and approved thesis proposal. A student may not register for thesis credits without the MSEG classification.

GSP

Graduate special student. This classification indicates that course work is being taken for graduate credit; however, the student is not participating in the UW-Green Bay degree program. A graduate special student who decides to pursue a UW-Green Bay graduate degree must submit an application form to enter the degree program. Often the credits earned as a graduate special student may be applied toward the M.S. degree; however, this is not guaranteed.

ADMISSION WITH ADVANCED STANDING

All graduate course work completed at UW-Green Bay or at other graduate schools prior to admission to the M.S. degree program is evaluated by the student's graduate faculty committee when a student's program plan is prepared. The total number of credits earned prior to matriculation into the degree program either at other institutions or as a graduate special student (GSP classification) at UW-Green Bay cannot exceed 15 credits. Of the 15, a maximum of 12 credits may be accepted from other institutions.

SPECIAL STUDENTS

Persons holding baccalaureate degrees or higher who wish to enroll in courses at UW-Green Bay but who do not wish to pursue a graduate degree may enroll as special students. Graduate credit will be awarded provided that the student registers in graduate-level courses as a graduate special student (GSP classification) and pays graduate fees. Credits for which neither graduate fees were paid nor graduate credit awarded cannot be retroactively converted to graduate credits.

TRANSFER CREDIT POLICY

Transfer credit is defined as credit earned at an institution other than UW-Green Bay, which is to be applied to UW-Green Bay master's degree requirements. Acceptance of transfer credits is determined by a credit review by the Registrar's Office, and development of a program plan which includes the credits as part of a coherent program of study. Acceptance of the transfer credits is subject to review and approval by the associate dean of graduate studies. General guidelines for evaluating potential transfer credits are:

- A maximum of 12 semester credits of graduate work may be accepted as transfer credits.
- A letter grade of A or B must be earned in each course transferred.

- The courses must contribute to a coherent program of study.
- The institution granting the credit must be regionally accredited at the master's degree level.
- The credits must be reasonably recent, usually earned within the five years prior to admission.
- Credits earned through extension courses offered or sponsored by universities outside of the state of Wisconsin will be subject to particular scrutiny.
- Credits earned under conditions that make them unacceptable toward a degree at the institution where the credits were earned will not be accepted by UW-Green Bay.

USE OF SPECIAL PETITION

Requirements sometimes may be modified or adapted to take into account a student's special educational or program needs. A request to waive or modify a graduate program academic requirement is submitted to the associate dean for graduate studies on a special petition form. The forms are available at the Academic Advising Office or the Graduate Studies Office. If a change in a program requirement is being requested, the petition should include a statement from the major professor or graduate committee and the graduate program coordinator explaining the change.

ACTIVE/INACTIVE STATUS

Matriculated students who do not enroll for four or more consecutive semesters without notifying the Graduate Studies Office by filing a request to leave, are considered inactive. They must be formally readmitted before they can re-enroll in classes. Inactive students who must reapply must meet admission standards in effect at the time of readmission and are expected to meet degree requirements in effect at that time as well. The \$38 application fee does not apply to students seeking readmission after a period of inactivity.

TUITION AND FEES

Costs

Tuition and fees for full-time graduate study (9 credits or more) for the 1996-97 academic year were \$1,652.25 per semester for residents of Wisconsin and \$4,975.75 per semester for non-residents. Part-time students were assessed a fee of \$185 per credit for residents of Wisconsin and \$554.54 for non-residents. Fees and tuition are subject to change by action of the University of Wisconsin Board of Regents and the Wisconsin Legislature. The actual costs for each academic year are announced in advance in the *Timetable* or on separate fee information sheets, and are available on request from the Registrar's office.

Reciprocity

Minnesota and Wisconsin have a reciprocity agreement. Minnesota students may pay in-state Minnesota tuition and fees to attend public universities in Wisconsin. Students must apply directly to the Minnesota Higher Education Coordinating Commission, Suite 901, Capitol Square, 550 Cedar Street, St. Paul, MN 55101.

Non-Resident Tuition Waivers

A limited number of non-resident tuition waivers are available on a competitive basis to recipients of graduate assistantships. International students may also apply for waiver of non-resident fees by contacting the International Student Center at 920-465-2413. Recipients of waivers are responsible for resident fees.

Other Financial Aid

In addition to graduate assistantships, several other grant or aid programs are available. These include Perkins Loans, Stafford Loans, or University work/study awards. Students defined as minority group members may apply for Advanced Opportunity Grants or Wisconsin Indian Student Assistance Grants. For more information, contact the Financial Aid Office at 920-465-2075.

GRADUATE ASSISTANTSHIPS

Graduate assistantships are available on a competitive basis. Graduate assistantships carried a stipend of \$7,791 in 1996-97. Students receiving assistantships are expected to devote approximately 20 hours per week performing assigned duties. Typical duties are serving as a classroom assistant in a laboratory or discussion section, assisting in a center or institute, or serving as a research assistant.

To be eligible for graduate assistantships students must:

- be fully admitted to the M.S. degree program;
- be enrolled for a minimum of six credits of course work each semester and no fewer than 15 credits during the entire academic year;
- maintain at least a 3.0 grade point average for graduate courses.

Applications for graduate assistantships should be filed as early as possible but no later than March 1 for the following September. Applications received after this date or at other times of the year will be considered for unfilled assistantships or possible assistantships funded from grant monies. Persons who wish information on availability of assistantships should inquire at the Graduate Studies Office.

Administrative Science

The University of Wisconsin-Green Bay's Administrative Science program prepares its graduates for positions in management, policy making, policy analysis and planning, and quality control for business, government and nonprofit organizations. The program's core focuses on studying organizational and administrative processes and problems, and in devising solutions to these problems. The program offers areas of emphasis in management and quality processes; policy analysis and planning, and system design and decision making.

The program helps bright, competent individuals, many with significant employment experience, develop the skills and knowledge necessary to become highly skilled and successful practitioners with leadership capabilities to bridge soft and hard technologies, to evaluate organizational processes, and plan and implement effective changes.

The program's approach is to combine classroom instruction with applied research in real organizations. For example, mid-career students are able to conduct studies as participant observers in the organizations in which they are employed. Full-time students who are recent college graduates are encouraged to seek "hands-on" internship work experience. Virtually all thesis work focuses on organizational and administrative problems that integrate classroom course work with employment and internship experience.

Administrative Science is not a business program. It does not require or offer courses that are central to an MBA such as marketing, accounting, or finance. Nor is the program a substitute for a graduate degree in public administration. The program graduates people who are best qualified to serve in senior staff positions—not line positions—in private, public, and nonprofit organizations.

The program is unique in its interdisciplinary focus on organizations. Intellectually, Administrative Science draws from the fields

of industrial and organizational psychology; engineering, systems and decision sciences, social and natural sciences, mathematics, business, and public administration. The Administrative Science graduate faculty also teach in a variety of interdisciplinary undergraduate programs and have strong professional ties to organizations outside the University. In this way it is able to build on the University of Wisconsin-Green Bay's undergraduate program which is recognized nationally for its strong problem-focused interdisciplinary programs.

The Administrative Science program will meet the needs of:

- professional employees of business and industry, government agencies, and nonprofit organizations who want to hone analytical skills and stay abreast of rapidly growing knowledge in management and quality processes, policy analysis and planning, or system design and decision making for career advancement and professional development;
- recent college graduates in the social or natural sciences, engineering, liberal arts, or other fields who desire administrative, managerial, planning, or policy analyst positions at a professional level; and
- individuals who intend to pursue doctoral studies in public administration, business, policy analysis, and who wish additional preparation beyond the baccalaureate level before beginning doctoral studies.

The program fits the needs of both part-time and full-time students. Many graduate students work full time, live within commuting distance of the campus, and prefer to pursue their graduate studies on a part-time basis. Most courses are offered once weekly in the evening. Some are offered over the Internet, in an intensive semester format and over several Saturdays during the semester. Full-time students benefit from involvement with a community of students, from a wide variety of university activities, and from close working relationships with faculty. Fully prepared full-time

students find that it typically takes two years to complete the program. Part-time students are encouraged to complete the program within five years or fewer, depending on the pace they take in completing course work and thesis.

Students like the small class sizes and opportunities to work closely with faculty. The program's faculty has extensive involvement and experience with public, private, and nonprofit organizations in addition to notable academic achievements. A recent survey of graduates indicates that their positions and incomes improved significantly after they completed their degrees in Administrative Science. About one-third are now employed throughout the United States and two-thirds are working in Wisconsin.

AREAS OF EMPHASIS

Management and Quality Processes

This emphasis is for students seeking management careers in private, public, or nonprofit organizations. Students are required to complete a set of four core courses that provide them with theory and practice in organizational decision making, management and leadership, problem solving, research and analytical methods, as well as a thorough knowledge of organizational processes and environments.

Beyond the required core, each management student works with a faculty adviser to select an appropriate group of courses in the area of emphasis. These include courses to develop additional research and analytical skills, and more specialized courses in management and quality processes. Students are also encouraged to work with faculty on independent study and internships with organizations in the community and tailored to student career interests. Areas of emphases of recent graduates include health care administration, total quality management, human resources, environmental administration, public management for police officers and fire fighters. Some students develop programs that provide a

strong general emphasis in business, nonprofit or public management.

Policy Analysis and Planning

This emphasis is for students who wish to focus on advanced methods of problem solving, policy analysis, decision making, and planning, or on substantive policy issues. The emphasis in policy analysis and planning is ideally suited for students seeking careers as researchers and policy analysts with government, public interests groups and nonprofit organizations, think tanks and foundations, research and development departments in private corporations, and as a preparation for further graduate studies leading to a doctoral degree. Students are required to complete the core which provides an understanding of organizations and organizational processes, administrative theory and behavior, and research methods.

The area of emphasis focuses on public policy processes and analysis, planning and decision making, research and analytical methods. Students can also take courses in substantive policy areas such as environmental policy, health care policy and administration, government regulatory policy, and fiscal and programmatic relations among the federal, state, and local units of government. The area of emphasis is designed with the help of a faculty adviser.

Many students focus on policy issues and have written theses dealing with environmental issues, health care policy, transportation policy, governmental regulations, program planning, natural hazards and risk. These are areas where the University's faculty has special competence.

System Design and Decision Making

This emphasis is for students who wish to engage in sophisticated professional systems design, planning and analysis. Greater attention is given to developing quantitative and analytical skills for the solution of management and organizational problems. Students with career goals of contributing to the continuous improvement in

quality processes in manufacturing and services will be attracted to this emphasis. Great strides have been to increase quality and productivity in manufacturing. One of the major challenges now is to develop methods that will increase productivity in the service sector.

Students must take the required core courses in organizational decision making and management, administrative theory and behavior, and social research methods. With the assistance of a faculty adviser, students select a course of study which combines statistical, quantitative and analytical courses with organizational assessment and development, decision and planning theory, as well as an internship. Students are encouraged to write a thesis which enjoins theory and practice in organizations.

PREREQUISITES

Students who are prepared adequately when they enter the program may earn the degree by satisfactorily completing 30 credits of course work, independent study, internship, and a six-credit thesis. Student who lack appropriate prerequisites or technical knowledge will have additional requirements.

A faculty committee evaluates each student's prior academic and work experience when she or he enters the program. All students must have a baccalaureate degree or equivalent and are expected to have knowledge equivalent to that obtained in undergraduate courses appropriate to their selected major and minor. Students are expected to have knowledge equivalent to that obtained in undergraduate courses in government, political science, mathematics, statistics, and economics. They are expected to have college-level writing, oral communication, and computer skills. Lack of appropriate background may be remedied by taking undergraduate courses (such courses do not count as part of the master's degree program) or by demonstrating competency in the subject area. If a student has not had a course in statistics, the student will be

required to take a basic course in statistics such as 255-205 Social Science Statistics, 600-260 Introductory Statistics, or 216-215 Introduction to Business Statistics.

Each of the three areas of emphasis requires somewhat different skills and background, so prerequisites vary among the emphases. For example, students emphasizing management and quality processes should have some background in finance and accounting. Students interested in pursuing an emphasis in policy and planning are expected to have considerable knowledge of American government and political processes. Those who plan to emphasize system design and decision making should have a strong background in mathematics and statistics. Students will work with an adviser to learn whether deficiencies exist and how to remedy them. All deficiencies must be remedied early in the student's graduate studies.

Students who show exceptional promise, but who lack appropriate background in some areas, may be admitted provisionally. They may need to take relevant undergraduate courses or demonstrate competency in those areas to the appropriate faculty. Undergraduate courses taken to gain such skills and knowledge do not count as part of the master's degree program.

Students who have been out of college for a number of years and in the work force may have developed skills that they did not obtain as college students but are considered appropriate for an Administrative Science degree. Thus, a student could satisfy graduate course and program prerequisites in consultation with program faculty who would review work experience with the student.

All applicants to the Administrative Science graduate program are required to take GMAT or GRE exams and submit scores when they apply for admission.

DEGREE REQUIREMENTS

The requirements for the Master of Science in Administrative Science consist of successfully completing at least 30 credits of

approved course work, independent study, and/or internship, and a six-credit thesis project. Students must maintain at least a B average to remain in the program and to graduate. A grade of C or better is required for course work to be counted toward graduation.

Administrative Science students share a common 12 credits set of core courses that should be completed before the student engages in significant additional study. The core consists of four courses. Three are on management and organizational processes. The fourth course is on research methods. Each student also selects an emphasis consisting of 18 credits. Students must file a Graduate Program Plan in that semester in which six graduate credits are completed. An adviser must be consulted prior to filing the plan.

Students develop their thesis project in consultation with a faculty adviser. Thesis students work with their thesis committee which consists of a major professor and two other members of the faculty. Professionals outside the University may also serve on thesis committees. For students who are professionally employed, the thesis is often related to some significant aspect of their employment. Others often focus their thesis on some aspect of the field in which they expect to work. Theses in Administrative Science have a real world focus and represent the culmination of the student's academic career at the University of Wisconsin-Green Bay.

Program requirements change from time to time. New graduate courses are added and others are dropped. This catalog describes the program requirements at the time of publication. Consult an adviser for any changes since publication.

Core Courses

The core consists of four courses, three in organizational behavior and one in research methods. All Administrative Science students take the following three courses on organizational processes and management plus the research methods course.

- 002-750 Organizational Decision Making, 3 credits
- 002-753 Administrative Theory and Behavior, 3 credits
- 002-757 Management of Complex Organizations, 3 credits
- 002-760 Social Research Methods, 3 credits

Areas of Emphasis

Each student selects an area of emphasis consisting of at least six courses (18 credits) from *Management and Quality Processes*, *Policy Analysis and Planning*, or *Systems Design and Decision Making*.

MANAGEMENT AND QUALITY PROCESSES

Students choosing this emphasis are required to complete at least one course from Group A and the remainder from Group B or Group A.

GROUP A:

Choose at least one course.

- 002-741 Survey and Field Research Methods, 3 credits
- 002-765 Program Evaluation, 3 credits
- 008-768 Multivariate Statistical Analysis, 4 credits

GROUP B:

Choose at least five courses from Group B or Group A.

