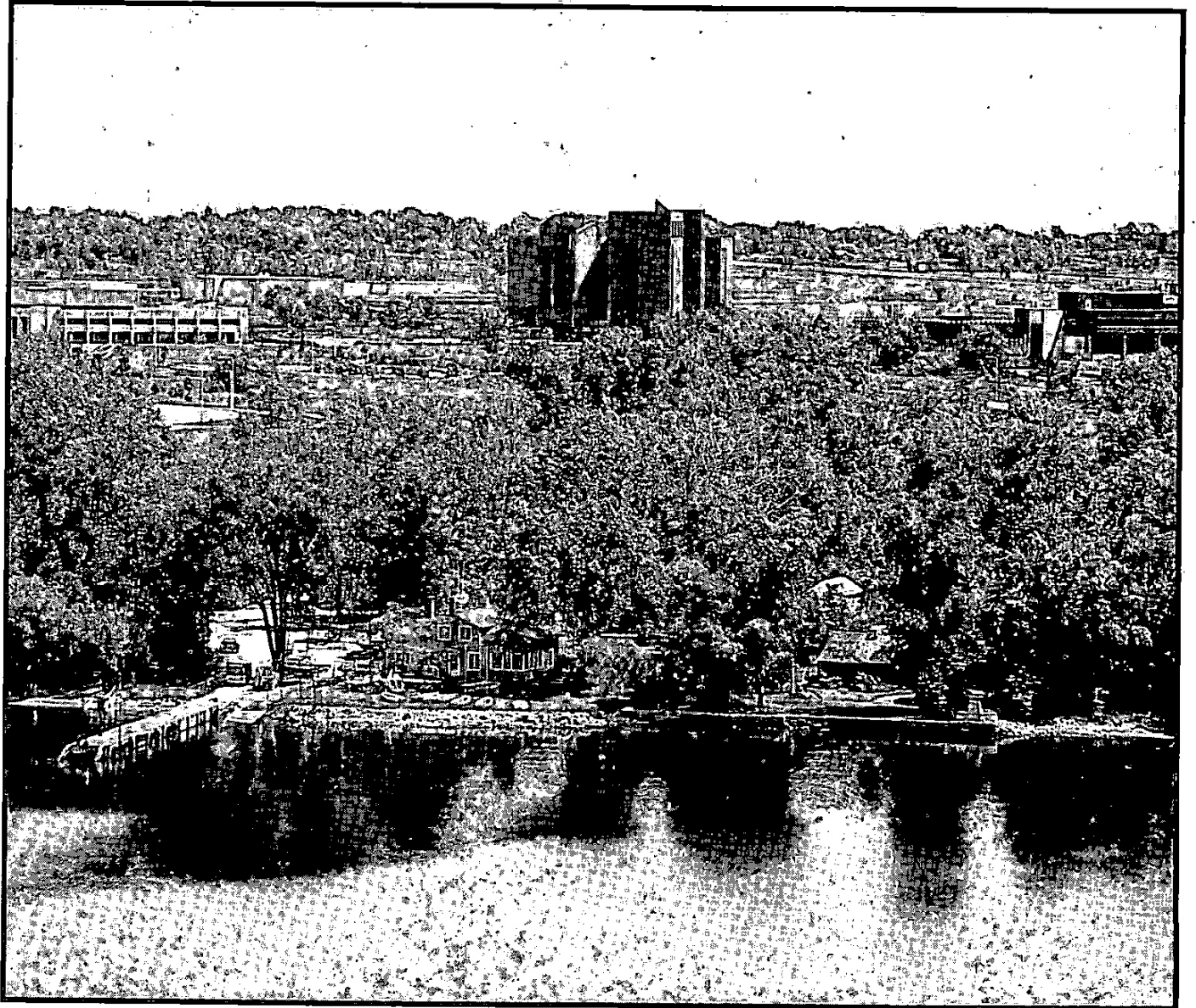

1981-83
Graduate Studies Catalog
University of Wisconsin
Green Bay

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Introduction

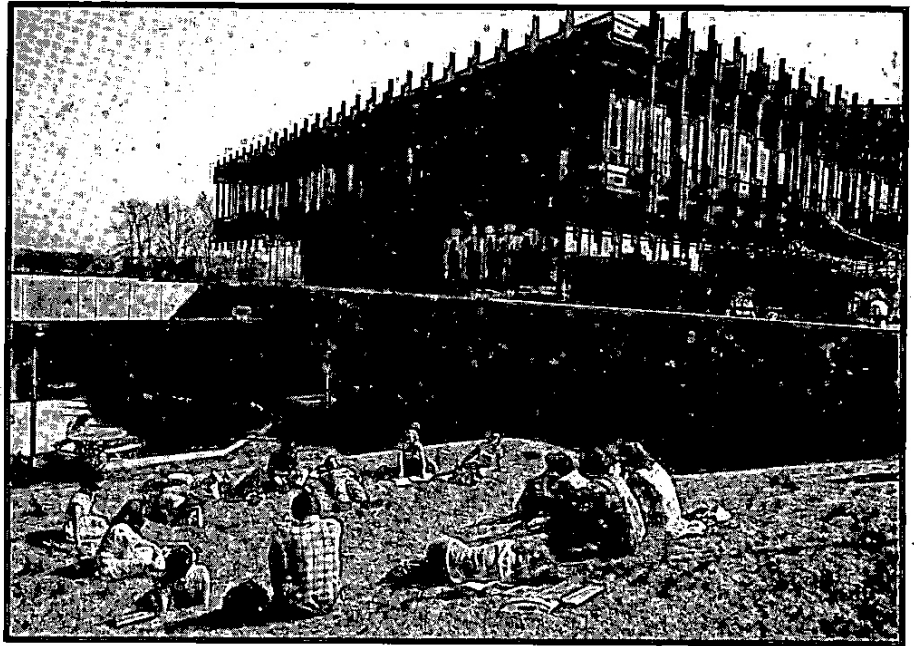
INTRODUCTION

The University of Wisconsin-Green Bay offers challenges and opportunities to students who come with a variety of perspectives, expectations, and goals by combining strengths from two long-established traditions in higher education. The land grant tradition contributes emphasis on practical application of learning, experience, and career orientation. The liberal arts tradition provides rigorous learning in the academic disciplines, critical analysis of issues and values, and concern for the individual.

The combination of these two traditions at UWGB provides particularly strong preparation for the future. It goes beyond imparting today's information and helps students to prepare for the uncertainties of the future.

What is certain is that many career opportunities available now will disappear; within a decade there will be new occupations unheard of today. Employment trends show that most persons entering a career now can expect to change fields at least once during their lifetimes. Furthermore, facts learned today will become outdated with increasing frequency. The person most prepared for such a world will be the person with the broadest abilities and preparation—the person who is prepared to be a life-long learner.

What enables the University to combine the best of two traditions is its distinctive academic plan which encourages interdisciplinary and cross-disciplinary studies. The interdisciplinary approach helps students to see relationships between traditional disciplines, apply resources from various disciplines to complex problems, relate what they are studying in class to their own educational and career objectives, and be prepared to work with persons whose specialties are different from their own.



HISTORY

The University of Wisconsin-Green Bay is one of the newest members of the University of Wisconsin System. With about 4000 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 University has over 160 full-time faculty, 91 percent of whom have earned a doctorate or its equivalent.

UWGB began in 1965 when the Wisconsin Legislature authorized a new campus of the University of Wisconsin System to serve the growing urban population in northeastern Wisconsin. Because it was new the University had an opportunity that few universities have—an opportunity for a new start. UWGB's planners were able to study the state of higher education carefully and try to plan a university that had special meaning for the last portion of the twentieth century. This has given UWGB a

singular position within the University of Wisconsin System; it is assigned a special mission to provide an educational program that is substantially different from that of any other UW System unit. A unique aspect of UWGB's mission is its organization around a central theme—that of the relationship between humans and their environments. The concern with the nature and effects of human relationships with the physical, social, cultural, biological, and aesthetic environments has gained national and international recognition for the University.

ACCREDITATION

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

THE GRADUATE PROGRAM

The University of Wisconsin-Green Bay graduate program leads to the degrees, Master of Science (M.S.) in Environmental Studies or Master of Arts (M.A.) in Environmental Studies. These are interdisciplinary, individualized, and pragmatically oriented degrees that allow students, with the aid of their graduate committee, to design and implement a program of study based on individual intellectual interests and career needs.

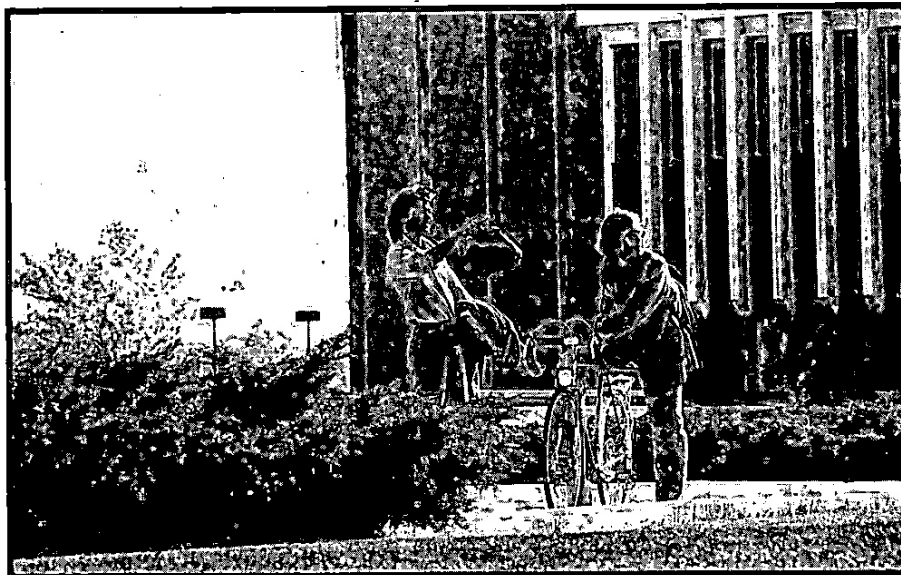
The program has three aims—to study the nature of physical, social, intellectual, and cultural environments; to contribute to understanding and problem solving in these areas; and to impart or improve career skills. Several broad interdisciplinary tracks serve as foci for student studies and research. The program offers opportunities for students with undergraduate training in almost all traditional disciplines in the natural and social sciences. The tracks are described in the Programs of Study section of this catalog.

UWGB AND UW-MILWAUKEE COOPERATIVE PROGRAMS

A cooperative arrangement between the University of Wisconsin-Milwaukee (UWM) School of Education Departments of Educational Psychology and Administrative Leadership, and the University of Wisconsin-Green Bay Graduate Program offers opportunities for students in Northeastern Wisconsin to pursue graduate studies qualifying them for certification as school counselors, elementary school administrators, secondary school administrators, or supervisors (K-12, K-8, or 7-12).

The arrangement provides a coordinated set of UWGB and UWM course offerings on the UWGB campus that permits students to complete the requirements for the master's degree and for certification. Students who wish to pursue a degree in these areas must be admitted to the UWM Graduate School and to the appropriate department. They also are subject to the rules and regulations of UWM. Upon satisfactory completion of program requirements, the appropriate UWM degree is awarded. Recommendations for certification are made by the UWM Certification Office.

2 The Graduate Program



Students normally will include 12 UWGB course credits in their program of study. A list of appropriate UWGB courses is being developed. For information about course selection, students are requested to contact Dr. James Busch, chairperson of Education at UWGB, (414) 465-2149. In accordance with UWM Graduate School rules, no more than 12 credits of degree work taken at any institution other than UWM may be used to meet degree requirements.

ACADEMIC CALENDAR

The University operates on a 4-1-4 semester plan with the fall semester beginning in early September and ending in mid-December and the spring semester running from early February to the end of May. January interim is a month in which students can concentrate on a single course, project, or thesis work. An eight week summer session is also offered, along with special summer workshops and other academic programs of varying lengths.

STUDENTS

Students enrolled in the graduate program in fall, 1980, were from Wisconsin and from 13 other states and four foreign countries. The largest number (90 percent) were state residents. Seventeen percent were full time students, (enrolled for more than 9 credits per semester).

International Students

The University is authorized under federal law to enroll non-immigrant alien students. Additional information about international student admission can be found in the section of this catalog describing the academic program.

Handicapped Students

UWGB has a continuing concern to insure equal and independent access for handicapped students to the full range of opportunities within the University. All of the academic buildings are interconnected so that once inside, a student can move between buildings without returning to the outside. A more complete description of services and facilities for the handicapped is in the Resources and Services section of this catalog.

CAMPUS

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

The central landmark on campus is the eight-story Library Learning Center. Clusters of academic buildings are grouped like points of the compass on the north, south, and west around the Library Learning Center. The Library Learning Center houses approximately 240,000 volumes, 400,000 items in microform, 1,100 periodical subscriptions, and serves as a state depository for U.S. and Canadian documents. The Library also participates in an excellent interlibrary loan system.

The academic buildings and the Commons are connected outdoors by plazas and walkways and indoors by a system of concourses. The concourses and ramps and elevators in every building make the University particularly accessible to handicapped students and visitors.

Laboratory facilities are modern and well equipped for the mission of the University and include facilities for land and water based field research.

Modern computer services are available for research and instruction. The Computer Center operates a Xerox Sigma 6 computer with one million bytes of memory, tape, and disk drives. The system supports 40 time sharing terminals.

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

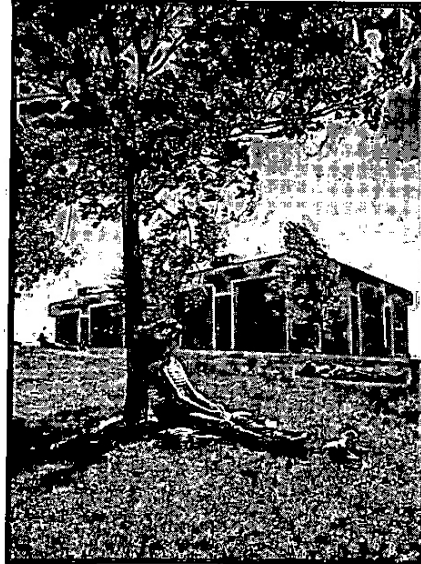
Student apartments are near the Commons and academic buildings and not far from the gym, swimming pool, and other sports facilities.

Three other buildings are used for student activities: Shorewood Club West has a rathskeller, fireplace lounge, and game rooms; Shorewood Club East contains cafeteria facilities and a large room that can be used for special events; and the Pro Shop houses student organizations. The Shorewood Clubs are headquarters for golfing in summer and cross-country skiing in winter.

Beside the bay is the Outing Center, a focal point for summer recreation. Canoes, sailboats, and other recreational equipment are available for rent. On the shore near the Outing Center is Community Park, a picnic and recreation area.

Near the University's main entrance are the Children's Center, a service available to children of students and staff, and the Ecumenical Center, headquarters for the interfaith campus ministry.