- 002-708 Public Policy Analysis, 3 credits
- 002-755 Systems and Process Design, 3 credits
- 002-770 Organizational Assessment and Development, 3 credits
- 002-775 New Management Paradigms, 3 credits
- 002-776 Organizational Communication and Conflict, 3 credits
- 002-781 Statistical Process Control, 4 credits
- 002-783X Experimental Courses, 1-4 credits
- 002-795 Special Topics, 1-3 credits

- 002-797 Internship, 1-6 credits
 002-798 Independent Study, 1-3 credits
 835-615 Public and Nonprofit Budgeting, 3 credits
 835-651 Decision Theory and Methods, 3 credits
 835-652 Planning Theory and Methods, 3 credits
 835-653 Cost-Benefit Analysis, 3 credits

POLICY ANALYSIS AND PLANNING

Students choosing this emphasis are required to complete at least one course from Group A and the remainder from Group B or Group A.

GROUP A:

Choose at least one course.

- 002-708 Public Policy Analysis, 3 credits
 002-765 Program Evaluation, 3 credits

GROUP B:

Choose at least five courses from Group B or Group A.

- 002-752 Environmental Policy and Administration, 3 credits
 002-770 Organizational Assessment and Development, 3 credits
 002-783X Experimental Courses, 1-4 credits
 002-795 Special Topics, 1-3 credits
 002-797 Internship, 1-6 credits
 002-798 Independent Study, 1-3 credits
 778-610 Intergovernmental Relations, 3 credits
 835-506 Regulatory Policy and Administration, 3 credits
 835-514 Administrative Law, 3 credits
 835-578 Environmental Law, 3 credits
 835-620 Health Care Policy and Administration, 3 credits
 835-651 Decision Theory and Methods, 3 credits
 835-652 Planning Theory and Methods, 3 credits

- 835-653 Cost-Benefit Analysis, 3 credits

SYSTEM DESIGN AND DECISION MAKING

Students choosing this emphasis are required to complete six courses from the following list:

- 002-741 Survey and Field Research Methods, 3 credits
 002-755 Systems and Process Design, 3 credits
 002-765 Program Evaluation, 3 credits
 002-770 Organizational Assessment and Development, 3 credits
 002-781 Statistical Process Control, 4 credits
 002-783X Experimental Courses, 1-4 credits
 002-795 Special Topics, 1-3 credits
 002-797 Internship, 1-6 credits
 002-798 Independent Study, 1-3 credits
 008-767 Design of Experiments, 4 credits
 008-768 Multivariate Statistical Analysis, 4 credits
 600-555 Applied Mathematical Optimization, 3 credits
 600-667 Applied Regression Analysis, 3 credits
 835-651 Decision Theory and Methods, 3 credits
 835-652 Planning Theory and Methods, 3 credits
 835-653 Cost-Benefit Analysis, 3 credits

Thesis

- 002-799 Thesis, 1-6 credits

FACULTY

Alesch, Daniel J., Professor, Public and Environmental Affairs (Political Science). B.S. (1962), M.S. (1964) UW-Madison; M.A. (1969), Ph.D. (1970) University of California-Los Angeles.

Fields of interest: decision theory and methods; policy analysis; planning theory and methods; administrative theory and behavior; public and nonprofit management. Current research: methods for reducing the effects of natural hazard events on business.

Butler, Adam B., Assistant Professor, Public and Environmental Affairs (Psychology). B.S. (1988) University of Iowa; M.A. (1992), Ph.D. (1995) University of Nebraska at Omaha.

Fields of interest: industrial and organizational psychology, judgment and decision making, statistics, research methods, and organizational behavior. Current research: work-family conflict; organizational problem solving; post-decisional regret.

Furlong, Scott R., Assistant Professor, Public and Environmental Affairs (Political Science). B.A. (1985) St. Lawrence University; M.P.A. (1987), Ph.D. (1993) The American University.

Fields of interest: regulatory policy, environmental policy, legislative politics, public policy and administration, research methods. Current research: institutional influence on the regulatory policy.

Girard, Dennis M., Professor, Information and Computing Sciences (Mathematics and Statistics). B.S. (1961), M.A. (1962) University of Detroit; Ph.D. (1968) Ohio State.

Fields of interest: applications of statistics in the life sciences with emphasis in the area of environmental contaminants, biometrics, biomathematics, multivariate statistical analysis, Fourier analysis, graph theory, econometric modeling, statistical computing.

Holly, James N., Lecturer, Administrative Science. B.S. (1960) U.S. Air Force Academy; B.S. (1971), M. Engr. (1977), M.B.A. (1981) Florida Atlantic University; Ph.D. (1983) University of Illinois at Champaign-Urbana.

Fields of interest: total quality management, organizational communication, business communication, conflict management, project management. Current research: business startup, crises management, and organizational processes; communication, planning, learning, continuous improvement, and collaboration.

Jowett, David, Professor, Natural and Applied Sciences (Statistics). B.Sc. (1956) University College of North Wales; Ph.D. (1959) Wales.

Fields of interest: statistics, statistical computing, design of experiments, multivariate analysis, systems analysis, process control and quality control.

Kraft, Michael E., Professor, Public and Environmental Affairs (Political Science). B.A. (1966) University of California-Riverside; M.A. (1967), Ph.D. (1973) Yale University.

Fields of interest: American government and politics, public policy analysis, environmental politics and policy, population policy, and energy policy. Current research: politics of sustainable communities, nuclear waste disposal policy and politics, risk assessment and environmental policy, and citizen participation in environmental decision-making.

Littig, David M., Associate Professor, Public and Environmental Affairs (Political Science) and Program Coordinator, Graduate Program in Administrative Science. B.A. (1960) Indiana University; M.A. (1962), Ph.D. (1974) UW-Madison.

Fields of interest: electoral politics, political behavior, federalism and inter-governmental relations, urban politics and policy, urban transportation policy, and European politics. Current research: urban transportation planning and management, the legal profession.

Scheberle, Denise L., Assistant Professor, Public and Environmental Affairs (Political Science). B.S. (1982) University of Wyoming; M.P.A. (1984) University of Wyoming; Ph.D. (1991) Colorado State University.

Fields of interest: environmental politics and policy, environmental law, public administration, state and local government, American government and politics. Current research: policy implementation, especially as it relates to federal-state working relationships, formulation of public policy, and environmental policy in general.

Warner, Lora, Lecturer, Public and Environmental Affairs. B.S. (1982) Hope College; M.Ed. (1984) University of Virginia; Ph.D. (1987) Virginia Commonwealth University.

Fields of interest: health care policy, health care management, program evaluation, leadership and change management. Current research: needs assessment for family preservation and support, changes in health care markets and delivery systems.

COURSE DESCRIPTIONS

In the course descriptions in this catalog, commonly used abbreviations include:

cr	credits
P	prerequisite course or experience
Rec	recommended course or experience
gr st	graduate standing
fr	freshman
soph	sophomore
jr	junior
sr	senior
cons inst	consent of instructor

Graduate-Only Courses (700 Level)

002-708 Public Policy Analysis, 3 cr. Public policy analysis methods and their use in the policy-making process, primarily in American government. Topics include

approaches to the study of public policy, policy formulation, methods for assessment of policy alternatives, ethics and policy analysis, policy implementation and evaluation, and the utilization of policy analysis in decision-making. P: gr st. (fall)

002-741 Survey and Field Research Methods, 3 cr.

Theoretical background and methodological skills necessary to use field methods and conduct survey research. Topics include: methods of field research, survey research and sampling design, and application of multivariate data analysis to survey data. Emphasis is on applied experience in the analysis of quantitative and qualitative data generated by different research methodologies. P: MSAGR; undergraduate statistics, 009-760. (intersession or summer)

002-750 Organizational Decision Making 3 cr.

Examines normative and behavioral models of group decision making, the process and consequences associated with alternative decision making styles and systems, and develops skill in the use of major decision-assisting tools. Case studies and examples from the fields of environmental management, public administration, and business or industrial management. P: gr st. (spring)

002-752 Environmental Policy and Administration 3 cr.

The political and institutional aspects of environmental policy-making and implementation, including issues in environmental policy analysis. Emphasis is on national policy processes in the United States, but attention is given also to global and state and local environmental problems and public policy. P: gr st. (spring)

002-753 Administrative Theory and Behavior 3 cr.

The major theories and schools of thought dealing with administrative behavior, administrative process, and organizational behavior and theory. Attention is given to the similarities and differences between public, private and nonprofit administration. P: gr st. (fall)

002-755 Systems and Process Design 3 cr.

Design of organizational processes and systems. Includes advanced organizational theory, technostuctural change, integrating behavioral and technical systems, design criteria and performance characteristics, design of interorganizational systems and emerging models. P: gr st., 002-753, Rec: 002-770. (fall)

002-757 Management of Complex Organizations 3 cr.

Advanced concepts and methods of managing complex organizations and multi-organizational systems in the public, nonprofit, and private sectors using a variety of learning methods. P: gr st. (spring)

002-760 Social Research Methods 3 cr.

Theory and methods of research in the social sciences. Topics include the philosophy of science, research designs, data collection and program evaluation. Emphasis is on applied research. P: gr st. (fall)

002-765 Program Evaluation 3 cr.

An introduction to evaluation research, emphasizing such issues as identifying program goals, choosing outcome measures, defining appropriate samples, data collection strategies, and evaluation and disseminating results. Political, administrative, and ethical problems of evaluation are considered. Much of the class is used to develop and discuss model evaluation studies. P: gr st. (spring)

002-770 Organizational Assessment and Development 3 cr.

Assessment and diagnosis of organizations for the purpose of planned change and development. Students will learn assessment techniques and analytical methods, how to link assessment to development, types of development programs and program evaluation. Specific topics include systems theory, applied statistics, group dynamics, and research design. P: gr st. (spring)

002-775 New Management Paradigms 3 cr.

Theoretical and philosophical foundations on new management paradigms. The course develops practical skills for applying knowledge of continuous improvement processes. P: gr st., Rec: 002-753, 002-757. (fall)

002-776 Organizational Communication and Conflict 3 cr.

Principals and processes used by individuals, groups, and organizations to deal with contention and diversity in dynamic work environments. Theoretical foundations and applied communication techniques for implementing and sustaining organizational change, manage and resolve conflict, improve work and business processes. Case studies and models are studied and developed as part of the class. P: gr st. (spring)

002-781 Statistical Process Control 4 cr.

An application of statistical analysis in industrial quality control. Builds on basic probability and statistical principles, and develops the significance of the statistical approach to quality. Topics include basic statistics, discrete and continuous probability distributions, control and CUSUM charts, experimentations, factorial experiments, fractional factorials, and Taguchi approach to quality. P: gr st. and Introductory Statistics or cons inst. (fall)

002-783X Experimental Courses 1-4 cr.

This number designates courses and seminars offered by graduate faculty in response to special demand or on an experimental basis. Topics may be chosen to address current issues of general concern, special interests of student groups or faculty members, or special resources of visiting faculty. The title of the experimental course as announced in the *Time-table* will appear on transcripts of the students who enroll. Credits earned in the 783X courses may not be applied toward the graduate core requirement. P: gr st. (fall, spring, intersession, or summer)

002-795 Special Topics 1-3 cr.

Courses provided under the special topics designation are generally offered in response to special needs. These courses may be offered more than once but are not intended to become a regular part of the graduate curriculum. The title of the specific topic is announced in the *Timetable* and entered on the transcripts of students who enroll. It may be repeated once with a change in topic for degree credit, but it may not be applied toward graduate core requirements. Recent special topic courses include Health Care Administration in the 90s and Project Management. P: gr st. (fall, spring, intersession, or summer)

002-797 Internship 1-6 cr.

Supervised work experience in an appropriate organization, business, program or agency. Students may enroll for internship credits only when such activity is included in the approved program plan. A description of activities including criteria for grading must be submitted to the student's major professor and director of graduate studies. P: MSAGP. (fall, spring, summer)

002-798 Independent Study 1-3 cr.

Reading and research under the supervision of a member of the graduate faculty. Independent study credits may only be earned when this activity is included as part of an approved program plan. P: MSGP. (fall, spring, summer)

002-799 Thesis 1-6 cr.

Research, preparation and defense of thesis. Enrollment may be for 1-6 credits per term. Students must include 6 thesis credits in their program plan. Although additional thesis credits may be earned, a maximum of 6 credits can be applied toward a degree. Student must be enrolled for at least 1 thesis credit during the semester when the thesis is defended. P: MSAGT. (fall, spring, summer)

008-767 Design of Experiments 4 cr.

Statistical theory and practice underlying the design of scientific experiments, and methods of analysis. Replication, randomization, error, linear models, least squares,

crossed and nested models, blocking, factorial experiments, Latin squares, confounding, incomplete blocks. P: gr st. (fall)

008-768 Multivariate Statistical Analysis 4 cr.

Principles and practice in the analysis of multivariate data. Correlation, partial correlation, principle components, factor analysis, discriminant functions, canonical correlation, cluster analysis, multidimensional scaling. Emphasis on computer analysis of actual data. P: gr st. (fall)

**Undergraduate/Graduate Courses
(500-699 Level)**
600-555 Applied Mathematical Optimization 3 cr.

Analytical and numerical optimization techniques; linear, nonlinear, integer, and dynamic programming. Techniques applied to problems of water, forest, air, and solid-waste management. P: 600-320. (fall, even years)

600-667 Applied Regression Analysis 3 cr.

Techniques for fitting linear regression models are developed and applied to data. Topics include simple linear regression, multivariate regression, curvilinear regression, and linearizable models. P: 600-260 or basic course in statistics.

778-610 Intergovernmental Relations 3 cr.

The relations among the federal, state, and local units of government of the United States, federalism, intergovernmental revenues and expenditures, intergovernmental programs, policies and grants-in-aid. (fall)

835-506 Regulatory Policy and Administration 3 cr.

The origins, purposes and operation of regulatory agencies and the programs in the U.S.: theories of regulation, issues and controversies in regulatory policy, decision-making in such areas as economic regulation, public health, consumer protection, workplace safety, and environmental quality. (spring)

835-514 Administrative Law 3 cr.

Administrative law in the American federal (intergovernmental) system, fundamentals of administrative law, connections between administrative law issues and issues of public policy, and legal dimensions of administrative problems.

835-578 Environmental Law 3 cr.

An overview of major environmental laws, including their historical development, structure and implementation by federal, state, and local agencies. *(fall and summer)*

835-615 Public and Nonprofit Budgeting 3 cr.

The purposes and attributes of major public budgetary systems: Principles and methods in designing and managing relationships among program planning, policy planning and budgetary operations; applications of analytical and decision-assisting tools in the public budgetary operations. *(spring)*

835-620 Health Care Policy and Administration 3 cr.

An examination of contemporary health care problems in the United States, emerging controversies in public policy, and challenges to effective health care management. Offers exercises and projects designed to acquaint students with strategies for dealing with major health care issues in the 1990s and beyond. *(spring)*

835-651-Decision Theory and Methods 3 cr.

Quantitative and qualitative dimensions of decision-making; utility of various theories and methods of making decisions in individual, group, organizational and policy-making contexts. *(fall)*

835-652 Planning Theory and Methods 3 cr.

Planning for public and nonprofit agencies: Theory and practical significance of planning; the political and administrative setting of planning operations; and methods of planning analysis such as strategic planning. *(spring)*

835-653 Cost-Benefit Analysis 3 cr.

An introduction to the purposes of cost-benefit analysis, its basis in economics, its strengths and weaknesses, and its application to decision making in a variety of public policy contexts. *(fall, even years)*

**Undergraduate Courses
(300-400 Level)**

Graduate credit for undergraduate courses with 300 or 400 level numbers is available only with special permission of the instructor and the student's graduate adviser or the associate dean of graduate studies. An assigned study card is required for registration in one of these courses, under either the XXX-596 or XXX-696 number.