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, cross-country skiing, and pedestrian paths connect all parts of the campus.



COMMUNITY

Green Bay is the site of Wisconsin's oldest European settlement. The French explorer Jean Nicolet sailed into Green Bay in 1634, fourteen years after Plymouth Rock, and landed not far from the present site of UWGB. Before the French arrived, the area was the home of the Potawatomi, Winnebago, Menominee, Sauk, Fox, and Chippewa Native American people.

The first Europeans were fur trappers and missionaries and they were followed by lumbermen. Green Bay's location at the mouth of the Fox River, connecting inland waterways with the Great Lakes, caused it to develop early as a trading center. Since the completion of the St. Lawrence Seaway in 1959, Green Bay has been an international port.

Today, Green Bay's 90,000 residents include descendants of the native American groups, French, English, Belgians, Poles, Germans, Scandinavians, Dutch, and Irish.

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

Community resources include theater and music organizations, a good public library system, daily and weekly newspapers, three AM and two FM commercial radio stations, and four commercial television stations. Broadcasting from the campus are WGBW, an FM radio station, and WPNE-TV, an educational television station. Other schools in the community include St. Norbert College, a co-educational private Catholic college in suburban DePere; and Northeast Wisconsin Technical Institute.

Although Green Bay and much of the Fox River valley is industrial, most of Northeast Wisconsin is farmland devoted primarily to dairying. The landscape is gently rolling, marked by rounded ridges and hills shaped by the last great ice age which covered the region.

Green Bay is the gateway to two major areas of Wisconsin known for their natural beauty. Door County is the peninsula jutting into Lake Michigan which creates Green Bay. It is characterized by small farms, orchards, small villages with attractive harbors, and miles of shoreline. It has been a vacation area for a long time and is known for summer cultural activities. Northern Wisconsin is known for lakes and forests and the Lake Superior area.

Major cities are within easy traveling distance from Green Bay: Milwaukee is 114 miles south; Madison is 132 miles southwest; Chicago is 220 miles south, and Minneapolis-St. Paul is 285 miles west of Green Bay.

OPPORTUNITIES FOR STUDY AND SUPPORT

Graduate students are encouraged to investigate possibilities for involvement in research projects, research centers, or service centers on the UWGB campus. Often students find that the ongoing projects result in ideas for thesis projects and possible financial support. Some of the current activities are listed in this section.

Sea Grant Program

UWGB faculty members participate in the University of Wisconsin Sea Grant College Program. The Green Bay program involves public education work 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. Two current research projects by the Sea Grant Program are:

Dynamics of Herbivore Populations and First Year Yellow Perch in Lower Green Bay (Dr. Paul Sager)
Biological Production in Green Bay Coastal Marshes (Dr. H.J. Harris)

School Services Bureau

The School Services Bureau helps to meet specific educational needs in the larger community with the assistance of faculty and staff at the University of Wisconsin-Green Bay and in local school districts. It works to:

- identify resource persons and programs for classroom and other in-school activities.

- develop and conduct in-service programs.
- serve as a liaison to UWGB departments responsible for credit courses; non-credit conferences, workshops and seminars; and other educational activities.
- participate in cooperative study and research activities.
- arrange for consultant services.

Area Research Center

The Area Research Center of the UWGB 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.

Richter Natural History Collections

In 1975 the University was honored by the generous gift of the extensive natural history collections of Carl H. Richter from Oconto, Wisconsin. The collection contains over 11,000 sets of bird eggs and is the 11th largest bird egg collection in North America. The Richter Collections also contain over 1,200 scientific skins and 100 mounted bird specimens. Most are from North America with a small series from Mexico and South America and a few species from Europe and New Zealand. Smaller collections of regional mammals, reptiles, and worldwide collections of Mollusks and Lepidoptera are also included.

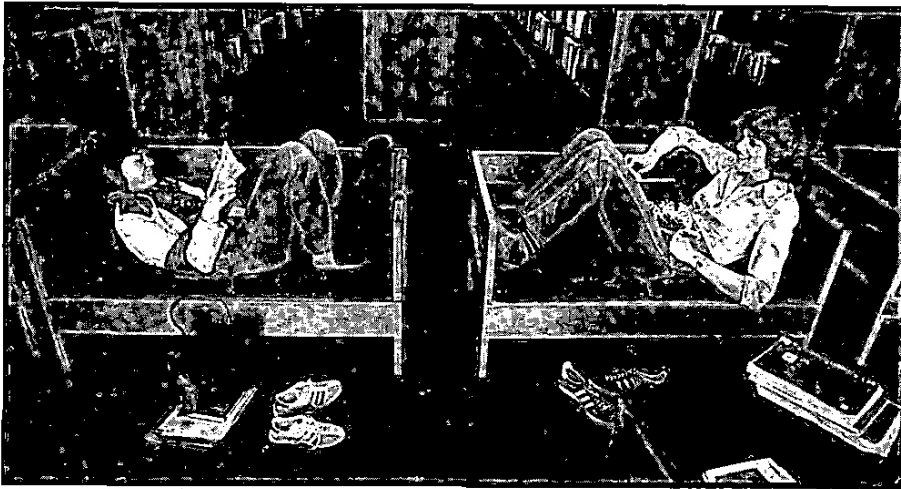
Natural Areas

UWGB has received three natural areas as gifts, Toft Point (610 acres), Fuller Point (158.7 acres), and the Oconto Aquatic Marsh (7.3 acres); and has the use of two other areas, Point Sable and Lily Lake. In addition, natural areas are being developed on the Green Bay campus itself. In 1975, the University received a gift to develop a 200 acre public arboretum around the campus periphery as a memorial to John and Austin Cofrin.

Brown County Energy Conservation Center

The Energy Conservation Center is established by a grant from the Office of State Planning and Energy to provide a cooperative arrangement among several institutions for obtaining data on energy utilization in the community and to formulate possible energy conservation strategies.





Resource Recovery Facility

A laboratory in the Laboratory Sciences building is equipped for research on utilization of waste materials through a grant from the National Science Foundation. The laboratory contains analytical instrumentation including an atomic absorption spectrophotometer, an X-ray spectrometer, and a bomb calorimeter. The laboratory also houses a computer graphics terminal and an IBM device coupler to interface instruments to the campus computer. Among recent projects are: evaluating use of sewage sludge on corn crops in clay soils of Brown County; anaerobic digestion of farm and municipal wastes; and evaluation of energy-intensiveness of solid waste collecting alternatives.

Students interested in waste management may wish to arrange an internship with the Solid Waste Division of the Environmental Protection Agency in Washington, D.C., the Wisconsin Department of Natural Resources, the Brown County Solid Waste Authority, or one of the local or regional planning agencies.

Recently Funded Research

UWGB faculty members are active in seeking support for research projects. A partial list of current research projects includes:

- Dr. Paul Abrahams
Fox Valley Industrial Survey
- Dr. Arthur Atkisson
Evaluation of Ordinances for Earthquake Hazard Abatement in Existing Buildings
- Dr. Lyle Bruss
Comprehensive Study for Educational Planning
- Dr. Anthony Gatt
The Ecological Anthropology of Intensive Agriculture on the Murgia Dei Trully, Italy
- Dr. H.J. Harris
Status and Nesting Ecology of the Forester's Tern
- Dr. Per Johnsen
Public Awareness of Water Quality
- Dr. William Kaufman
Physical and Psychological Studies of Thermal Characteristics of Sleeping Bag Insulation
- Dr. Eric Knowles
Reactions of Varying Interpersonal Distances: An Approach Avoidance Model
- Dr. V.M.G. Nair
Chemotherapy of Dutch Elm Disease
- Dr. Paul Sager
Sawyer Harbor Water Quality
- Drs. Dorothea Sager and Dennis Girard
PCB's in Lactation: Offspring Reproduction and Behavior

- Dr. Leander Schwartz
Green Bay Metropolitan Sewerage District
Anaerobic Digestion of Heat Treatment Decantate
- Dr. Richard Stiehl
Gray Partridge Survey Techniques and Management
- Dr. James Wiersma
Water Quality Monitoring of Brown County Landfills

In addition to the above UWGB activities, two other agencies, the Bay Lake Regional Planning Agency and the U.S. Fish and Wildlife Service are housed on the UWGB campus. Students may wish to consider these agencies for possible internships or employment.

EFFECTIVE DATES

Effective dates for this catalog are September 1, 1981 through August 31, 1983.

All of the information contained in this catalog was accurate at the time of its printing, which was well in advance of the 1981-82 academic year. In the normal course of things, changes in some of this information can be expected to take place before August 31, 1983. For example, fee and tuition schedules change annually by action of the University of Wisconsin System Regents and/or the Wisconsin Legislature. New courses can be expected to 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 Registrar's Office. Fee information appears in the *Timetable* for each fall, spring, January or summer session if fees have been determined before that publication is printed. If the information is received too late for the *Timetable*, it appears on a fee information sheet which is available to every student or prospective student.

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

Academic Program

General Information

TOTAL CREDITS

A minimum of 30-36 credits, depending upon the chosen area of emphasis and specialization, is required for completion of the M.S. or M.A. degree.

GRADES

All courses and assigned studies are graded on a 4.0 scale (A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0.0). 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). The grade must be altered to a pass (P) prior to graduation.

Students are expected to maintain a cumulative grade point average of at least 3.0 and must achieve this gpa to obtain the master's degree. Students who fail to maintain a 3.0 or better in their studies are subject to probation and/or drop as specified in the Graduate Academic Rules and Regulations. (See Appendix)

ACADEMIC RULES AND REGULATIONS

The Graduate Academic Rules and Regulations are explained in the appendix of this book. They are also published in the student handbook. The *Timetable* contains information about registration procedures, fee information, listing of courses offered during that particular session, and other information.

TIME LIMIT

Matriculated graduate students have a limit of five years to complete all requirements for the M.S. or M.A. degree. This time period begins with the first day of the first term of enrollment with a classification of MS5 or MA5.

COURSE REQUIREMENTS

A program plan must be developed by the student and his/her graduate committee to satisfy the requirements of an area of emphasis and specialization with the remaining credits to be earned by selecting appropriate elective courses. An acceptable program plan must include:

Graduate Core Courses (12 credits or more)

Graduate core courses are the courses numbered at the 700 level (700-794). These courses are open only to graduate students.

Thesis Credits (6 credits)

Students are required to register for a minimum of 1 credit of thesis during the semester in which the thesis defense is to occur. A student may earn more than 6 credits for thesis; however, only 6 credits may be applied toward the degree requirements.

A typical program plan will also include assigned study courses.

Assigned Study Courses

Assigned study courses are available to provide students with opportunities to gain specialized knowledge, skills, and experiences. The assigned study courses may include dual-listed undergraduate/graduate courses (i.e., courses numbered at the 500 and 600 levels), selected upper level undergraduate courses, directed (independent) study, transfer credits, and internships. Each of these opportunities is described:

Undergraduate/Graduate courses (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.

For each of the following types of assigned study, a graduate assigned study card with approvals of the instructor and graduate adviser must be filed with the study list request. (Specific instructions and sample forms are printed in the *Timetable* for each term.)

Selected Undergraduate Courses (XXX-596 or XXX-696): Courses numbered at the 300 and 400 levels may be taken for graduate credit under certain circumstances and conditions. These conditions are: (1) The course must contribute to a coherent program of study; (2) The course may not be a foundation course; (3) Extra work is assigned or a superior performance is demanded for an equivalent grade, when compared to that of undergraduates in the same course.

Directed Study (002, 004, 006, 008, or 009-798): Directed 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 should be undertaken only when an approved program plan is filed which includes the independent study course as an integral part of the individual program. Under normal circumstances a maximum of 6 credits of directed study may be applied toward the degree; however, with strong recommendation and rationale provided by the major professor, additional independent study credits may be allowed. To arrange for directed (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 is to be evaluated and graded. The proposal is filed in the Graduate Office and will be included in the student's file.

Internship (002, 004, 006, 008, or 009-797): 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.

Furthermore, it 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 director of graduate studies for inclusion 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 in the hands of 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 (normal maximum is 6 credits) is determined by the student's graduate committee subject to approval by the director of graduate studies. The graduate program will not award credit for prior experience. An internship, however valid, if undertaken prior to enrollment in the program, will not be considered for credit toward the M.S. or M.A. degree.

Seminars, Colloquia, and Other Experiences:

From time to time, professors or groups of professors may organize courses, semi-formal seminars, colloquia, field trips, and so on, around some topic of mutual interest. Such experiences are comparable to directed study undertaken as a group rather than as an individual experience, and may carry graduate credit. Graduate students are encouraged to take the initiative in founding and developing such experiences.

The assigned study component of the program plan may also include a maximum of 12 graduate credits earned at other institutions prior to admission. Applicability of transfer credits is the responsibility of the student's graduate faculty committee at the time that the program plan is approved. These credits are subject to the review of the director of graduate studies and the Office of 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 director of graduate studies.

ADMISSION WITH ADVANCED STANDING

All graduate coursework completed at UWGB or at other accredited graduate schools prior to admission to the M.S. or M.A. degree program will be evaluated for applicability by the student's graduate faculty committee when the 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 UWGB cannot exceed 15 credits. Of these, 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 UWGB but 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 no graduate fees were paid nor graduate credit awarded cannot be retroactively converted to graduate credits.

TRANSFER CREDIT POLICY

Transfer credit is defined as graduate credit earned at an accredited institution other than UWGB which is to be applied to master's degree requirements at UWGB. Acceptance of transfer credits is determined by a review of the credits by the office of the Registrar, and development of the program plan which includes the credits as part of a coherent program of study. Applicability of the transfer credits is subject to review and approval by the director of graduate studies. Following are general guidelines for evaluating potential transfer credits:

- A maximum of 12 semester credits of graduate work may be applied on the program plan 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 level.
- The credits must be reasonably current, 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 (academic classification, time limitation, etc.) that make them unacceptable toward a degree at the institution where the credits were earned will not be accepted by UWGB.

USE OF SPECIAL PETITION

Requirements may be modified or adapted to take into account special educational or program needs of a student. A request to waive or modify an academic requirement of the graduate program is submitted on a special petition form. Special petition forms are available at the Academic Advising Office (SS 1930). If a change in a program requirement is being requested, the petition should include a statement from the major professor or graduate committee regarding the change.

THESIS REGISTRATION

Only students with a MS7 or MA7 classification are allowed to register for thesis writing credits (799). These classifications are assigned to a matriculated graduate student following acceptance of an approved graduate program plan and thesis proposal. Enrollment for thesis credits (799) may be for 1 to 6 credits per term and may be spread over several terms as appropriate to the time available to work on the thesis. A student must be registered for a minimum of 1 thesis credit during the final semester in which the thesis defense has been scheduled.

Progress Toward the Degree

M.S./M.A. DEGREE PROCEDURES

This section is a guide to the necessary steps to be taken and forms to be completed from admission to completion of the program and final graduation.