Environmental Science and Policy

The University of Wisconsin-Green Bay's Environmental Science and Policy program is appropriate for students with interests in the scientific and/or public policy aspects of complex environmental problems. It provides a course of study that prepares its graduates for positions in scientific, technical and administrative organizations and agencies. The program's core focuses on identification and analysis of environmental issues and on developing interdisciplinary approaches and solutions to problems. The program offers three areas of emphasis: ecosystems studies, resource management, and environmental policy and administration.

Although the areas of emphasis seek to integrate the sciences with policy and administration, students choose to specialize in one depending on future career interests. Each area of emphasis has a practical orientation that involves the student in real world problems and issues rather than presenting theoretical knowledge alone. Each area of emphasis allows for and encourages student flexibility in designing a particular program of study around a core of required courses. A personal program of study, as described below, may also be developed.

The program fits the needs of both part-time and full-time students. Most graduate courses are offered once weekly in the evening or at other times convenient for working individuals. Students benefit from the mix of perspectives and experiences held by participants in courses. Full-time students gain from the practical knowledge of the working professionals, who are in turn challenged by the current theoretical knowledge of those with recent undergraduate degrees. Students like the small class sizes and the close association with faculty. Fully prepared students usually complete the program in two years. Part-time students normally complete the program in four to five years.

The program features a faculty that is widely published in the professional literature, active in externally funded research, and committed to excellence in teaching. The

faculty associated with the program firmly believe that environmental policy must be based on good science but also that science is ineffective without sound policy decisions. Close ties exist with national, state and local agencies providing students with opportunities to become engaged with and contribute to meaningful scientific research and policy formulation.

The University offers modern and well-equipped facilities that support research and study in environmental science and policy areas. Computer equipped ecology, engineering, graphics and geographic information systems (GIS) laboratories are available. The library collection is strong in all areas of environmental studies, but is particularly so in environmental policy and administration. The library maintains subscriptions to most pertinent journals in science and public policy and administration. Interlibrary loans are easily available from UW-Madison when sources are not available locally.

AREAS OF EMPHASIS

One of the principle goals of the University of Wisconsin-Green Bay graduate program is to prepare highly skilled and imaginative individuals for middle-management and policy-making positions in government, nonprofit organizations and the private sector. Individuals with such career objectives will focus on environmental policy course work. Another principle objective of the University of Wisconsin-Green Bay graduate program is to prepare technically competent and imaginative individuals for positions in the public or private sectors. Individuals with such career objectives will focus on environmental science course work. Students will be prepared to deal with a variety of environmental problems or for further graduate work in similar or related areas.

Ecosystems Studies

Students who select Ecosystems Studies may address problems of general features of ecosystems such as nutrient regeneration,

productivity, or trophic relationships. They can also focus on such specific questions as endangered species, predation and competition. Natural, managed and disturbed ecosystems are examined in classroom and field activities. Studies on aquatic systems take advantage of the University's location on Green Bay and participate in the University of Wisconsin Sea Grant Program. The University's proximity to large areas of northern forests and the Door Peninsula provides convenient locations for the study of diverse ecosystems.

Resource Management

Students who select this area of emphasis may study concepts of natural resource management, watershed management, or of the handling, processing, treatment and disposal of municipal, industrial and agricultural wastes. Emphasis is on evaluating alternative strategies for effective policy implementation and planning for the future. Other studies focus on ground or surface water systems. Principles and techniques of quantitative analysis are applied to problems of supply, distribution and utilization of natural resources and to the optimization of treatment and waste management costs in the context of public agencies, consulting firms and industries.

The Ecosystems Studies, and Resource Management areas of emphasis prepare students to:

- design and conduct scientific investigations;
- collect, evaluate, and interpret data;
- make responsible decisions to implement appropriate technologies and strategies to solve environmental problems, and;
- effectively communicate the results of environmental studies to other scientists, decision makers and the general public.

Graduates typically work as scientists, environmental specialists, or project managers with industry, commercial laboratories, engineering firms, or government agencies,

where their work involves analysis, research, consulting, compliance, or enforcement.

Environmental Policy and Administration

Students who select Environmental Policy and Administration study the characteristics and operation of government institutions; organizational theory, design and evaluation; and substantive policies in regulation, environmental protection, science and technology, and energy and natural resources. Courses emphasize environmental problem analysis and planning, policy analysis and formulation, environmental law and implementation, program evaluation, statistical analysis and the application of social science research methods to environmental issues.

The Environmental Policy and Administration area of emphasis prepares students to:

- identify and analyze policy-relevant problems of major importance;
- design, evaluate, and implement strategies and programs for addressing such problems, and;
- design, manage, and evaluate project teams and organizational systems concerned with such problems, policies, programs, and strategies.

Graduates typically enter governmental agencies at the national, state or local level, or nonprofit organizations, where their work involves policy analysis, planning, or administration. Some prefer positions in legislative bodies, environmental organizations, or industry where administrative or analytical work is combined with politics, public relations, education or advocacy.

ADMISSION REQUIREMENTS

Each student's prior academic background is evaluated by a program admissions committee when he or she applies. Admission to the Environmental Science and Policy graduate program requires that a student have completed the equivalent of a basic undergraduate course in statistics and submitted current GRE general test scores.

Students with a background in both policy and science will be given preference in admission decisions.

Each area of emphasis requires different skills and preparation; therefore, additional prerequisites vary. Courses appropriate to the area of emphasis or needed to meet prerequisites of specific courses that a student wishes to incorporate into a plan of study will also be required as described below.

Applicants who do not meet these requirements may be admitted if their academic record, letters of reference, and GRE scores indicate potential for successful completion of the program. However, these students will have additional requirements placed upon them as part of their academic plan to make up any deficiencies.

DEGREE REQUIREMENTS

Students who are adequately prepared when they enter the program may earn the degree by satisfactorily completing a minimum of 28 credits of course work, plus a 6-credit thesis. Those who lack appropriate prerequisites may need to take additional courses to strengthen their backgrounds. Credit earned in undergraduate courses numbered at the 100- or 200-level cannot be applied toward the graduate degree.

Credit requirements are determined by the student's chosen area of emphasis and program of study. At least 12 credits of 700-level courses must be included. Students develop individual program plans with the assistance and approval of their advisers and graduate committees.

By the time a student has successfully completed 15 credits, usually during the second semester, he or she should have selected a thesis adviser, formed a committee and started to develop a thesis proposal with their assistance. Approval of the thesis proposal places the student in candidacy for the degree. Successful defense of the written thesis and completion of all courses in the student's program plan result in awarding of the degree. See the General Information section, page 6, for additional details.

General Core Requirements 19 Credits

All students matriculated into the Environmental Science and Policy program are required to successfully complete the following set of required core courses (13 credits) and a 6-credit thesis.

Complete the following three courses, 7 credits:

- 008-701 Perspectives in Environmental Science and Policy, 3 credits
- 008-762 Graduate Seminar, 1 credit
- 008-763 Seminar in Environmental Science and Policy, 3 credits

And one of the following environmental science courses, 3 credits:

- 008-740 Ecosystem Management, 3 credits
- 008-766 Waste Management/Resource Recovery, 3 credits
- 362-660 Resource Management Strategy, 3 credits

And one of the following public policy courses, 3 credits:

- 008-752 Environmental Policy and Administration, 3 credits
- 835-578 Environmental Law, 3 credits
- 835-602 Environmental and Resource Economics, 3 credits

And thesis requirement, 6 credits:

- 008-799 Thesis, 6 credits

Areas of Emphasis Requirements

In addition to the general core requirements described above, students will select a program of study from one of the areas of emphasis described below. A fourth option is to develop a "personal program of study" more fitting to the career interest of the student.

Area of Emphasis courses and electives, 15 credits minimum:

- Ecosystem Studies, 15-18 credits

- Resource Management, 15-21 credits
- Environmental Policy and Administration, 15-21 credits
- Personal Program of Study, 15 credits

Personal programs of study must conform to Environmental Science and Policy program guidelines. Such programs must be filed as a Graduate Program Plan and approved by the student's academic adviser, the Environmental Science and Policy program coordinator and the associate dean of graduate studies and research. These programs must include the entire 19-credit program core requirements and include a minimum of 34 credits.

ECOSYSTEM STUDIES

Emphasis Prerequisites:

(taken elsewhere or prior to entrance)

Students who pursue the Ecosystems Studies area of emphasis are expected to have completed biology courses beyond introductory courses, typically the equivalent to a minor or major in biology. These courses should include an ecology course.

Core Courses:

Complete one of the following science courses, 3 credits:

(This may be satisfied by the Environmental Science and Policy program core, with approval of the student's academic adviser when filing a degree plan. If so, the actual area of emphasis credit requirement would be reduced to 15 instead of 18 credits.)

- 008-715 Seminar in Ecology and Evolution, 3 credits (3 semesters - 1 credit each semester)
- 008-740 Ecosystem Management, 3 credits
- 008-749 Wetland Ecology and Management, 3 credits

Complete one of the following quantitative courses, 3-4 credits:

- 008-765 Environmental Modeling and Analysis, 4 credits

- 008-767 Design of Experiments, 4 credits
- 008-768 Multivariate Statistical Analysis, 4 credits
- 600-667 Applied Regression Analysis, 3 credits

Additional Courses, 12 credits:

Choose any combination from the courses listed here or above.

General Ecology:

- 362-675 Ecological Dynamics, 4 credits

Aquatic Ecology:

- 362-530 Hydrology, 3 credits
- 362-601 Stream Ecology, 3 credits
- 362-603 Limnology, 3 credits

Plant Biology and Ecology:

- 204-511 Plant Physiology, 4 credits
- 204-310 Plant Taxonomy, 3 credits
- 204-320 Field Botany, 3 credits
- 362-520 The Soil Environment, 3 credits
- 362-563 Plants and Forest Pathology, 3 credits

Animal Ecology:

- 204-342 Ornithology, 3 credits
- 204-343 Mammalogy, 3 credits

Environmental Policy and Planning:

- 008-752 Environmental Policy and Administration, 3 credits
- 835-350 Geographic Information Systems, 3 credits
- 835-522 Environmental Planning, 3 credits

RESOURCE MANAGEMENT

Emphasis Prerequisites:

(taken elsewhere or prior to entrance)

Students who pursue Resource Management come from a variety of undergraduate disciplines, including biology, chemistry, earth science, economics, engineering, environmental planning, environmental policy, mathematics, physics, political science,

public administration, or resource management. The appropriate undergraduate course preparation is dictated by the prerequisites to the courses to be included in a program of study and the thesis topic area.

Core Courses:

Complete one of the following science courses, 3 credits:

(This may be satisfied by the Environmental Science and Policy program core, with approval of the student's academic adviser when filing a degree plan. If so, the actual area of emphasis credit requirement would be reduced to 18 instead of 21 credits.)

008-724 Hazardous and Toxic Materials, 3 credits

008-733 Ground Water Resources and Regulations, 3 credits

008-766 Waste Management/Resource Recovery, 3 credits

Complete one of the following quantitative courses, 3-4 credits:

008-765 Environmental Modeling and Analysis, 4 credits

008-767 Design of Experiments, 4 credits

008-768 Multivariate Statistical Analysis, 4 credits

600-667 Applied Regression Analysis, 3 credits

Additional Courses, 15 credits:

Choose any combination from the courses listed here or above.

(This may be satisfied by the Environmental Science and Policy program core, with approval of the student's academic adviser when filing a degree plan. If so, the actual area of emphasis credit requirement would be reduced to 15 or 18 instead of 21 credits.)

Physical Resources Management:

362-518 Industrial Pollution Control Techniques, 2 credits

362-519 Industrial Pollution Control Field Trips, 1 credit

362-520 The Soil Environment, 3 credits

362-535 Water and Waste Water Treatment, 3 credits

362-632 Hydrogeology, 3 credits

362-634 Environmental Chemistry, 3 credits

362-635 Environmental Chemistry Lab, 1 credit

362-660 Resource Management Strategy, 3 credits

Biological Resources Management:

008-740 Ecosystems Management, 3 credits

008-749 Wetland Ecology and Management, 3 credits

362-671 Biological Resources Management I, 3 credits

362-672 Biological Resources Management II, 3 credits

Natural Resources Analysis:

362-654 Remote Sensing of the Environment, 3 credits

835-350 Geographic Information Systems, 3 credits

835-356 Environmental Impact Analysis, 3 credits

Environmental Policy and Planning:

008-713 Energy, Natural Resources, and Public Policy, 3 credits

008-752 Environmental Policy and Administration, 3 credits

835-506 Regulatory Policy and Administration, 3 credits

835-522 Environmental Planning, 3 credits

835-578 Environmental Law, 3 credits

835-602 Environmental and Resource Economics, 3 credits

ENVIRONMENTAL POLICY AND ADMINISTRATION

Emphasis Prerequisites:

(taken elsewhere or prior to entrance)

Students who pursue Environmental Policy and Administration come from a variety of undergraduate backgrounds such as economics, engineering, environmental planning, environmental policy, political science, public administration, sociology, or more traditional science disciplines. The appropriate undergraduate course preparation is dictated by the prerequisites to the courses to be included in a program of study and the thesis topic area. It would normally be expected that students would have the equivalent of one year of undergraduate course work in political science, public administration, or economics.

Core Courses:

Complete all of the following courses, 9 credits:

(This may be satisfied by the Environmental Science and Policy program core, with approval of the student's academic adviser when filing a degree plan. If so, the actual area of emphasis credit requirement would be reduced to 18 instead of 21 credits.)

- 002-760 Social Research Methods, 3 credits
- 008-708 Public Policy Analysis, 3 credits
- 008-752 Environmental Policy and Administration, 3 credits

Institutions and Administration—
complete one course, 3 credits:

- 002-753 Administrative Theory and Behavior, 3 credits
- 002-757 Management of Complex Organizations, 3 credits
- 002-770 Organizational Assessment and Development, 3 credits
- 778-516 Congress: Politics and Policy, 3 credits
- 778-610 Intergovernmental Relations, 3 credits
- 835-514 Administrative Law, 3 credits

- 835-615 Public and Nonprofit Budgeting, 3 credits

Public Policy – complete one course, 3 credits:

(This may be satisfied by the Environmental Science and Policy program core, with approval of the student's academic adviser when filing a degree plan. If so, the actual area of emphasis credit requirement would be reduced to 15 or 18 instead of 21 credits.)

- 008-713 Energy, Natural Resources, and Public Policy, 3 credits
- 835-506 Regulatory Policy and Administration, 3 credits
- 835-522 Environmental Planning, 3 credits
- 835-578 Environmental Law, 3 credits
- 835-602 Environmental and Resource Economics, 3 credits

Additional Courses, 6 credits:

Choose any combination from the courses listed here or above.

(This may be satisfied by the Environmental Science and Policy program core, with approval of the student's academic adviser when filing a degree plan. If so, the actual area of emphasis credit requirement would be reduced to 15 or 18 instead of 21 credits.)

Research Methods:

- 002-765 Program Evaluation, 3 credits
- 008-765 Environmental Modeling and Analysis, 4 credits
- 008-767 Design of Experiments, 4 credits
- 008-768 Multivariate Statistical Analysis, 4 credits
- 298-510 Introduction to Quantitative Methods and Econometrics, 3 credits
- 600-667 Applied Regression Analysis, 3 credits
- 835-651 Decision Theory and Methods, 3 credits

835-652 Planning Theory and Methods,
3 credits

835-653 Cost-Benefit Analysis, 3 credits

Environmental Science:

008-715 Seminar in Ecology and Evolution,
3 credits (3 semesters – 1
credit each semester)

008-724 Hazardous and Toxic Materials,
3 credits

008-733 Ground Water Resources and
Regulations, 3 credits

008-740 Ecosystems Management,
3 credits

008-766 Waste Management/Resource
Recovery, 3 credits

362-518 Industrial Pollution Control
Techniques, 2 credits

362-519 Industrial Pollution Control
Field Trips, 1 credit

362-634 Environmental Chemistry,
3 credits

362-635 Environmental Chemistry Lab,
1 credit

362-660 Resource Management Strategy,
3 credits

362-675 Ecological Dynamics, 4 credits

**Environmental Planning and
Geographic Information Systems:**

835-350 Geographic Information
Systems, 3 credits

835-356 Environmental Impact Analysis,
3 credits

835-522 Environmental Planning,
3 credits

It is possible, even necessary depending on area requirements, that students will include one or two 4-credit statistics courses in their academic program. In those cases, only 7 credits would be needed in one semester which could be satisfied by the Seminars in Ecology and Evolution (008-715) or an Independent Study. If a regular course is selected, the academic program would include a total of 36 credits.

FACULTY

Davis, Gregory J., Associate Professor, Natural and Applied Sciences (Mathematics). B.S. (1981) UW-Green Bay; M.A. (1985), Ph.D. (1987) Northwestern.

Smooth, discrete, and chaotic dynamical systems; fractals; mathematical modeling of biological systems; celestial mechanics.

Day, Harold Jack, Professor Emeritus, Natural and Applied Sciences (Engineering). B.S. (1952), M.S. (1953), Ph.D. (1963) UW-Madison.

Water resources, fluid mechanics, hydrology and related applications of engineering to society and technology. Regional water quality and associated land management and flood plain management. Resource management.

Furlong, Scott R., Assistant Professor, Public and Environmental Affairs (Political Science). B.A. (1985) St. Lawrence University; M.P.A. (1987), Ph.D. (1993) The American University.

Regulatory policy; environmental policy; legislative politics; administrative law; public policy and administration; research methods; and interest group influence on the administrative rulemaking process.

Girard, Dennis M., Professor, Information and Computing Sciences (Mathematics and Statistics). B.S. (1961), M.A. (1962) Detroit; Ph.D. (1968) Ohio State.

Applications of statistics in both industrial and scientific settings; use of Fourier analytic methods in image analysis; applications of graph theory and combinations; econometric modeling.

Harris, Hallet J., Herbert Fisk Johnson Professor, Natural and Applied Sciences; Director Institute for Land and Water Studies; Chair, Natural and Applied Science. B.A. (1961) Coe College; M.S. (1965), Ph.D. (1966) Iowa State.

Animal and wetland ecology; management of coastal areas; wildlife management. Ecological risk assessment.

Howe, Robert W., Professor, Natural and Applied Sciences (Biology). B.S. (1974) Notre Dame; M.S. (1977), Ph.D. (1981) UW-Madison.

Terrestrial ecology and conservation biology. Bird population dynamics in fragmented forests. Natural history and biogeography of vertebrates. Evolutionary ecology.

Jowett, David, Professor, Natural and Applied Sciences (Statistics). B.Sc. (1956) University College of North Wales; Ph.D. (1959) Wales.

Statistics, statistical computing. Design of experiments, multivariate analysis, especially as applied to problems in bioscience and social science. Population genetics and population modeling. Computer models of biological systems. Ecological genetics, plant breeding, agriculture. Biometrics, biomathematics ecosystems modeling.

Kraft, Clifford E., Adjunct Assistant Professor, UW-Sea Grant College (Fisheries). B.A. (1975) Cornell; M.S. (1977), Ph.D. (1991) UW-Madison.

Zebra mussels. Great Lakes fisheries, yellow perch. Fisheries modeling, fisheries biology, bioenergetics.

Kraft, Michael E., Herbert Fisk Johnson Professor, Public and Environmental Affairs (Political Science). B.A. (1966) University of California-Riverside; M.A. (1967), Ph.D. (1973) Yale.

American politics and government, public policy analysis, congressional behavior and legislative processes, environmental policy and politics in the U.S., sustainable communities, politics of nuclear waste disposal.

Lyon, John M., Associate Professor, Natural and Applied Sciences (Chemistry). B.S. (1977) Lehigh; Ph.D. (1983) Rutgers.

Transition metal chemistry. Reactions of transition metals in high oxidation states as oxygenation catalysts. Photochemical energy conversion systems.

Marker, James C., Associate Professor, Human Biology (Exercise Physiology). B.S. (1979) Weber State University; M.S. (1981) Utah State University; Ph.D. (1985) Brigham Young University; Post-Doctoral Fellow (1985-88) Washington State University of Medicine.

Exercise physiology/endocrinology; the role/response of hormones during exercise; metabolic responses to exercise and exercise training; adaptations to exercise training in the elderly; the role of the sympathoadrenal system and glucose counter-regulatory system during exercise; exercise/muscle physiology; exercise testing and prescription; kinesiology.

McIntosh, Thomas H., Professor Emeritus, Natural and Applied Sciences (Earth Science). B.S. (1956), M.S. (1958), Ph.D. (1962) Iowa State University.

Soils, agronomic systems, remote sensing.

Moran, Joseph M., Barbara Hauxhurst Cofrin Professor, Natural and Applied Sciences (Earth Science). B.A. (1965), M.S. (1967) Boston College; Ph.D. (1972) UW-Madison.

Nature of climatic change, air pollution meteorology. Applications of paleoclimatic reconstruction techniques to Glacial-age evidence. Environmental implications of current climatic changes. Quaternary climatology, geology.

Morgan, Michael D., Professor, Natural and Applied Sciences (Biology). B.S. (1963) Butler; M.S., Ph.D. (1968) Illinois.

Reproductive ecology of plants. Terrestrial plant ecology and conservation biology. Relations between climatic change and plant production and distribution.

Nair, V.M.G., Professor, Natural and Applied Sciences (Forest and Plant Pathology, Mycology). B.Sc., Madras; M.Sc., Aligarh; Associate I.A.R.I, Agricultural Ministry, New Delhi; Ph.D. (1964) UW-Madison.

International quarantine and disease control programs of plant-forest tree diseases.

Weedicide-Silvicide applications in the establishment of exotic tree species in developing countries and their aftereffects on wildlife and fishes. Preservation of tropical forests species and forest medicinal plants. Host parasite interactions of vascular wilt and canker pathogens. Electron and three-dimension electron microscopy.

Nekola, Jeffrey C., Assistant Professor, Natural and Applied Sciences (Ecology). B.A. (1987) Coe College; Ph.D. (1993) University of North Carolina.

Principles of ecology, biological resource management, conservation biology, plant taxonomy.

Niedzwiedz, William R., Professor, Public and Environmental Affairs (Geography). B.S. (1969), M.S. (1972) Massachusetts; Ph.D. (1981) Virginia Polytechnic.

Geographic information systems; remote sensing applications; land use planning; environmental impact assessment.

Norman, Jack C., Professor, Natural and Applied Sciences (Chemistry). B.S. (1960) New Hampshire; Ph.D. (1965) UW-Madison.

Nuclear and radio chemistry; environmental radioactivity. Distribution and cycling of natural and artificial radionuclides in the environment. Wastepaper recycling and deinking; recycling and decontamination of pulping liquors and effluents.

Rhyner, Charles R., Professor, Natural and Applied Sciences (Physics). B.S. (1962), M.S. (1964), Ph.D. (1967) UW-Madison.

Applied physics including radiation dosimetry and electronic instrumentation. Primary research interest is in modeling solid waste management systems.

Sager, Dorothea B., Professor Emerita, Human Biology (Population Dynamics and Medical Technology). B.A. (1959) Lawrence; M.S. (1961) Iowa; Ph.D. (1968) UW-Madison.

Physiology of reproduction, hormonal controls. Developmental and reproductive effects of environmental contaminants. Bio-

logical factors in family planning. Reproductive physiology, zoology, embryology.

Sager, Paul E., Professor, Natural and Applied Sciences (Biology). B.S. (1959) Michigan; M.S. (1963), Ph.D. (1967) UW-Madison.

Ecology of aquatic communities including nutrient studies in the phytoplankton of freshwater lakes. Eutrophication of lakes. Ecological effects of nutrient enrichment and water quality deterioration. Limnology.

Scheberle, Denise L., Associate Professor, Public and Environmental Affairs (Political Science). B.S. (1982), M.P.A. (1984) University of Wyoming; Ph.D. (1991) Colorado State University.

State and local government, intergovernmental relations, public policy, environmental policy and law. Special interest in policy implementation and formation; federal-state relationships in environmental programs.

Schwartz, Leander J., Professor Emeritus, Natural and Applied Sciences (Biology). B.S. (1957) UW-Platteville; M.S. (1959), Ph.D. (1963) UW-Madison.

Resource recovery: anaerobic digestion of organic wastes and/or use as fertilizers and in other applications; bacterial survival in aquatic ecosystems.

Stieglitz, Ronald D., Professor, Natural and Applied Sciences (Earth Science-Geology). B.S. (1963) UW-Milwaukee; M.S. (1967), Ph.D. (1970) Illinois.

Environmental geology, stratigraphic analysis, sedimentary geology, applications of geology to land use problems, ground water resources.

Stoll, John R., Professor, Public and Environmental Affairs (Economics). B.S. (1973) UW-Green Bay; M.S. (1977), Ph.D. (1980) Kentucky.

Natural resources and environmental economics, econometrics, nonmarket valuation methodology, economics of recreation and leisure, cost-benefit analysis, regional economics, fisheries economics.

Terry, Patricia A., Assistant Professor, Natural and Applied Sciences (Engineering). B.S. (1989), M.S. (1991) Texas; Ph.D. (1995) Colorado.

Environmental engineering, waste processes.

Wenger, Robert B., Barbara Hauxhurst Cofrin Professor, Natural and Applied Sciences (Mathematics). B.S. (1958) Eastern Mennonite; M.A. (1962) Pennsylvania State; Ph.D. (1969) Pittsburgh.

Application of mathematical models to environmental problems such as solid waste management and water quality management. Ecosystem risk assessment and graph-theoretic approaches to the study of ecosystem stressors.

Wiersma, James H., Professor Emeritus, Natural and Applied Sciences (Chemistry). B.S. (1961) UW-Oshkosh; M.S. (1965), Ph.D. (1967) Missouri-Kansas City.

Assessment of fate of water pollutants (pesticides); performance of water pollution abatement methods. Development of new analytical chemical methods with emphasis on techniques applied to environmental problems. General interest areas: bioremediation, arsenic in ground water.

COURSE DESCRIPTIONS

In the course descriptions in this catalog, commonly used abbreviations include:

cr	credits
P	prerequisite course or experience
Rec	recommended course or experience
gr st	graduate standing
fr	freshman
soph	sophomore
jr	junior
sr	senior
cons inst	consent of instructor

Graduate-Only Courses (700 Level)

008-701 Perspectives in Environmental Science and Policy 3 cr.

Introduces the fundamental perspectives on environmental issues. Develops a framework based on the natural sciences, economics, and politics/policy by which the complex causes of environmental problems can be understood and viable interdisciplinary solutions formulated.

008-708 Public Policy Analysis-3 cr.

Public policy analysis methods and their role in the policy-making process, primarily in American government. Topics include: approaches to the study of public policy, policy formulation and adoption, methods for assessment of policy alternatives, ethics and policy analysis, policy implementation and evaluation, and the utilization of policy analysis in decision making. P: gr st.

008-713 Energy, Natural Resources and Public Policy 3 cr.

Public policy issues related to energy and other natural resources with a special emphasis on the United States. Topics include fossil energy, nuclear energy, solar and other alternative sources of energy; natural resources ranging from soil, water and minerals to wildlife, forests and parks. P: gr st.

008-715 Seminar in Ecology and Evolution (subtitle) 1 cr.

A forum for discussion of contemporary ideas in ecology and evolution. Topics and weekly readings are chosen from the current scientific literature; examples from recent semesters include ecosystem stability, competition and coexistence, group selection, trophic dynamics, and complex species interactions. May be repeated with change in topic to maximum of three credits. (fall, spring)

008-724 Hazardous and Toxic Materials 3 cr.

The handling, processing, and disposal of materials which have physical, chemical, radiochemical, and biological properties presenting hazards to humans; procedures

for safe handling and for compliance with regulations. P: undergraduate courses in chemistry, physics, biorganic chemistry or equivalent. (*spring*)

008-733 Ground Water: Resources and Regulations 3 cr.

Geology, properties, flow, and pollution of ground water systems; Techniques of aquifer characterization and water quality monitoring; regulatory and policy approaches to protect ground water. P: one course each in physical geology and college chemistry. (*fall, even years*)

008-740 Ecosystems Management 3 cr.

Imparts the underutilized potential of our present understanding of ecology and system dynamics to management problems associated with human dominated and natural ecosystems. (*spring, odd years*)

008-749 Wetland Ecology and Management 3 cr.

Ecological processes and characteristics of wetlands such as primary productivity, hydrology, decomposition and nutrient dynamics are studied. Wetland classification and delineation systems are examined and applied in the field. Management practices and potential as well as current approaches to values assessment are addressed. P: 362-302 or equivalent. (*spring*)

008-752 Environmental Policy and Administration 3 cr.

The political and institutional aspects of environmental policy-making and implementation including issues in environmental policy analysis. Emphasis is on national policy processes in the United States, but attention is given also to global and state and local environmental problems and public policy. P: gr st. (*spring*)

008-762 Graduate Seminar 1 cr.

Provides opportunities to gain knowledge about a variety of environmental issues and active research through readings and student, faculty, and invited presentations. Focus is on methodology and the integration of science and policy. P: MSEG T (*fall, spring*)

008-763 Seminar in Environmental Science and Policy 3 cr.

Capstone course of the program in Environmental Science and Policy. Selected contemporary environmental issues such as acid deposition, radioactive waste management or groundwater contamination are chosen for review and analysis in a seminar format. Both policy and scientific aspects of the topics are addressed. P: 12 graduate credits. (*fall*)

008-765 Environmental Modeling and Analysis 4 cr.

How and where mathematical models are used in real life environmental applications. Focus on discrete, continuous, and stochastic models. Students will create models and use them to analyze and interpret systems. P: gr st.; and Introductory Statistics, Algebra and Trigonometry.

008-766 Waste Management/Resource Recovery 3 cr.

Topics include generating, processing, and disposing of municipal, industrial, and agricultural waste materials with emphasis on the technical and economic feasibility of various recycling processes. P: gr st. (*fall*)

008-767 Design of Experiments 4 cr.

Statistical theory and practice underlying the design of scientific experiments, and methods of analysis: Replication, randomization, error, linear models, least squares, crossed and nested models, blocking, factorial experiments, Latin squares, confounding, incomplete blocks, split-plots. P: gr st.

008-768 Multivariate Statistical Analysis 4 cr.

Principles and practice in the analysis of multivariate data. Correlation, partial correlation, principle components, factor analysis discriminant functions, canonical correlation, cluster analysis, multidimensional scaling. Emphasis on computer analysis of actual data. P: gr st.

008-783X Experimental Courses

Courses and seminars offered by graduate faculty in response to special demand or on an experimental basis. Topics address

current issues of general concern, special interests of student groups or faculty members, or special resources of visiting faculty. The title of the special topics course as announced in the *Timetable* will appear on the transcripts of the students who enroll. Credits earned in the 783X courses may not be applied toward the graduate core requirement. P: gr st. (*fall, spring*)

008-795 Special Topics in Environmental Science and Policy 1-3 cr.