Selection of a Graduate Committee

It is the student's major professor and graduate committee members who make final decisions about the acceptability of the program plan and quality of the student's thesis. Therefore, it is important that a student select a major professor and committee early in the program. For students in a specific area of emphasis, the coordinator or adviser for a specialization normally assists in this process. The committee is comprised of three graduate faculty members, approved by the appropriate track coordinator; one of whom 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.

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

- Guide the student in appropriate selection of courses and assigned studies to ensure that the student is aware of all relevant material necessary to a complete understanding of the chosen field of study.
- Determine whether the student has accumulated and demonstrated sufficient ability to engage in the analytic process 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 methodology rather than narrowly approaching it within the framework of a conventional discipline.

If a change is desired in a committee, it is the student's responsibility to explain to the committee members why the change is desirable or necessary. If the change is acceptable to the outgoing and incoming professors, the student should then notify the Graduate Office.



Graduate Student Program Plan

The primary responsibility for ensuring that each student's program plan conforms to the requirements and regulations of the M.S./M.A. program rests with the student's graduate committee. The student meets with his/her committee to discuss the program plan and to gain the committee's approval. The program plan is subject to final approval by the coordinator of the emphasis area and the director of graduate studies who may suggest amendments to ensure that the plan conforms to the overall philosophy and requirements of the M.S./M.A. program. The Graduate Office will contact the major professor and student if corrections are necessary for approval. If the student and graduate committee disagree with the reasons for rejection of a program plan, appeal may be made to the graduate faculty Board of Advisers, whose dispensation of the case is considered final. *The program must be submitted to the Graduate Office prior to registration for courses for a second term as a degree-seeking student.* Changes in the plan may be made, but are subject to further review by the director of graduate studies. *All changes must be submitted to the Graduate Office so that the student's file remains current.*

Documents explaining why certain course work is listed should accompany the program plan to the director of graduate studies, if appropriate.

These may include:

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

At this time, the student also files an intent to graduation form listing the earliest possible graduation date.

Thesis Proposal

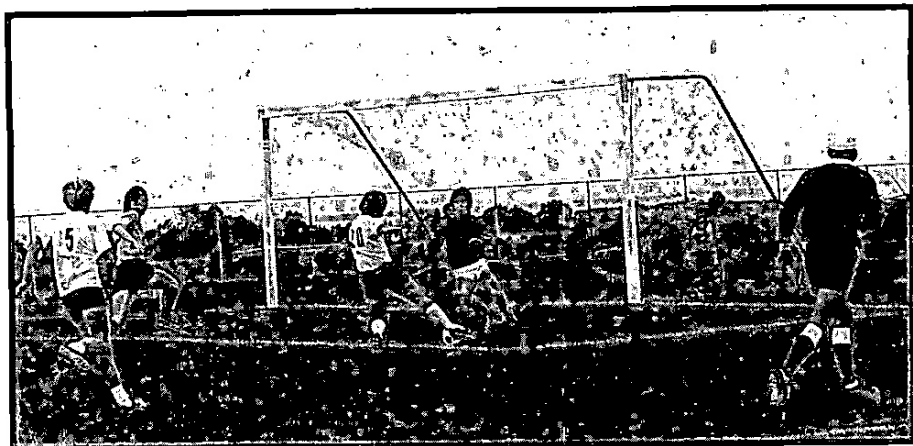
The thesis proposal is the formal document which provides an overview of the thesis project. The proposal includes an explanation of the research problem, issue, or situation to be addressed, its relevance to environmental studies, and the methods and resources to be used in developing the thesis.

After the student has completed 15 credits of coursework and prepared the thesis proposal for approval at a formal meeting with the major professor and committee, the completed request to present thesis proposal (form GR-1) should be sent to the Office of Graduate Studies. The form GR-1 should be submitted at least one week in advance of the meeting. If the thesis proposal is approved, the major professor and committee members sign form GR-2 and forward it, with a copy of the thesis proposal to the Office of Graduate Studies. It is the responsibility of the graduate committee to supervise and evaluate the thesis and assure completeness of all thesis materials.

The thesis is a formal document and must be prepared to conform to UWGB library requirements. General information about these requirements is available from the Office of Graduate Studies. *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. (e.g., K. Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations*, University of Chicago Press, Chicago, 1973, available in the UWGB bookstore).

Thesis Defense

The thesis defense is an open event attended by the candidate's graduate committee, and also open to the general public. The primary purpose of the defense is for the committee to ascertain whether the student has adequately understood and seriously attempted a solution of the thesis problem.



The GR-3 form is a request to schedule the thesis defense. This form must be completed and submitted to the Graduate Office at least one week in advance of the proposed date for the defense. Unless there are specific arrangements acceptable to all parties, the student should schedule the thesis defense during one of the academic terms, preferably during the fall, January, or spring terms.

Before attending the thesis defense, the candidate should obtain a GR-4 form from the Graduate Office. This form should be given to the major professor, whose responsibility it is to have the form completed, signed by the appropriate parties, and returned to the Graduate Office upon satisfactory completion of the thesis defense. A dissenting signature must be accompanied by an explanation from the dissenting member. The director of graduate studies has the right to grant or withhold approval of the thesis defense pending resolution of such 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 has been returned to the office of Graduate Studies.

Deposition of the Thesis

Upon satisfactory conclusion of the thesis defense and an acceptable graduate summary from the Registrar's Office, the candidate is expected to supply two copies of the thesis, including two copies of all audio/visual aids where appropriate, to the Graduate Office. After appropriate signatures are obtained, two copies are forwarded with a binding fee (\$6 per copy at the time of printing, but subject to change), collected from the student, to the UWGB library as a permanent record of the student's scholarly or creative activity. If the student desires, additional copies may be bound at the same per copy fee payable to the Library. Diplomas are not awarded until all the requirements listed above have been met.

Commencement Deadlines

UWGB holds two commencements each year, at the end of the fall and spring semesters. For graduation in the fall, all requirements must be completed prior to December 1. For spring, all requirements must be completed by May 1. A request to graduate form must be completed and turned into the Registrar's Office prior to December 1 and May 1, respectively. Students who complete thesis work during the summer session and wish to participate in the commencement ceremony may participate in the following fall ceremony.

Programs of Study

AREAS OF EMPHASIS

Several interdisciplinary areas of emphasis are defined within the Graduate Studies program at UWGB. These include Community Human Services, Environmental Administration, and Environmental Science. Personally-defined emphases are possible.

Applicants to the master's degree program must designate on their application forms the area of emphasis most appropriate to their background, interests, and educational objectives. Applications are reviewed and recommendations made by an advisory committee for the designated area.

PERSONALLY-DEFINED EMPHASIS

A student may also choose a personally-defined emphasis which is a self-designed program. This alternative is appropriate for students who find that their educational objectives and interests are consonant with the M.S. or M.A. in Environmental Studies degree but are not appropriately addressed by one of the existing approved areas of emphasis.

A student who wishes to apply to the master's program with the intention of pursuing the personally-defined emphasis must supply sufficient information in the statement of intentions to permit the admissions committee to determine whether the proposed area of study is compatible with the UWGB graduate program.

In writing the statement of intentions, the student should address these questions: (1) Is the proposed program of study appropriate to the environmental studies degree? (2) Why can the proposed area of study not be addressed through one of the defined areas of emphasis? and (3) What group of courses might be included for the program of study? The decision to admit the student will be based on the answers to these questions and also whether, in the judgment of

the admissions committee, the appropriate faculty expertise and coursework is available to permit the student to accomplish his or her stated educational objectives. The program of study for a student pursuing a personally-defined emphasis must include a minimum of 30 credits, of which at least 12 must be 700-level courses.