Courses provided in response to special needs. These may be offered more than once, but are not intended to become a regular part of the curriculum. The title of the specific topic is announced in the *Timetable* and entered on the transcript of students who enroll. May be repeated once with a change in topic for degree credit. May not be applied toward graduate core requirements. P: gr st. (*on demand*)

008-797 Internship 1-6 cr.

Supervised work experience in an appropriate program or agency. Students may enroll for internship credits only when such activity is included in the approved program plan. A description of activities including criteria for grading must be submitted to the students' major professor and associate dean of graduate studies. P: Student classification of MSEGP or higher. (*fall, spring, summer*)

008-798 Independent Study

Reading and research under the supervision of a member of the graduate faculty. Independent study credits may only be earned when this activity is included as part of an approved program plan. P: Student classification of MSEG T or higher. (*fall, spring, summer*)

008-799 Thesis 1-6 cr.

Research and preparation of thesis document. Enrollment may be for 1-6 credits per term. All students are expected to include 6 thesis credits in their program plan. Although additional thesis credits may be earned, a maximum of 6 credits can be applied toward a degree. P: Student classification of MSEG T. (*fall, spring, summer*)

002-741 Survey and Field Research Methods 3 cr.

Theoretical background and methodological skills necessary to use field methods and conduct survey research. Topics include: logic and theory of scientific inquiry; purposes of ethnography and ethnomethodology, methods of field research; survey research and sampling design; and application of multivariate data analysis to survey data. Emphasis is on applied experience in the analysis of quantitative and qualitative data generated by different research methodologies. P: gr st; undergraduate statistics, 002-760.

002-750 Organizational Decision Making 3 cr.

Examines the theory of individual and group decision making, the process and consequences associated with alternative decision making styles and systems, and develops skills in the use of the major decision assisting tools. Case studies and examples from the fields of environmental management, public administration, and business or industrial management. P: gr st. (*spring*)

002-753 Administrative Theory and Behavior 3 cr.

The major theories and schools of thought dealing with administrative behavior, administrative process, and organizational behavior and theory. Attention is given to the similarities and differences between public, private and nonprofit administration. P: gr st (*fall*)

002-755 Systems and Process Design 3 cr.

Analysis and design of the technical and administrative aspects of formal organizations within the context of sociotechnical systems, organizational development, and behavioral cultural approaches. Organizations are examined as open systems consisting of inter-dependencies among persons, groups, technologies, and environmental variables. The emphasis is prescriptive and is intended to result in improved skills in evaluating, designing, and intervening in

organizations. P: MSGR and 835-652 or 002-753 or cons inst. (*fall*)

002-757 Management of Complex Organizations 3 cr.

Advanced concepts and methods of managing complex organizations and multi-organizational systems in the public, non-profit, and private sectors using a variety of learning methods. P: gr st. (*spring*)

002-760 Social Research Methods 3 cr. Theory and methods of research in the social sciences. Topics include the philosophy of science, research designs, data collection and program evaluation. Emphasis is on applied research. P: gr st. (*fall*)

002-765 Program Evaluation 3 cr.

An introduction to evaluation research, emphasizing such issues as identifying program goals, choosing outcome measures, defining appropriate samples, data collection strategies, and evaluating and disseminating results. Political, administrative, and ethical problems of evaluation are considered. Much of the class is used to develop and discuss model evaluation studies. P: gr st.; graduate or undergraduate methodology course; Introductory Statistics. (*spring*)

002-770 Organizational Assessment and Development 3 cr.

Focuses on practical applications of being an organizational change agent. Emphases include facilitation, team building, process and expert consultation, sociotechnical systems theory, large scale systems change, and quality of work life. The focus is on manipulating organizational processes to achieve organizational effectiveness and satisfaction of individual needs. P: MSGR and cons inst. (*spring*)

**Undergraduate/Graduate Courses
(500-699 Level)**

204-511 Plant Physiology 4 cr.

General physiology of vascular plants within the context of a plant life cycle: seed dormancy and germination, metabolism, transport systems, mineral nutrition, patterns of plant growth and development, growth

regulators, reproduction and senescence (*spring, odd years*)

204-602 Advanced Microbiology 3 cr.

Detailed study of microorganisms from viruses to fungi in their environment. Study of both free-living and pathogenic organisms and their degrading abilities. Field trip required. (*fall*)

204-605 Microbial Physiology 3 cr.

Study of microbial physiological and biochemical adaptations to temperature, oxygen, light, nutrients, and other environmental factors. Primary emphasis on the bacteria (*spring, even years*)

204-607 Molecular Biology 3 cr.

Molecular approaches to biological problems, emphasizing study of informational macro-molecules. Topics include replication, control, expression, organization, and manipulation of genes; RNA processing, protein processing; transposons; oncogenes; growth factors; genetic control of development and the immune system. (*spring*)

204-608 Molecular Biology Laboratory I 1 cr.

Molecular biology of nucleic acids and the techniques that form the basis of biotechnology. Topics include electrophoresis, restriction mapping, hybridization, plasmid analysis, and DNA cloning (recombinant DNA library construction, screening, and mapping). (*spring*)

225-520 Thermodynamics and Kinetics 3 cr.

Temperature, heat and work, thermodynamic properties of gases, solids and solutions; homogeneous and heterogeneous equilibria; thermodynamics of electrochemical cells; statistical thermodynamics; calculation of thermodynamic properties; chemical kinetics. (*fall*)

225-530 Biochemistry 3 cr.

Nature and function of the important constituents of living matter, their biosynthesis and degradation; energy transformation, protein synthesis and metabolic control. (*fall*)

225-531 Biochemistry Laboratory 1 cr.
Laboratory course to accompany 225-530.
(fall)

225-602 Advanced Organic Chemistry 3 cr.
Physical organic approach to chemistry: reaction mechanisms, molecular orbital theory, conservation of orbital symmetry, aromaticity, stereochemistry, linear free energy relationships, isotopes effects, pericyclic reactions, photochemistry, natural products and advanced topics in molecular spectroscopy. (fall, odd years)

225-613 Instrumental Analysis 4 cr.
Theory and practice of analysis by instrumental methods, including methods based on absorption and emission of radiation, electro-analytic methods, chromatographic methods and radiochemical methods. (fall)

225-617 Nuclear Physics and Radiochemistry 3 cr.
Properties and reactions of atomic nuclei; application of the properties of radioactive nuclei to the solution of chemical, physical, biological and environmental problems. (spring, odd years)

225-618 Nuclear Physics and Radiochemistry Laboratory 1 cr.
Laboratory course to accompany 225-617. (spring, odd years)

266-551 Data Structures 3 cr.
Concepts involved in storage, retrieval and processing of data, including arrays, stacks, queues, linked lists, trees and networks, design of efficient algorithms for problems such as searching, sorting, evaluation of arithmetic expressions, construction of symbol tables and memory management. (spring)

266-553 Computer Organization and Programming 3 cr.
Binary-based number systems, data representations, machine instruction formats, assembly language programming and related systems software. Also includes micro-programmed logic, logic circuits and Boolean algebra. (fall)

266-651 Database Management Systems 3 cr.

Network, relational and hierarchical databases; use of a data manipulation language and structured query language to query a student created database, also includes access methods, security, integrity rules, physical organization, design criteria, normal forms and entity-relationship modeling. (fall)

266-652 Operating Systems 3 cr.
Operating systems, techniques and philosophies behind management of computing resources, including memory management, process management, auxiliary storage management, study of some popular current operating systems. (spring)

298-510 Introduction to Quantitative Methods and Econometrics 3 cr.
An introduction to the use of mathematical concepts and techniques in the analysis of economic phenomena and of statistical methods to estimate equations describing economic events. P: 298-203; 600-201 or 202; and 255-205 or 600-260. (spring)

362-518 Industrial Pollution Control Techniques 2 cr.
Air and water pollution control methods; nature of major existing pollutants; present government regulations; discussion of major types of industries—general manufacturing process, how and where major pollution arises, and techniques for emission control. (fall, odd years)

362-519 Industrial Pollution Control Field Trips 1 cr.
Field course to accompany 362-518; field trips are scheduled to a variety of local industries, including a paper mill, a foundry, the Metropolitan Sewerage District plant, etc. (fall, odd years)

362-520 The Soil Environment 3 cr.
The physical, chemical and biological properties of soil; formation, classification and distribution of major soil orders; influence of soil on agricultural, engineering, urban and water systems. Field trip. (fall)

362-521 The Soil Environment Laboratory 1 cr.

Field and laboratory study of physical, chemical and biological properties of soils. (fall)

362-530 Hydrology 3 cr.

Qualitative study of the principal elements of the water cycle, including precipitation, run-off, infiltration, evapotranspiration and ground water; applications to water resource projects such as low flow augmentation, flow reregulation, irrigation, public and industrial water supply and flood control. (fall)

362-535 Water and Waste Water Treatment 3 cr.

Water and waste water treatment systems, including both sewage and potable water treatment plants and their associated collection and distribution systems. Study of the unit operations, physical, chemical and biological, used in both systems. (spring, even years)

362-563 Plants and Forest Pathology 3 cr.

Important diseases of forest, shade and orchard trees and diseases of representative economic plants; fungus deterioration in wood storage, its economic importance and methods of control. Field trips. (fall)

362-601 Stream Ecology 3 cr.

Structure and function of stream ecosystems. Functional relationships of feeding groups, nutrient spiraling and organic matter processing as responses to stream morphology stream order and watershed conditions. Field sampling of northeastern Wisconsin streams. (fall, even years)

362-603 Limnology 3 cr.

Physical, chemical and biological interactions in lakes and streams as expressed in the nature and dynamics of aquatic communities, laboratory and field techniques used in characterizing aquatic environments. (fall, odd years)

362-615 Solar and Alternate Energy Systems 3 cr.

Study of alternate energy systems which may be the important energy sources in the

future such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magnetohydrodynamics. (spring, odd years)

362-632 Hydrogeology 3 cr.

Introduction to geological and physical principles governing ground water flow. Description of aquifer properties, chemical processes, equation of flow, well hydraulics, and environmental concerns. (spring, odd years)

362-634 Environmental Chemistry 3 cr.

The physical, chemical and biological processes that affect the composition of air and water. Chemical reactions in polluted and unpolluted environments; dispersal processes; methods of control for various pollutants.

362-635 Environmental Chemistry Laboratory 1 cr.

Laboratory exercises, including field methods, monitoring and analysis techniques to accompany 362-640.

362-654 Remote Sensing of the Environment 3 cr.

Large area, small scale analysis of earth surface features by satellite imagery and data. Manual and computer-assisted manipulation of multispectral images with respect to vegetation, geology, soils, water resources and land use. (spring)

362-660 Resource Management Strategy 3 cr.

Applications of systems analysis principles to designing resource management systems and developing strategies for maintaining optimum environmental utilities. Decision models and the role of economic systems in resource management. (spring)

362-671 Biological Resources Management I 3 cr.

First part of a two-semester sequence about the scientific management of natural habitats, endangered species, pest species, and economically valuable plants and animals. This course emphasizes management of natural or semi-natural systems such as preserves, parks, and restored habitats. Field trip required. (fall)

362-672 Biological Resources Management II 3 cr.

Second part of two-semester sequence concerning the ecological management of biological resources. Lectures and field trips address modern practices of wildlife and fisheries management, forestry, ranching, and sustainable agriculture. Field trip required. (*spring*)

362-675 Ecological Dynamics 4 cr.

Advanced exploration of key principles of ecology. Theoretical concepts are linked with practical applications in the fields of evolutionary ecology, population dynamics, community ecology and ecosystems ecology. Field trips. (*fall*)

478-602 Human Physiology 3 cr.

Physiological functions of major human organs other than central nervous system: cell physiology, enzymes, cell energetics; muscle function; autonomic nervous system; endocrine system; blood, oxygen and circulatory system; immune system; kidney, digestion; and the role of physiology in diseases and medicine. (*fall*)

478-613 Neurophysiology 3 cr.

Physiological mechanisms in nervous system function: human neuroanatomy, neuron chemical and electrical functions; synaptic pharmacology; sensory receptors; effects of chemicals and toxins; neural information processing in sensory and motor systems, neural bases for learning and memory; medical implications. (*spring*)

600-505 Ordinary Differential Equations 3 cr.

Solutions and applications of first and higher order linear differential equations; the meanings of existence and uniqueness theorems; nonlinear differential equations, modeling physical and biological systems. (*spring*)

600-509 Systems of Ordinary Differential Equations 3 cr.

Systems of linear, first-order differential equations, making use of matrix algebra with eigenvectors and eigenvalues, and

numerical methods; applications; nonlinear differential equations. (*fall, odd years*)

600-520, 521 Linear Algebra I, II 3 cr., 3 cr.

Matrices and vector space concepts. Systems of linear equations, matrices, determinants, vectors in two- and three-space, vector spaces, linear transformations, eigenvalues, and eigenvectors; positive-definite matrices, normal forms, the principal axis theorem, applications. (*520: fall, spring; 521: spring, even years*)

600-550 Numerical Analysis 3 cr.

Application of computer techniques in solving various mathematical and engineering related problems: solutions of equations, factorization of polynomials, solutions of systems of equations, interpolation, curve fitting, differentiation, integration, and solutions of differential equations. (*spring, even years*)

600-555 Applied Mathematical Optimization 3 cr.

Analytical and numerical optimization techniques; linear, nonlinear, integer, and dynamic programming. Techniques applied to problems of water, forest, air and solid-waste management. (*fall, even years*)

600-560 Theory of Probability 3 cr.

Probability as a mathematical system, with applications, basic probability theory, combinatorial analysis; distribution functions and probability laws; mean and variance of a probability law, expectation of a function with respect to a probability law; normal, Poisson, and related probability laws; random variables. (*fall, even years*)

600-561 Mathematical Statistics 3 cr.

Sample moments and their distributions; tests of hypotheses; point and interval estimation; regression and linear hypotheses; nonparametric methods; sequential methods. (*spring, even years*)

600-610 Complex Analysis 3 cr.

Algebra and geometry of complex numbers; analytic functions, elementary transformations, integration, Taylor and Laurent series,

contour integration, residues, conformal mapping. (*fall; even years*)

600-616 Orthogonal Functions and Partial Differential Equations 3 cr.

Fourier series, Fourier transform; orthogonal functions; Legendre and other polynomial systems; Bessel functions; characteristic functions and values; Green's function; wave equation in one and more dimensions D'Alembert's solution; Dirichlet problem; strings and membranes; heat flow; electricity flow. (*fall; even years*)

600-667 Applied Regression Analysis 3 cr.

Techniques for fitting linear regression models are developed and applied to data. Topics include simple linear regression, multivariate regression, curvilinear regression and linearizable models. Rec: knowledge of MINITAB. (*fall*)

778-516 Congress: Politics and Policy 3 cr.

Legislative institutions and policies, emphasizing the U.S. Congress: The role of legislatures in American politics, elections, representation formal and informal legislative institutions and practices, leadership, interest groups and lobbying, and the role of legislatures in policy innovation. (*spring*)

778-610 Intergovernmental Relations 3 cr.

The relations among the federal, state and local units of government; federalism, intergovernmental revenues and expenditures intergovernmental policies and grants-in-aid. (*fall*)

835-506 Regulatory Policy and Administration 3 cr.

The origins, purposes and operation of regulatory agencies and the programs in the U.S.; theories of regulation, issues and controversies in regulatory policy, and decision-making in such areas as economic regulation, public health, consumer protection, workplace safety and environmental quality. (*spring*)

835-514 Administrative Law 3 cr.