ADVISING GUIDE

Each area of emphasis has a coordinator who may be contacted for advice and information. The coordinator will assist students in identifying an appropriate major professor. The names of current coordinators, their telephone numbers and a list of typical undergraduate majors served by each area of emphasis are given in the following table.

Area of Emphasis	Typical Undergraduate Majors
Community Human Services Coordinator: Dr. Robert Mendelsohn (414) 465-2395	Education (Social Science) Health Professions Psychology Sociology Social Services Urban Studies
Environmental Administration Coordinator: Dr. Arthur Atkisson (414) 465-2767	Business Economics Education (Social Science) Engineering Mathematics Natural Sciences Political Science Public Administration Urban Studies
Environmental Science Coordinator: Dr. Nancy Sell (414) 465-2261	Biology Chemistry Earth Science Economics Education (Natural Science) Engineering Geography Mathematics Physics

DEGREES

The degree awarded is determined by the student's program of study. A student who completes degree requirements specified by the Environmental Administration or Environmental Science emphases will receive the Master of Science (M.S.) degree. One who completes degree requirements specified by Community Human Services will receive the Master of Arts (M.A.) degree. The degree earned by a student with a personally-defined emphasis is determined by the student's graduate faculty committee.

COURSE DESCRIPTIONS

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

cr	credits
P	prerequisite(s)
gr st	graduate standing
fr	freshman
soph	sophomore
jr	junior
sr	senior
cons inst	consent of instructor



Community Human Services

Coordinator: Robert A. Mendelsohn
(414) 465-2395

PURPOSE

The Community Human Services program trains persons to understand, modify, create, and use systems and organizations that deal with psychological and social needs and problems. These include, but are not limited to: welfare agencies, police departments, mental health organizations, health agencies, school systems, community and neighborhood organizations and units of industrial organizations that seek to help troubled employees. It also trains for interventions into the social and psychological problems that arise in any organization, profit or nonprofit.

The emphasis is on systems, whether they be formal organizations or informal associations of people. Recognition of ways in which environments and systems help shape behavior facilitates the fullest understanding of individuals. Acting on and through systems and environments provides the most efficient and effective way of helping them. The conceptual approach to these systems is interdisciplinary: psychological, social, political, and economic.

Human service systems need individuals who understand the forces affecting human service delivery, who can help them become more responsive to clients, who can influence the beliefs and attitudes people have about human services, and who can deliver effective human services. The faculty believes that for these kinds of roles, skills in the following areas are necessary:

- planning and problem solving;
- research and evaluation;
- education of others (such as para-professionals);
- analyzing social systems, organizations, and delivery systems;
- consultation, helping, and communication;



- intervention, change, and community organization;
- administration; and
- self-awareness.

The program provides these skills through course work; a major intensive internship; and a research thesis. The focus of much of this training is in the community. Community professionals are actively involved in the program as faculty, supervisors, committee members, and advisers.

ADMISSION REQUIREMENTS

Admission to the Community Human Service emphasis is determined by the applicant's previous academic record, letters of recommendation, and a personal interview. For some persons, the Graduate Record Exam may be required. The interview is scheduled after the completed application file is received by the coordinator. A GPA of 3.0 or better does not guarantee admission. Significant and substantial experience with a human service agency may be taken into account.

CAREER POSSIBILITIES

Community Human Services prepares students for positions in both traditional and innovative agencies. Many new programs or positions reflect a response to the need for innovation in human service delivery. The educational combination of system theory, interdisciplinary training, field experience, and intervention training offers an attractive combination for human service organizations.

A graduate might work:

- in a planning agency; seeking to evaluate, coordinate, and plan new human services;
- in an industrial organization, improving morale, person-system matches, or helping to set up programs for troubled and troublesome persons (alcoholics, etc.);
- in a mental health center; planning new programs, doing research, consulting, establishing networks between traditional mental health workers (e.g., psychiatrists) and "gatekeepers" (e.g., clergy) and training the latter groups;
- in an agency or university, investigating communities to discover stress points, such as retirement, and planning to help persons deal with these problems;
- in schools, collaborating with personnel in early identification of troubled children or in setting up classrooms which improve the learning environment;
- in neighborhoods, organizing residents and increasing their sense of control and feelings of community;
- in traditional settings, as administrators and/or consultants, with community groups and other agencies; and
- in private consulting practice.

Most students have had work experience in human service agencies as direct service providers, administrators, planners, and in other roles. They hold, or have held, positions in centers for the developmentally disabled, hospitals, mental hospitals and clinics, crisis intervention centers, police departments, residential treatment homes, planning agencies, neighborhood organizations, counseling centers, school systems, and others. Many intend to stay in their present work settings using the program to improve the quality of their work, increase their organization's effectiveness, move to new positions in their organization or attain credentials. Many attend graduate school part-time. Students similarly enter the program with a wide variety of educational backgrounds. The resulting diversity increases the program's resources and the sophistication of students and faculty. Community Human Service students play a significant role in identifying learning needs and suggesting learning experiences to meet those needs.

DEGREE REQUIREMENTS

Students choose a major professor, preferably from the Community Human Services faculty, upon admission. They then form a graduate committee comprised of three graduate faculty members, and, it is strongly recommended, a community person. The committee and student design the student's personal program of study and approve all major program decisions.

All students must complete 36 credits. Sixteen credits are earned in required courses. Additional elective credits should be so selected as to form a coherent focus in the student's area of interest. These credits may come from regular courses or creditable field experiences. For example, a student seeking to specialize in human service delivery with geriatric clients can take courses in Human Development. A student interested in personnel work or management can take courses in Managerial Systems or Environmental Administration. The student should also consider doing the internship in his or her area of interest. The graduate program is flexible in providing opportunities for these specializations. The student's graduate committee approves the student's interest focus.

Required Courses

- 009-737 Community Human Services
- 009-739 Behavioral Research Strategies
- 009-769 Seminar in Community Human Services
- 009-726 Special Topics: Skills Training for Coping in the Professional World
- 002-753 Administrative Theory and Behavior
or
- 002-754 Human Ecology and Public Policy
or
- 002-757 Management of Complex Systems

Community Human Service Electives

- 009-702 Principles and Practices of Consultation
- 009-703 Community Organization and Planning
- 009-736 The Concept of Change and Social Intervention
- 009-765 Evaluating Social Programs

INTERNSHIPS (1-6 credits)

The internship is a variable credit, supervised placement in a community setting linked to the delivery of human services. Internships are available only to students who have been admitted to degree candidacy. Internship sites have included mental health centers, Native American programs, counseling agencies, planning organizations, health agencies, police departments, and centers for the developmentally disabled. The internship reveals the full scope of the problems, opportunities and drama of a system in action. It allows the student to develop skills and test his or her abilities.

Students must spend sufficient time in their internship system to carry out an analysis of it. The internship must be of sufficient calendar duration for the student to have extensive interaction with a variety of persons in the organization and with persons from other systems who interact with the organization. This will permit the development of a network of expanding contact and the perception of the development and flow of activities. Taking these factors into consideration, therefore, the internship usually lasts between six months and one year on a part-time basis.

The internship is evaluated on the basis of a written report that demonstrates an understanding of the characteristics of the system, informed by theory, supplemented by the field supervisor's evaluation of the intern. System characteristics likely to be included in this analysis are:

- role and power structure;
- values, beliefs and norms;
- internal and external communication networks;
- factors related to efficiency and effectiveness;
- interaction of the internship system with other systems; and
- financial and administrative management.