Administrative law in the American federal (intergovernmental) system: fundamentals of administrative law, connections between administrative law issues and issues of public policy; and legal dimensions of administrative problems.

835-522 Environmental 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. (*spring*)

835-578 Environmental Law 3 cr.

An overview of major environmental laws including their historical development, structure and implementation by federal, state and local agencies. (*fall, summer*)

835-602 Environmental and Resource Economics 3 cr.

Applications of tools and concepts in current economic decision making, with special emphasis upon common property resources management. (*spring*)

835-606 State and Local Government 3 cr.

The structure and operation of state and local governments and their administration of public policies and programs; emphasizes issues of importance to each level, the interaction between levels, and Wisconsin as a case study. (*spring*)

835-615 Public and Nonprofit Budgeting 3 cr.

The purposes and attributes of major public budgetary systems: principles and methods in designing and managing relationships among program planning, policy planning and budgetary operations; applications of analytical and decision-assisting tools in public budgetary operations. (*spring*)

835-651 Decision Theory and Methods 3 cr.

Quantitative and qualitative dimensions of decision-making; usefulness of various theories and methods of making decisions in individual, group, organizational and policy making contexts. (*fall*)

835-652 Planning Theory and Methods

3 cr.

Planning for public and not-for-profit agencies: theory and practical significance of planning; the political and administrative setting of planning operations; and methods of planning analysis such as strategic planning. (*spring*)

835-653 Cost-Benefit Analysis 3 cr.

Intensive analysis of procedures involved and conceptual basis of project evaluation from both public and private sector viewpoints. Hands-on experience is gained through work sheets and student projects. (*fall, even years*)

**Undergraduate Courses
(300-400 Level)**

Graduate credit for undergraduate courses with 300 or 400 level numbers is available only with special permission of the instructor and the student's graduate adviser or the associate dean of graduate studies. An assigned study card is required for registration in one of these courses under either the XXX-596 or XXX-696 number.

Business Administration (MBA)

A Cooperative Program with the University of Wisconsin-Oshkosh

The UW-Oshkosh MBA is a cooperative program offered at UW-Green Bay. The MBA degree is awarded by UW-Oshkosh which is accredited by the American Assembly of Collegiate Schools of Business. It is specifically designed to provide individuals in both the public and private sectors with professional managerial training. All MBA courses are evening courses given by UW-Oshkosh on the UW-Green Bay campus.

BASIC REQUIREMENTS

In addition to foundation courses, the MBA program consists of three structured levels of courses:

- Management core
- Functional core
- Electives

General requirements consist of 30 graduate credits in the core and elective courses with foundation course work taken as needed, depending on previous undergraduate training.

MBA candidates must maintain at least a 3.0 grade point average in all course work with no more than two Cs. The maximum time allowed to complete the degree is seven years from the date of starting the first degree course. Foundation courses are not included in the seven-year time limit.

For more detailed information regarding admission criteria, program requirements and enrollment procedures contact:

Dr. Gordon J. Badovick
Director of MBA Program
College of Business Administration
University of Wisconsin-Oshkosh
Oshkosh, WI 54901
920-424-1436

UW-Oshkosh contact person:

Lynn Grancorbitz
MBA program adviser
1-800-633-1430

UW-Green Bay contact person:

Donald H. McCartney, Jr.
Senior lecturer
920-465-2520

Foundations

Foundation-level courses are designed to provide the necessary academic background for graduate study in business. The courses may be waived if the student has completed equivalent course work in previous academic studies. A number of UW-Green Bay courses may serve as the equivalent of foundation courses. (For descriptions of UW-Green Bay courses, see the undergraduate catalog.)

Oshkosh 28-700 Accounting Foundations, 3 credits

OR

Green Bay 107-300 Introductory Accounting, 4 credits

AND

Green Bay 107-302 Managerial Accounting I, 3 credits

Oshkosh 28-710 Management and the Computer, 1.5 credits

OR

Green Bay 216-280 Introduction to Management Information Systems, 3 credits

Oshkosh 28-712 Foundations of Statistics, 3 credits

OR

Green Bay 600-260 Introductory Statistics, 4 credits

OR

Green Bay 216-215 Introduction to Business Statistics, 3 credits

Oshkosh 28-730 Finance Foundations, 3 credits

OR

Green Bay 216-343 Corporation Finance, 3 credits

Oshkosh 28-740 Foundations of Production Management, 3 credits

Oshkosh 28-770 Marketing Foundations, 3 credits

OR

Green Bay 216-322 Introductory Marketing, 3 credits

Oshkosh 36-704 Basic Economic Theory, 3 credits

OR

Green Bay 298-202 Macro Economic Analysis, 3 credits

AND

Green Bay 298-203 Micro Economic Analysis, 3 credits

Management Core, 12 credits

A new, exciting management core is intended to develop managerial skills and to expose students to current trends and concepts at the forefront of management thought. The courses attempt to get students to think broadly and to look at the company as a whole. The management core is intended to be dynamic. It will change as the needs of management and the business community continue to change. All management core courses are required for the MBA degree.

MANAGEMENT CORE COURSES:

Oshkosh 28-788 Professional Skills, 3 credits

Oshkosh 28-789 Strategic Thinking, 1.5 credits

Oshkosh 28-790 Organizational Leadership and Change, 1.5 credits

Oshkosh 28-791 Process and Quality Improvement, 1.5 credits

Oshkosh 28-792 International Business, 1.5 credits

Oshkosh 28-793 Business Environments: Law, Regulation, and Ethics, 1.5 credits

Oshkosh 28-794 Strategic Choice and Implementation, 1.5 credits

Functional Core, 9 credits

The functional core is intended to allow students the opportunity to focus on more specialized areas of business. However, it is also designed to insure that each student has exposure to more than one specialized area. Students are required to select three functional core courses. Additional functional core courses may also be selected and would count as electives.

FUNCTIONAL CORE COURSES:

Oshkosh 28-731 Financial Management, 3 credits

OR

Oshkosh 28-752 Managerial Accounting, 3 credits

Oshkosh 28-753 Managerial Decision Making, 3 credits

OR

Oshkosh 28-754 Information Systems Integration, 3 credits

Oshkosh 28-761 Human Resource Development, 3 credits

OR

Oshkosh 28-771 Marketing Strategy and Planning, 3 credits

Electives, 9 credits minimum

Students are required to complete at least nine credit hours selected from the following courses:

Oshkosh 28-601 Auditing, 3 credits

Oshkosh 28-605 Not-For-Profit Accounting, 3 credits

Oshkosh 28-608 Advanced Accounting, 3 credits

Oshkosh 28-694 International Business Study Tour, 3 credits

Oshkosh 28-701 Topics of Enterprise Reporting, 3 credits

Oshkosh 28-702 Cost Analysis and Control, 3 credits

Oshkosh	28-703 Strategy of Tax Management, 3 credits	Oshkosh	28-784 Decision Support Systems, 3 credits
Oshkosh	28-704 Accounting Information Systems, 3 credits	Oshkosh	28-795 Business Administration Thesis, 6 credits
Oshkosh	28-707 Tax Accounting, 3 credits	Oshkosh	28-796 Independent Study in Business Administration, 1-3 credits
Oshkosh	28-720 Legal Aspects of Domestic and International Business Transactions, 3 credits		
Oshkosh	28-722 Planning for Management in the Future, 3 credits		
Oshkosh	28-732 Investment Analysis and Portfolio Management, 3 credits		
Oshkosh	28-733 Money and Capital Markets, 3 credits		
Oshkosh	28-734 International Financial Management, 3 credits		
Oshkosh	28-741 Productivity and Quality Management, 3 credits		
Oshkosh	28-742 Quantitative Analysis in Production Management, 3 credits		
Oshkosh	28-743 Topics in Operations Management, 3 credits		
Oshkosh	28-762 Organizational Reward Systems, 3 credits		
Oshkosh	28-763 Labor Relations, 3 credits		
Oshkosh	28-765 Venture Management, 3 credits		
Oshkosh	28-769 Seminar in Management Topics, 3 credits		
Oshkosh	28-772 Research for Marketing Decisions, 3 credits		
Oshkosh	28-773 International Marketing Management, 3 credits		
Oshkosh	28-774 Seminar in Marketing Topics, 3 credits		
Oshkosh	28-777 Consumer Behavior, 3 credits		
Oshkosh	28-783 Seminar in Information Systems, 3 credits		

Education Programs

Cooperative Programs with the University of Wisconsin-Milwaukee and the University of Wisconsin-Oshkosh

Through a series of cooperative arrangements between the University of Wisconsin-Green Bay and its sister campuses, UW-Milwaukee and UW-Oshkosh, four graduate programs in education may be completed at the UW-Green Bay campus. These are:

- Master of Science in Administrative Leadership and Supervision in Education with an Emphasis on Educational Administration and Supervision (UW-Milwaukee)
- Master of Science in Curriculum and Instruction (UW-Milwaukee)
- Master of Science in Educational Psychology with a Concentration in Counseling (UW-Milwaukee)
- Master of Science in Education – Reading (UW-Oshkosh)

These programs offer a coordinated set of UW-Green Bay and UW-Milwaukee or UW-Oshkosh courses to enable students to complete requirements for these degrees on the UW-Green Bay campus. Students must be admitted to the graduate school and appropriate department of the degree-granting campus (UW-Milwaukee or UW-Oshkosh) and are subject to the rules and regulations of that campus. Students who satisfactorily complete degree requirements will receive the appropriate degree from the sponsoring campus and be recommended for any appropriate licensure associated with the degree by that campus.

Students in these cooperative programs normally will include 12 UW-Green Bay credits in their programs of study. Lists of appropriate UW-Green Bay courses appear in this chapter. For information about course selection, students should contact Prof. Francine Tompkins, coordinator of cooperative programs in education at UW-Green Bay at 920-465-2003 or 2137.

APPLICATION FOR ADMISSION AND PROGRAM INFORMATION

Packets including further information on these programs and application forms for admission to the sponsoring campus graduate schools and departments are available from:

Education Office, Wood Hall 416
University of Wisconsin-Green Bay
2420 Nicolet Drive
Green Bay, WI 54311-7001

Also, for more complete descriptions of the programs, courses, degree requirements, rules and regulations and other pertinent information, students should consult the appropriate sponsoring campus graduate catalog, which may be obtained from the UW-Green Bay Education Office or by contacting the graduate school of the sponsoring campus.

REGISTRATION

Registration for UW-Milwaukee or UW-Oshkosh courses may be completed by mail using forms available from the University of Wisconsin-Green Bay Education Office. Students register for the UW-Green Bay courses in their programs as graduate special students, indicated by a special classification code. Registration may be completed on campus or by mail. Early registration is encouraged.

FEES

Students pay fees to the campus offering the courses in accordance with the fee schedule and procedures of that campus.

ADMINISTRATIVE LEADERSHIP AND SUPERVISION DEGREE

Master of Science in Administrative Leadership and Supervision in Education with an Emphasis on Educational Administration and Supervision

Degree Requirements

The program consists of 33 total credits for the principal licensure and an additional 27 credits for district administrator.

UW-GREEN BAY COURSES, 12 CREDITS

Green Bay 006-780 Foundations of Curriculum, 3 credits

Green Bay 006-783X Supervising Instructional Personnel, 3 credits

Green Bay 006-795 Political Context of Schools, 3 credits

Elective as approved by adviser, 3 credits

UW-MILWAUKEE COURSES TAUGHT ON THE UW-GREEN BAY CAMPUS, 21 CREDITS

Milwaukee 103-702 Educational Administration: Theory and Practice, 3 credits

Milwaukee 103-710 Organizational Change and Group Leadership, 3 credits

Milwaukee 103-752 Legal Aspects of Educational Administration, 3 credits

Milwaukee 103-762 Introduction to School Finance and Budgeting, 3 credits

Milwaukee 103-772 Seminar in Principals, 3 credits

Milwaukee 103-782 Principals Field Practicum, 3 credits

Elective as approved by adviser, 3 credits

DISTRICT ADMINISTRATOR LICENSE

Requires completion of MSE—Administrative Leadership, Principal, plus the following 27 credits:

Milwaukee 103-802 The School Superintendency, 3 credits

Milwaukee 103-812 School Personnel Supervision and Administration, 3 credits

Milwaukee 103-832 Educational Politics and Policy Making, 3 credits

Milwaukee 103-842 Program Planning and Evaluation in Education, 3 credits

Milwaukee 103-852 Collective Bargaining and Contract Administration in Education, 3 credits

Milwaukee 103-862 Economics of Education, 3 credits

Milwaukee 103-882 Practicum in School Superintendency, 3 credits

Milwaukee 103-892 Applied Field Study Project, 3 credits

Elective as approved by adviser, 3 credits

Comprehensive Examination

Students must pass a final comprehensive examination.

Time Limit

A student must complete all requirements for the degree within seven years of the initial enrollment.

Licensure Opportunities

Upon satisfactory completion of this program, persons who are eligible for a Wisconsin teaching license and have the required teaching experience may qualify for a license as an elementary or secondary school administrator and/or district administrator.

CURRICULUM AND INSTRUCTION DEGREE

Master of Science in Curriculum and Instruction

Degree Requirements

The degree program consists of 33 credits.

UW-GREEN BAY COURSES, 12 CREDITS

Green Bay 006-780 Foundations of Curriculum, 3 credits

Green Bay 006-785 Curriculum and Instruction as a Field of Inquiry, 3 credits

Electives as approved by adviser, 6 credits

(not more than 3 credits may be in 006-795 courses)

Green Bay Electives:

Green Bay 006-709 Effective Schools, 3 credits

Green Bay 006-781 School Profiling for Site-Based Management, 3 credits

Green Bay 302-610 Introduction to the Education of Exceptional Children, 3 credits

Green Bay 302-620 Workshop in Economics Education, 3 credits

UW-MILWAUKEE COURSES TAUGHT ON THE UW-GREEN BAY CAMPUS, 21 CREDITS

Milwaukee 272-714 Analysis of Instruction, 3 credits

Milwaukee 272-716 Urban Education: Teaching, 3 credits

Milwaukee 272-800 Master's Seminar in Curriculum and Instruction, 3 credits

Milwaukee 272-819 Theory and Design of Curriculum, 3 credits

Electives as approved by adviser, 9 credits (At least 6 credits must be in Curriculum and Instruction courses, including: Milwaukee 272-544 Teaching of Reading and Writing in the Elementary Grades (Whole Language), 3 credits.)

Comprehensive Examination

Neither a final written nor an oral comprehensive examination is required. Students must demonstrate their proficiency through satisfactory completion of the Milwaukee course 272-800 Master's Seminar in Curriculum and Instruction.

Time Limit

Students must complete all degree requirements within five years of initial enrollment.

Licensure Opportunities

Through selection of appropriate elective courses, persons who are eligible for a Wisconsin teaching license and have the required teaching experience may qualify

for a license as an elementary or secondary supervisor.

EDUCATIONAL PSYCHOLOGY – COUNSELING DEGREE

Master of Science in Educational Psychology with a Concentration in Counseling

Degree Requirements

The degree program consists of 39 credits.

UW-GREEN BAY COURSES, 12 CREDITS

Green Bay 006-750 Statistical Methods Applied to Education, 3 credits

Green Bay 481-620 Tests and Measurements, 3 credits (P: course in statistics)

Electives as approved by adviser, 6 credits.

For licensure in school counseling, electives must include Green Bay 302-610 Introduction to the Education of Exceptional Children, unless the course has been taken for undergraduate credit.

UW-MILWAUKEE COURSES TAUGHT ON THE UW-GREEN BAY CAMPUS, 27 CREDITS

Milwaukee 265-710 Counseling: Theory and Issues, 3 credits

Milwaukee 265-711 Foundations of Career Development, 3 credits

Milwaukee 265-714 Essentials of Counseling Practice, 3 credits

Milwaukee 265-715 Multicultural Counseling, 3 credits (P: 265-714)

Milwaukee 265-774 Fieldwork in Counseling, 3 credits (P: 265-710 and 265-714)

Milwaukee 265-800 Group Counseling Theory, 3 credits (P: 265-710 and 265-714)

Milwaukee 265-970 Supervised Practicum in Counseling, 3 credits (P: 265-710, 265-714 and 265-744)

Milwaukee 315-640 Human Development: Theory and Research, 3 credits

One of the three following courses depending upon concentration:

Milwaukee 265-810 Developmental Counseling in the Elementary School, 3 credits (P: 265-710 and 265-714)

Milwaukee 265-811 Counseling in the Secondary School, 3 credits (P: 265-710 and 265-714)

Milwaukee 265-900 Clinical Studies in Counseling, 3 credits (P: 265-710 and 265-714)

Comprehensive Examination

The student must pass a final oral or written comprehensive examination.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Licensure Opportunities

Upon satisfactory completion of this program, persons who are eligible for a Wisconsin teaching license and have the required teaching experience may qualify for a license as a counselor at the elementary or secondary school level.

READING DEGREE

Master of Science in Education – Reading

Degree Requirements

The degree program consists of 30 or 36 credits.

Prerequisites: Applicants must hold and be eligible for teacher licensure and should have taken the following:

Oshkosh The Learning Disabled Child, 3 credits

OR

Green Bay 302-610 Introduction to the Education of Exceptional Children, 3 credits*

Green Bay 302-508 Children's Literature in the Elementary School, 3 credits

OR

Green Bay 302-519 Adolescent Literature in Middle and Secondary School Reading, 3 credits*

If these have not been taken as recent courses, they must be completed either as undergraduate courses or as graduate elective credits within the program.

UW-GREEN BAY COURSES, 12 CREDITS

Green Bay 006-705 Reading in the Elementary School, 3 credits* (equivalent to Oshkosh 15-705)

Green Bay 006-765 Diagnosis of Reading Difficulties, 3 credits* (equivalent to Oshkosh 15-765)

Electives, 6 credits (include 302-610 and 302-508/519 if these have not already been taken)

UW-OSHKOSH COURSES TAUGHT ON THE UW-GREEN BAY CAMPUS, 18-24 CREDITS

Oshkosh 15-735 Reading in the Secondary School, 3 credits*

Oshkosh 15-720 Corrective Reading Clinic, 3 credits*

Oshkosh 12-770 Foundations of Educational Research, 3 credits

Oshkosh 15-780 Administration and Supervision of Reading Programs, 3 credits

Oshkosh 15-785 Practicum in Reading, 3 credits

Research options and electives as specified in Option 1 or 2 below:

Option 1: Oshkosh 15-795 Thesis, 3-6 credits

Option 2: Oshkosh 15-790 Seminar in Reading Research, 3 credits

Oshkosh electives, 6 credits

Credit Requirements

Thirty credits applicable to the degree constitute the minimum requirements for students in Option 1 (thesis plan) in the MSE

* Required for Reading Teacher – 316 license (Completion of the MSE – Reading is required for Reading Specialist – 317 license.)

- Reading program. In Option 2, the student is required to take 36 credits and complete a major paper developed in the seminar in reading research.

Comprehensive Examination

Candidates in Option 1 orally defend their theses to faculty committees in open meetings. Those in Option 2 must successfully complete a written comprehensive examination.

Time Limit

All work applied toward the degree must be completed within a seven-year time period.

Licensure Opportunities

1. To be recommended for 316 (reading teacher) licensure, the student must be enrolled in a graduate program and complete the 18 credits above marked with an asterisk.
2. To be recommended for 317 (reading specialist) licensure, the student must complete the MSE - Reading degree.
3. At least 12 of the required credits for licensure, including Oshkosh 15-720 Corrective Reading Clinic, must be taken at UW-Oshkosh or at UW-Green Bay in the UW-Oshkosh - UW-Green Bay MSE - Reading cooperative program.
4. A minimum of two years of teaching experience is required by the Department of Public Instruction for 316 and 317 licensure.

FACULTY

Hughes, Fergus, Professor, Human Development. B.A. (1968) St. Johns University; M.A. (1972); Ph.D. (1972) Syracuse.

Life span human development, child and adolescent psychology.

Korithoski, Theodor, Associate Professor, Education. B.S. (1971) Idaho State University; M.S. (1986) University of Montana; Ed.D. (1988) University of Montana.

Mathematics, technology, education — middle and high school.

Laughlin, Margaret A., Professor, Education (Social Science). B.A. (1959), M.A. (1964) California State, Sacramento; Ed.D. (1978) Southern California.

Social Studies. International/comparative education. Global/multicultural education. Curriculum. Foundations. Research. Standards and assessment.

Stokes, Sandra M., Associate Professor, Education. B.A. (1969) University of Bridgeport; M.A. (1973) Fairfield University; Ph.D. (1989) Kent State University.

Reading in the content areas, reading diagnosis and assessment, social and family influences on early development, education of students with exceptional needs, educational psychology.

Tompkins, Francine, Associate Professor, Education (Special Education). B.A. (1972), M.S. (1979), Ph.D. (1989) Michigan State.

Education of exceptional needs students. Educational psychology. Educational collaboration.

Van Koeving, Thomas E., Professor, Education (Science Education, Chemistry). B.S. (1962) Western Michigan; M.A. (1965) Michigan; Ph.D. (1969) Western Michigan.

Science and science education, emphasis on elementary and secondary school. In-service science enrichment courses for teachers. Science motivation and international science education.

UW-GREEN BAY COURSE DESCRIPTIONS

In the course descriptions in this catalog, commonly used abbreviations include:

cr	credits
P	prerequisite course or experience
Rec	recommended course or experience
gr st	graduate standing
fr	freshman
soph	sophomore
jr	junior
sr	senior
cons inst	consent of instructor

Graduate-Only Courses (700-Level)

006-702 Business Administration of School Systems 3 cr.

Business functions and related support systems of American elementary and secondary public schools; budgeting procedures and financial reporting studies are based on relevant Wisconsin Statutes and Department of Public Instruction requirements.

006-705 Reading in the Elementary School 3 cr.

Consideration of components of a developmental reading program for the elementary school including the role of language in reading, basic reading skills and attitudes, methods and materials, individualization of instruction, and evaluation.

006-706 The Administrator and the Community 3 cr.

The relationship of schools and communities in American society: relationships between schools and communities, public participation in local school districts, and response of local school districts to changing demands. Emphasis is on the school administrator and citizens at the local level. P: gr st and teaching experience or cons inst. Rec: Milwaukee 103-705.

006-709 Effective Schools 3 cr.

An in-depth review and analysis of the

growing body of educational research literature that identifies elements and conditions present in effective schools. Participants develop ways of assessing the extent to which these elements are present in schools and explore implications for school practices.

006-710 Practicum in Effective Instructional Skills 2 cr.

For teachers and supervisors currently involved in schools: analysis and application of effective teaching concepts and skills, including teacher demonstrations and simulations. P: gr st; must be currently involved in teaching.

006-715 Workshop in Middle Education Program Development 2-3 cr.

Selected topics for the professional educator in curriculum, instructional procedures, and evaluation of middle level program development. Current issues, philosophical trends, and rationale are discussed. Variable content may be repeated for credit with different topics.

006-730 Issues and Trends for Educating Students With Exceptional Needs (EEN) 3 cr.

Relevant issues and practices which impact the education of students with exceptional needs including gifted and talented, handicapped, and at-risk populations. P: 302-410 or 302-610; gr st.

006-750 Statistical Methods Applied to Education 3 cr.

Types of measures, data organization and display, measures of central tendency, variability, location, and correlation, hypothesis testing and interval estimation for common statistics in one and two sample cases. Introduction to analysis of variance and chi-square.

006-765 Diagnosis of Reading Difficulties 3 cr.

Comprehensive and accurate diagnosis of moderate to severe reading disabilities and associated learning, language, or behavior disorders through the use of formal and informal instruments. Students complete an

intensive diagnosis of a student's reading ability, a comprehensive report specifying the results of the evaluation, and a prescription for future remediation of reading problems.

006-772 Contemporary Educational Thought 3 cr.

Current thinking of educators, critics, social scientists, philosophers, and others as related to schools and schooling; topics, problems, controversies and issues related to education at the local, national, and international level. P: gr st; experience in professional education, teacher certification, and cons inst.

006-780 Foundations of Curriculum 3 cr.

Philosophical, sociological, historic and psychological underpinnings of curriculum design, development and evaluation for the experienced elementary, secondary and VTAE educator. Examines forces influencing curriculum development and identifies issues related to curriculum design and development. P: gr st and experience with elementary, secondary, or VTAE education.

006-781 School Profiling for Site-Based Management 3 cr.

Teachers and principals will learn to gather, summarize, and analyze data related to important building-level educational outcomes. Outcomes in the areas of student achievement, social behaviors, and parent, staff, and student attitudes will be measured and analyzed. The course facilitates school improvement at the building level through data-driven decision making.

006-783X Experimental Courses

Courses and seminars may be offered by graduate faculty in response to special demand or on an experimental basis. Topics may address current issues of general concern, special interests of students or faculty, or special resources of visiting faculty. The title of the special topics course as announced in the *Timetable* will appear on the transcripts of students who enroll. Credits earned in the 783X special topics courses may not be applied toward the graduate core requirement. P: gr st.

006-785 Curriculum and Instruction as a Field of Inquiry 3 cr.

An inquiry approach to the content of curriculum and instruction: develops skills in interpreting and using research and provides a framework related to origin, development, and basis of curriculum and instruction.

006-786 Current Issues and Trends in Education 3 cr.

This class critically examines and evaluates recent educational innovations, differing educational viewpoints, and alternative educational trends. Particular attention is focused on educational practices for the future. P: gr st or cons inst.

006-788 The Teacher and the Law 3 cr.

Concerns of teachers relating to tenure, non-renewals, due process, free speech, student rights, and potential liability; administration of collective bargaining in education; brief introduction to statutory, regulation and financing of school systems. Emphasis on Wisconsin. P: gr st and teacher certification or cons inst.

006-795 Special Topics in the Education Environment 1-3 cr.

A course offered by graduate faculty in response to a special need and which is not intended to become a regular part of the graduate curriculum. The title of the specific topic is announced in the *Timetable* and is entered on the transcript of students who enroll. This course may be repeated with a change in topic. Subject to adviser's approval, three credits may be applied to meet UW-Green Bay credit requirements in a cooperative program with the possibility of a maximum of three additional credits upon petition.

006-798 Independent Study 1-3 cr.

Reading and research under the supervision of a member of the graduate faculty. Independent study credits may only be earned when included as part of an approved program plan. P: student classification of MSC6, MSA6, MSE6 or higher.

Undergraduate/Graduate Courses (500-699-Level)

246-520 History of the English Language 3 cr.

The origins, development, and cultural background of the English language; evolution of pronunciation and spelling; grammar, vocabulary, meaning and usage in Old, Middle, and Modern English; including contemporary English dialects.

246-522 Modern Linguistics 3 cr.

Structure and system in language, with attention to modern English and including principles of structural, computational, and generative-transformational linguistics.

302-508 Children's Literature in the Elementary School 3 cr.

Effective children's literature programs; analyzing children's books; developing instructional units and independent programs to foster positive attitudes toward reading; books for personal development, for developing attitudes about social issues; criteria for evaluating content, methods and effectiveness.

302-515 Teaching English as a Second Language 3 cr.

Basic methods of teaching English to non-native speakers and the underlying theories from linguistics, psychology, education and sociolinguistics, development and evaluation of lessons for the ESL classroom.

302-519 Adolescent Literature in Middle and Secondary School Reading 3 cr.

Design and content of effective adolescent literature programs; analysis and evaluation of adolescent literature; current practices in literacy curricula, adolescent literature and personal development; literature and social issues.

302-606 Evaluation and Testing in Education 2-3 cr.

Techniques for constructing tests and measurement systems, statistical procedures applied to classroom data; monitoring and assessing individual and group learning

situations; using and interpreting data from standardized tests.

302-610 Introduction to the Education of Exceptional Children 3 cr.

Survey of the kinds of exceptionalities, their needs and some methods for meeting them; recognition and understanding of exceptional children and unique subtleties that deserve specific attention.

302-620 Workshop in Economics Education 2-3 cr.

Provides background on selected current economic topics and concepts; examines new print and nonprint instructional materials and curriculum guides in economic education; supports development of learning activities appropriate to students' instructional responsibilities.

302-621 Literacy and Language Development in Young Children 3 cr.

Acquisition of reading skills and development of language in preschool through primary grades; analysis of instructional and diagnostic strategies for listening and reading comprehension; vocabulary development, word identification strategies and approaches to beginning reading.

302-622 Reading in the Content Areas 3 cr.

Practical guidelines for classroom teachers in subject areas.—English, social studies, mathematics, science, etc.; suggestions for teaching reading and study skills related to content, specialized and technical vocabulary, developing study guides; dealing effectively with reading problems in the content areas.

302-652 Principles of Middle-Level Education 3 cr.

Provides an introductory understanding of the philosophy and organization of middle-level education. Emphasis is directed toward programmatic considerations. P: gr st and experience in education.

302-662 The Adult Learner 3 cr.

Various physiological, psychological and sociological factors relevant to adult

development and their implications for learning; key elements in the teaching-learning process for adults; survey of research in adult learning.

481-620 Tests and Measurements 3 cr.

Methods and problems of measuring human characteristics, including determination of validity, reliability, and interpretive schemas for such measures. Examination of selected tests in intelligence, achievement, attitudes, interests, and personality. Typical uses of tests and methods or reviewing tests. P: a course in statistics.

481-631 Cognitive Development 3 cr.

Development of cognitive functioning from infancy to adulthood: analysis of intellectual development from the major contemporary perspectives of information processing, Piagetian psychology, and behaviorism.

481-636 Counseling with Children and Adolescents 3 cr.

Theories and principles of counseling as applied to children and adolescents: surveys different theoretical approaches and techniques for helping children and adolescents cope with developmental deviations.

**Undergraduate Courses
(300-400-Level)**

Graduate credit for undergraduate courses with 300- or 400-level numbers is available only with special permission of the instructor and the student's graduate adviser or the associate dean of graduate studies. An assigned study card is required for registration in one of these courses, under either the XXX-596 or XXX-696 number.

Academic Rules and Regulations

CLASS ATTENDANCE

A University of Wisconsin-Green Bay student is expected to attend all class sessions. If, for any reason, a student is unable to attend classes during the first week of classes, he or she is responsible for notifying the instructor(s), in writing, of the reason for nonattendance and intentions to complete the course. Registered students are obligated to pay all fees and penalties as listed on the fee schedule; nonattendance does not alter these academic or financial obligations in any way.

DEFINITIONS

Academic Suspension—a status assigned when a student's record of academic progress and/or achievement is unacceptable. Suspended students are not permitted to continue to enroll at the University.

Attempted or Grade Point Credits—those graduate credits for which a letter grade of A, AB, B, BC, C, D, WF, or F has been earned and used to calculate the grade point average.

Credit Load—the total of all graduate credits, undergraduate credits, and audited credits being taken in a given term.