Employed students may use their work setting for their internship site if approved by the student's graduate committee. However, regular duties do not qualify for the internship. New programs that arise from the work setting, those that connect the work setting to other settings, research projects, and new training programs are several acceptable internship possibilities. For example, a police officer might design referral procedures between the police department and counseling agencies, monitor their effectiveness, and evaluate the results.

THESIS (1-6 credits)

The thesis is the culmination of the student's research of a problem area relevant to his or her program of study. Applied research in the community is encouraged, often in conjunction with a community agency. Most theses consist of collecting new information and its subsequent analysis in the form of a research report with a prior problem statement and literature review. Theses have included topics such as a study of the effectiveness of counseling agencies, an intervention designed to increase the effectiveness of a board of directors of a human service agency, and developing a theory of crisis intervention.

FACULTY

Baba, Ronald K., Associate Professor of Urban Studies and Environmental Design; B.A. (1967), M.A. (1967) Southern Cal.; Ph.D. (1975), Texas. Social Ecology: Decision-making systems relating to the quality of the urban environment; social impact of the planning process; migration and metropolitan development in the United States. Environmental Design: Impact of the designed environment on human health and well-being; creativity systems and complex problem solving.

Baker, Bela O., Associate Professor of Social Change and Development (psychology); B.A. (1950), San Jose; Ph.D. (1961), UC-Berkeley. Personality assessment, especially biographical and case study techniques. Program evaluation methods. Innovation in higher education. Cultural and individual variations in temporal perspectives. Social psychology, social change, motivation and thinking.

Day, H. Jack, Professor of Science and Environmental Change; 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. Interaction of physical and psychosocial forces.

Haney, Wava G., Visiting Associate Professor of Urban Analysis (sociology); B.S. (1963), Ohio State; M.S. (1965), Ph.D. (1972), UW-Madison. Societal development with particular attention to urbanization, industrialization, migration, ethnic and class stratification and political change, U.S. and Third World, especially Latin America. Social consequences of change in the political economy for peasant communities, rural and urban America.

Knowles, Eric S., Professor of Urban Studies; B.A. (1964), Antioch; Ph.D. (1971), Boston. Psychology, social psychology, environmental psychology, personality psychology. Proxemics and social space; risk taking, perception of neighborhood; Survey design, research design, statistics. Community development and change, social influence.

Littig, David M., Associate Professor of Urban Studies (political science), and Co-Director of Local Government Systems Program; B.A. (1960), Indiana; M.A., Ph.D. (1974), UW-Madison.

Urban politics and public policy—neighborhood government and social welfare policy. Analysis of public policy. Impact of federalism on public policy outcomes. U.S. mass transportation policy. Comparative study of urban policy in advanced industrial nations. Current research on intellectual and ethnical development in the college years. Latin American politics.



Mendelsohn, Robert A., Associate Professor and Chairperson of Social Services (psychology) and Coordinator, Community Human Services; B.A. (1954), Cornell; M.A. (1958), Ph.D. (1963), Michigan.

Community psychology and community mental health; social psychology of human service delivery; social psychology; social planning; social problems; professional-community relations; police-social scientist interaction.

Pollis, Nicholas P., Professor of Urban Studies (psychology); B.A. (1951), Johns Hopkins; Ph.D. (1964), Oklahoma.

Small group formation and functioning, basic theory and cross-cultural applications. Social judgment and attitude change as related to specific social issues. Collective behavior as mediated by behavior settings and normative factors. Analysis of organizational structures with emphasis on organization development. Socio-cultural aspects of urban stress. The relationship of conformity and compliance to social change. Altruism and helping behavior.

Troyer, Michael D., Associate Professor of Managerial Systems; B.A. (1966), Cornell; M.A. (1971), Ph.D. (1975), Duke.

Health economics, administration and financial management of nonprofit and human service organizations, health care systems and the delivery of health services, health planning, ethics and social responsibility for business and human services.

Additional ad hoc faculty support provided by:

Kelley, Nancy E., M.S.W.; A.C.S.W., Principal, LaNance Ltd., social work.

Nerad, Daniel, M.S.W., social work, Green Bay Public Schools.

COMMUNITY HUMAN SERVICES COURSES

GRADUATE ONLY (700-LEVEL) COURSES

002-753 Administrative Theory and Behavior 3 cr.

The structure and internal system maintenance processes of formal organizations, with an emphasis on the roles of supervisors, team leaders, executives, managers, administrators, and administrative staff specialists. The major theories and schools of thought in the fields of administrative behavior, organizational theory and leadership are examined. Attention is given to major factors which influence the success of organizational activity and administrative behavior, and to effects associated with a range of organizational and administrative practices and behavior. P: gr st.

002-754 Human Ecology and Public Policy 3 cr.

Examines interactions between human beings and their environments as mediated by public policies, focusing on the impact of these processes on health, longevity, productivity, and life quality. Considers the interrelationships between socially significant macro problem sets, and focuses on application of general systems theory and of epidemiologic, policy analysis, demographic, and statistical risk assessment methods to identifying and analyzing psychosocial and pathophysiologic problems. P: gr st.

002-757 Management of Complex Organizations 3 cr.

Advanced concepts and methods of managing project teams, complex organizations, and multiorganizational systems in the public, non-profit, and private sectors. Major topics include administrative leadership, constraints on organizational managers, internal control and management processes, problems and philosophies of public and private enterprise management, and others. Course uses a central text, separate readings for students depending on their interest in the public, non-profit, or private sectors, and a variety of learning methods, including case studies. P: 002-753 or cons inst.

009-702 Principles and Practices of Consultation 3 cr.

Examines the kinds of consultation most in use with special emphasis on process consultation. Stages of carrying out a consultation, personal qualities and skills desirable in a consultant, and methods of determining consultation outcomes are discussed. The first part of the course focuses on the literature and includes role plays and guest lectures. Students then plan and carry out an actual consultation with class activity focused on facilitating these field experiences and conferring with the consultants. A final report concludes the course. P: gr st.

009-703 Community Organization and Planning 3 cr.

Reviews and examines community organization and social planning and the problems inherent in its practice. A community problem-solving model aimed at social planning and community organization is examined including: setting priorities in a community; doing research studies, the politics of planning, developing and implementing plans of action, the strategy and tactics of social action, goal analysis, decision-making analysis, feedback mechanisms and planning management. P: gr st.

009-726 Special Topics: Skills Training for Coping in the Professional World 3 cr.

This course assists the student in developing skills in communication, assertion, time management, emotional awareness, and rational management. It will also help the student be more effective in the interaction between external aspects and the self, using the self in more creative ways. In addition, the class will discuss and work with a method to analyze the students' skills and experiences with a focus on developing job descriptions that maximally use the students' special interests, talents, and strengths.

009-736 The Concept of Change and Social Intervention 3 cr.

General concepts of planned change as they apply to our various efforts as change agents. This course, which uses general systems theory as the theoretical background, concerns itself more with specific methodologies for defining problems and the various skills, techniques and processes involved in intervening. A course participant should learn skills useful in intervening in any size system whether the client is an individual, family, or societal institution. Specific attention will be paid to the role of the "change agent" and how this person functions given limited resources. P: gr st.

009-737 Community Human Services 3 cr.

The insights and methods of many fields of study are used to provide an integrated picture of the nature and functioning of human service agencies and programs. It examines them through the concerns that shaped them—e.g., mental health, social problems, community development—and through organizational, ecological and general systems theory. Specific topics include the community mental health movement, crisis theory, social movements, economic and political forces affecting human service delivery, planning, and methods of intervention to increase program effectiveness. The course is taught by members of the Community Human Services emphasis area. P: gr st.