Good Standing—a status assigned when a student is achieving at an adequate level (3.0 cumulative and semester GPAs).

Grade Point Average (GPA)—a numerical value used to express the general quality of all courses/credits completed on a regular graded basis (A, AB, B, BC, C, D, F, WF). Only attempted graduate credits taken at UW-Green Bay are computed into the graduate GPA.

Graduate Credits—those credits which are taken under a graduate course number (500-level or above) by a student enrolled with a graduate classification (MSA, MSE, GSP, GMI, GML, GMC, GMO, GSO, GMB).

Graduate Record—the permanent record of all graduate-level credits attempted and grades earned, including courses which may not be completed, such as progress

GRADING SYSTEM AND GRADE POINTS

Letter Grade	Grade Points Per Credit
A (Excellent)	4.0
AB (Very Good)	3.5
B (Good)	3.0
BC (Above Average)	2.5
C (Average)	2.0
D (Poor)	1.0
F (Unacceptable)	0.0
WF (Unofficial Withdrawal)	0.0
PR (Progress-temporary grade for an internship or thesis course)	No effect
P (Passed thesis or internship)	No effect
NC (Unacceptable thesis or internship)	No effect
U (Unsatisfactory audit)	No effect
S (Satisfactory audit)	No effect
N (No acceptable report from instructor temporary grade)	No effect until an acceptable grade is submitted.
I (Incomplete)	No effect until removed, or lapsed into the tentative grade assigned if the required work is not completed prior to the deadline established by the instructor, or the last day of classes for the following semester, whichever comes first.

(PR) or incomplete (I), as well as audited graduate credits.

Maximum Credit Load—a specific limitation of the number of credits that a student is allowed to carry at any time during an academic term. For a graduate student in good standing, this is defined as 12 credits in a semester and for a graduate student on probation the maximum is reduced to 9 credits. For a shorter term, lower pro rata limitations are in effect.

Minimum Credit Load—a specific minimum number of graduate credits for which a graduate student must be enrolled in a term to be eligible for a variety of programs and benefits, such as V.A. benefits, financial aid, and assistantships.

Probation—an academic status assigned to a student who is achieving below minimum

GPA standards required for good standing. Probation is an advisory warning that improved quality of work is necessary to continue as a student.

Provisional Admission—a conditional graduate admission status which is subject to review after 9 graduate credits have been attempted at UW-Green Bay.

Undergraduate Record—a separate permanent record of any undergraduate courses taken. A complete transcript includes copies of both the graduate and undergraduate records compiled at UW-Green Bay.

ACADEMIC STANDING

Every student is expected to maintain certain standards of academic achievement in university work. UW-Green Bay has established quality of work standards, as measured by semester and cumulative grade point averages.

Academic standings are reviewed at the end of each term and a revised standing is reported to every student on the final grade report issued after each academic term.

PROBATION AND SUSPENSION

The University is concerned about students whose academic achievements indicate that they are unable to meet expectations of their instructors or that they are experiencing other problems that may interfere with their studies. A probation action is an advisory warning that a student should take action to improve his or her achievement. An academic suspension action is taken when the University feels that the student's academic achievement record to date indicates a need to interrupt enrolled status to reassess and reevaluate goals and plans. A student who is placed on probation or suspension status should give careful consideration to factors involved. The University encourages such students to seek assistance from counselors, graduate advisers, and course instructors.

Every student is expected to maintain at least a B average (3.0 GPA) on all graduate work carried, whether passed or not. Failure

to achieve this minimum B average in any term results in a probation, continued probation, or academic suspension action at the end of that term, as shown below. Academic suspension actions are taken at the end of each term.

1. Student in Good Standing

Grade point requirements and actions:

- A 3.0 or better end-of-term cumulative GPA results in continuing good standing.
- A 2.0 to 2.999 end-of-term cumulative GPA results in probation status.
- A 1.999 or less end-of-term cumulative GPA results in academic suspension status. Student's graduate committee reviews his or her record up to that time and recommends for continued enrollment or for the suspension status to go into effect.
- Action on part-time students is withheld until at least 9 credits are attempted at UW-Green Bay.

2. Student on Probation

Grade point requirements and actions:

- A 3.0 or better end-of-term cumulative GPA results in a return to good standing.
- A 2.999 or less end-of-term cumulative GPA may result in an academic suspension status at the end of any term after a cumulative total of 15 or more credits is attempted at UW-Green Bay. Student's graduate committee reviews his or her record up to that time and recommends for continued enrollment or for the academic suspension status to go into effect.

APPEALS

Academic probation is a nonpunitive warning that is not subject to appeal. Academic suspension status may be appealed by means of a special appeal to the associate dean of graduate studies. The associate dean may seek advice from the graduate faculty board of advisers. Appeals must be filed within two weeks after the end of the semester. A student who is allowed to continue will be on probation and is subject to any other special conditions that may be

designated. Any appeal must include a clear explanation of the problems causing the inadequate achievement and how the student proposes to resolve those problems.

READMISSION

Readmission after an academic suspension is not automatic. The associate dean of graduate studies may decide to deny or to grant readmission subject to specific requirements or conditions. A student who is readmitted after an academic suspension is always readmitted on probation and is subject to normal standards of achievement required to continue as a graduate student. An application for readmission should be submitted to the associate dean of graduate studies at least 30 days in advance of the desired term of admission to allow for the review process.

GRADES AND GRADE APPEALS

Each student receives a grade from the instructor in charge of a course at the end of each semester or session. Grades must be in the office of the registrar no later than 96 hours after a final examination. Information on current grading policies accompanies the grade rosters distributed by the registrar each semester.

If a student is dissatisfied and wishes to appeal a particular course grade, he or she must first contact the instructor who issued the grade. If the student is still dissatisfied, he or she may appeal to the associate dean of graduate studies who must, in turn, consult with the course instructor. A student who wishes to appeal beyond this level consults with the dean of professional studies and outreach who then consults with the instructor and the associate dean of graduate studies. The dean or associate dean act in advisory capacities to the student and instructor.

GRADE CHANGES

All final grades, with the exception of incompletes (I) or progress (PR), become permanent grades at the end of the following semester. Any discussions with faculty

regarding grade levels or missing (N) grades must be pursued within this time period.

INCOMPLETES

If a student is unable to take or complete a final examination or other course work, due to unusual but acceptable circumstances, he or she may arrange with the instructor to receive an incomplete. The instructor files an incomplete removal form, stating both the conditions for removal and the deadline, before an incomplete grade is accepted for recording. A tentative academic action may be assigned on the basis of grades and credits received in other courses. Tentative actions are reviewed after the incomplete has been converted into a permanent grade.

Incompletes for Graduating Seniors

Students who expect to graduate in December must have all incompletes removed within 15 working days following the end of the fall semester. Students who expect to graduate in May must have all incompletes removed within 15 working days following the end of the spring semester. All grades on the record become permanent as of that date with no possibility for removal or change.

Removal of Incompletes

The course instructor sets a specific deadline for removal of an incomplete and informs the student and the Office of the Registrar. If no earlier deadline is specified, an incomplete (I) must be removed no later than the last day of classes for the next semester.

The incomplete removal form is filed with two tentative grades. One indicates the quality of work to date; the second is to be assigned if no more work is completed.

A student may file a special petition for an exception to the incomplete removal deadline if bona fide unanticipated extenuating circumstances prevented compliance with the removal deadline. These circumstances might be valid:

- The student has serious physical or mental health problems which are documented

by statements from a physician or professional counselor.

- The student has had a death or serious illness in the immediate family and this is documented by a physician's statement.
- The course instructor is on leave during the semester for removal.

REPEATING COURSES

Students may repeat a course only upon special petition to the associate dean of graduate studies. All repeated courses are designated with a letter R after the grade on the transcript. When a repeated course is completed, the original grade and entry on the transcript remain on the transcript, but the credits, grade, and grade points earned for the most recent completion are the only course records that affect cumulative attempted credits, grade points earned, and the grade point average. Courses repeated at another institution have no effect on the grade point average at UW-Green Bay.

MINIMUM AND MAXIMUM CREDIT LOADS

A graduate student in good academic standing may register for any number of credits up to a maximum of 12 credits per semester. A student will not be allowed to register for credits in excess of 12 if he or she does not have prior written permission from the associate dean of graduate studies to carry an overload. Any course adds that would have the effect of exceeding the maximum will not be processed if prior overload permission has not been granted.

A student may register for or reduce a program below 9 credits in a semester with the understanding that for certain purposes he or she will then be considered a part-time student. A student who reduces graduate credit level below 9 should consult the appropriate offices about implications for financial aid, government benefits, and other programs with credit load eligibility stipulations.

Maximum Credit Load for Probationary Students

The maximum semester credit load is 9 credits for a graduate student on probation.

COURSE ADDS

After registering a student may add other courses to his or her program if the addition does not exceed the maximum credit load limitation and is completed before a specific deadline for additions. During a normal semester, the add period is limited to the first two weeks of classes; for shorter terms an earlier deadline is in effect. A student may petition for an exception if unforeseeable extenuating circumstances prevented deadline compliance.

COURSE DROPS

The course drop deadline is established to allow students time to discover what content a course will cover, the type of readings and projects to be assigned, the instructor's teaching style, and the methods of evaluation. In some courses, feedback from a formal evaluation process may not be available before the drop deadline. In such cases, it is the student's responsibility to contact the instructor before the drop deadline to obtain information useful in making the decision to drop. Therefore, lack of feedback in the form of grades on papers or examinations is not acceptable to justify a late drop.

The drop deadline is intended to stimulate a student to weigh carefully all of the important considerations and to do this as early as possible. If a student decides that a course does not fulfill expectations, an early drop permits the student to devote a greater portion of available study time and effort to remaining courses, and the instructor is able to devote more time and effort to the students participating in the course. The 6-week deadline for 15-week semester courses provides an adequate opportunity to make drop decisions.

The phases of the course drop policy are:

Through the eighth day of classes of a 15-week semester—

- student may drop any course without the instructor's signature
- permanent records show no drop

Ninth day of classes through sixth week—

- course appears on permanent record with the symbol W (withdrew) or DR (dropped)

Seventh through 15th weeks—

- no official drops allowed; WF grade or F appears on transcript

For terms or classes of a shorter duration than 14 weeks, pro rata deadlines are established as follows in the chart below.

LATE PROGRAM CHANGES AND WITHDRAWALS

A student may receive permission to drop a course or courses after the six-week deadline, or make a complete withdrawal after the normal twelfth-week deadline, if one of these specific criteria can be verified:

1. the student has serious mental or physical health problems, verified by a physician's or professional counselor's statement.
2. there is a death or prolonged serious illness in the immediate family; also verified by the family physician.

An appeal with appropriate documentation should be submitted to the associate dean of graduate studies.

WITHDRAWAL FROM THE UNIVERSITY

A student who desires to withdraw from all academic course work at any time after completing the course request list form must file an official withdrawal form at the Office of the Registrar. A complete withdrawal without failure may be requested at any time before 4:30 p.m. on the afternoon of the last day of regularly scheduled classes during the twelfth week of a semester or the beginning of the fifth week of a six-week summer session. If a student has not attended classes or taken the final examination in a course, a grade of WF will be given unless

official withdrawal procedures are followed.

A decision to withdraw should be given careful consideration in terms of academic retention policy, veteran's benefits, Social Security benefits, financial aid and other situations that have specific prohibitions against withdrawals.

PASS-NO CREDIT GRADING

This special grading is permitted and required only for internships (797) and thesis writing (799) courses/credits at the graduate level. All other graduate credit courses must be taken on a regular graded basis.

AUDIT ENROLLMENT INFORMATION

With the permission of the instructor, a graduate student may audit an undergraduate course if space is available after undergraduate students who have enrolled for credit have been accommodated. Conditions and requirements for class participation are completely at the discretion of the course instructor. A student enrolled for credit may change to audit status for grading purposes, at any time up to the course drop deadline. *Audited credits do not count in determining credit completion requirements or for any program or benefits eligibility status.* Audited credits do count toward maximum credit load limitations. Any changes from audit status for grading purposes, must be completed within the course add period.

GRADUATE INDEPENDENT STUDY

Faculty approval signatures are required before registering for or adding independent study credits. Graduate faculty status includes only assistant, associate, and full professors, and full-time lecturers. Regular semester add and drop deadlines apply to independent study. Special 500-600-level numbered undergraduate courses do not require an independent study card. Graduate special (GSP) students are not eligible for 798 work except in the 006 area; graduate specials are also not eligible for 797 or 799 work.

SPECIAL PETITIONS

A special petition is a formal written request for an exception to normal rules, regulations, and procedures and may be granted or denied. The rules, regulations, and requirements of the graduate program are the result of recommendations from the graduate faculty board of advisers and the Academic Actions Committee. Some rules may originate from legislative statutes or Board of Regents actions.

Exceptions to academic rules and regulations are granted if the petition states unforeseeable extenuating circumstances and relevant facts that fall within general parameters recommended by the Academic Actions Committee, and approved by the dean of arts, sciences and graduate studies. The associate dean of graduate studies is responsible for reviewing the petition. If a petition is denied, the student has the right of further appeal to the Academic Actions Committee.

Students contemplating an appeal should consider:

1. Are the relevant facts and dates clearly stated and documented?
2. Are the extenuating circumstances cited of an unforeseeable nature?
3. Are relevant recommendations from the instructor included, if this is appropriate?
4. Do the statements distinguish between needs and wants?
5. Is the educational rationale for the request stated?

VETERANS EDUCATIONAL ASSISTANCE

The primary source of information for programs administered by the Veterans Administration or the Wisconsin Department of Veterans' Affairs is the veterans' service officer of the county from which the veteran departed for service, or where he/she now claims residence. The veteran may also seek assistance from the veterans' officer on campus.

Veterans should submit the certificate of eligibility to the Office of the Registrar for enrollment certification and transmittal to the Veterans Administration regional office. A special section on the final registration form must be completed to be certified for benefits for the ensuing term.

OTHER RULES

In matters not covered by the graduate academic rules and regulations as specified in this catalog, the graduate program follows rules and regulations for the undergraduate programs and courses at UW-Green Bay.

Academic Year Calendar

The University operates on a traditional semester calendar with a four-week spring intersession followed by a six-week summer session. During summer, a few courses may deviate from the six-week schedule.

FALL SEMESTER	1997-98	1998-99	1999-2000*
Classes begin	Sept. 2	Sept. 2	Sept. 2
Thanksgiving recess begins	Nov. 27	Nov. 26	Nov. 25
Classes resume	Dec. 1	Nov. 30	Nov. 29
Classes end	Dec. 12	Dec. 16	Dec. 16
Final exams begin	Dec. 15	Dec. 17	Dec. 17
Final exams end	Dec. 19	Dec. 23	Dec. 23
Commencement (Saturday)	Dec. 20	Dec. 19	Dec. 18
 SPRING SEMESTER			
Classes begin	Jan. 20	Jan. 19	Jan. 18
Spring recess	March 14-22	March 13-21	March 11-19
Classes resume	March 23	March 22	March 20
Classes end	May 11	May 10	May 8
Final exams begin	May 14	May 13	May 11
Final exams end	May 20	May 19	May 17
Commencement (Saturday)	May 23	May 22	May 20
 INTERSESSION			
Classes begin	May 26	May 24	May 22
Memorial Day recess	May 23-25	May 29-31	May 27-29
Last day of classes	June 19	June 18	June 16
 SUMMER SESSION			
First day of classes	June 22	June 21	June 19
Last day of classes	July 31	July 30	July 28

* Tentative dates; subject to change.

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