009-739 Behavioral Research Strategies 4 cr.

Conceptual and procedural issues in research. This is a laboratory course in research methods and design. This course provides knowledge and skills to collect adequate, accurate, and useful information about behavioral science questions. Although issues of control and experimental design are a central concern, the concepts, techniques, and skills learned in this course are applied to a variety of research situations. P: introductory statistics.

009-765 Evaluating Social Programs 3 cr.

Since the early 1960's there has been a growing trend to ask programs providing social or educational services to provide evidence that they are effective. A new field—evaluation research—has emerged in response to this trend by adapting the methods of social research to the problem of assessing program quality. This course provides an introduction to evaluation research. It emphasizes 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 throughout. Course procedure is informal with much of the class time spent in developing and discussing model evaluation studies. P: introductory statistics.

009-769 Seminar in Community Human Services 3 cr.

Primarily for students enrolled in the Community Human Services program, this seminar logically precedes the internship. Students study aspects of organizational functioning intensively for the first third of the course, leading to an all day workshop on organizational structure and function. The remainder of the course is spent doing a field study of a specific human service organization, culminating in a written class organizational analysis. The analysis is guided by one or more organizational theories. Program faculty and practicing human services personnel will attend many of the class sessions. P: 009-737 and enrollment in Community Human Services or cons inst.

009-795 Special Topics

This course number is used to designate 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 special topics course as announced in the *Timetable* will appear on transcripts of the students who enroll. Credits earned in the 795 special topics courses may not be applied toward the graduate core requirement.

009-797 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 and all required course work is satisfactorily completed. Students write a contract with their major professor and complete a major report on the organization. P: Student classification of MS6, MA6, ME6 or higher.

009-798 Directed Study 1-3 cr.

Reading and research under the supervision of a member of the graduate faculty. Directed study credits may only be earned when this activity is included as part of an approved program plan. P: Student classification of MS6, MA6, ME6 or higher.

009-799 Thesis 1-6 cr.

Research and preparation of thesis document. Enrollment may be for 1-6 credits per term. Although more than six thesis credits may be earned, a maximum of six credits can be applied toward a degree. P: Student classification of MS7, MA7, or ME7.

Environmental Administration

Coordinator: Arthur A. Atkisson, Jr.
(414) 465-2557 or 2767

PURPOSE

A principal objective of the program in Environmental Administration is to prepare skilled and imaginative decision-makers to take positions in middle management and policy-making levels of government, non-profit organizations, and industry.

This area of emphasis features several courses of study which introduce students to administrative, institutional, policy and political variables which impede contemporary public problem-solving efforts, and prepare students for future career roles involving: (a) identifying and analyzing problems of major public importance, with emphasis on those involving the biophysical, built, community, occupational, and public service environments; (b) designing, evaluating, and implementing strategies and programs for solving such problems; or (c) designing, evaluating and managing project teams and organizational systems concerned with such problems, policies, programs and strategies.

These courses of study will meet the needs of potential students such as: (a) recent graduates in the arts and sciences who lack adequate preparation for entry into professional level administrative, managerial, planning, and policy analysis positions; (b) full-time professional employees of local government, non-profit, and environmental control organizations within commuting distance of the campus; (c) executive trainees in private sector organizations, especially those involved in activities subject to regulation by federal, state, and local governments.

ADMISSION REQUIREMENTS

Each student's prior academic and work experience is evaluated at the time of application or entry into the graduate program. Persons who lack knowledge and skills equivalent to those expected of one who has completed the following courses will be expected to demonstrate competency in these subjects before completing their graduate studies. Such competency may be demonstrated either through independent study and examination or by completing appropriate courses:

778-101 American Government and Politics, 3 cr.
298-202 Macro Economic Analysis, 3 cr.
298-203 Micro Economic Analysis, 3 cr.
298-306 Public Finance and Fiscal Policy, 3 cr.

600-260 Elementary Statistics, 3 cr.

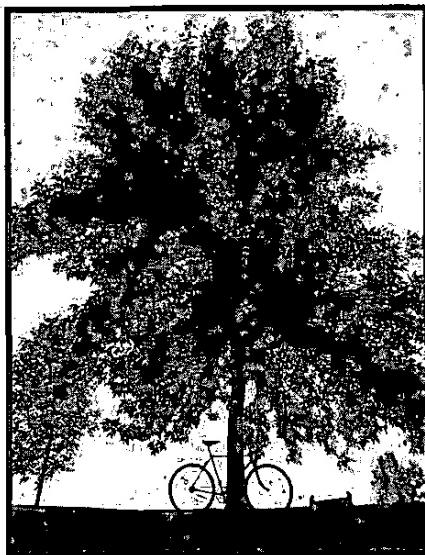
or

255-205 Social Science Statistics, 3 cr.

600-150 BASIC, 1 cr., and 600-151 Introduction to COBOL, 2 cr.

or

600-255 FORTRAN: A Scientific Programming Language



DEGREE REQUIREMENTS

In general, students who are adequately prepared when they enter the program may earn the degree by completing 36 credits of course work, independent study, and thesis work. Students who lack appropriate prerequisites or appropriate technical understanding of public problems and related service delivery systems may expect expanded requirements (37-48 credits).

The faculty in this area of emphasis offers three specializations: Administrative Sciences, Policy Analysis, and Systems Planning and Analysis. In addition to completing general program requirements, students must complete a six-course (18 credit) sequence of specialization courses.

General Requirements

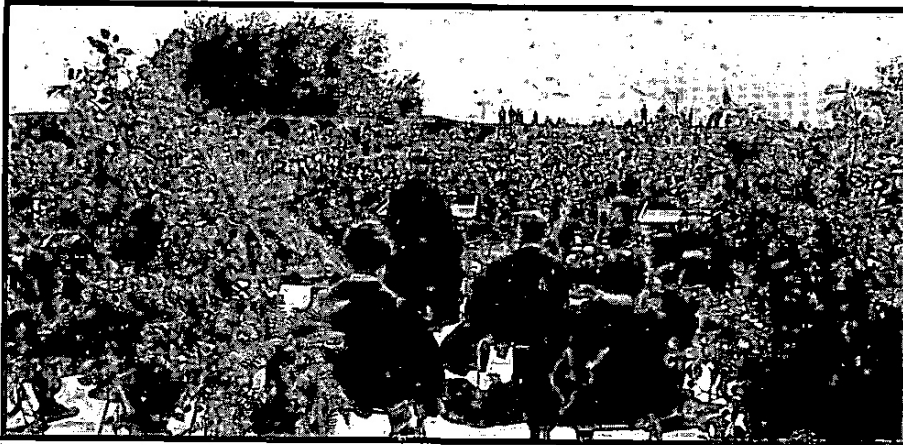
Methodology and Statistics (3-4 credits)

Each degree candidate must complete one course from the following list. Course selection should be guided by the objective of extending the methodological competencies exhibited by the student at the time he/she enters the program:

004-732 Qualitative Research Methods, 3 cr.
008-764 Mathematics of Operations Research and Management Science, 3 cr.
008-767 Statistical Design and Analysis of Experiments, 4 cr.
008-768 Multivariate Statistical Analysis, 4 cr.
008-778 Epidemiology, 3 cr.
009-739 Behavioral Research Strategies, 4 cr.
600-555 Applied Mathematical Optimization, 3 cr.

Problem-Focused Courses (3 credits)

Each student must complete at least one problem-focused course from the list below and demonstrate a professional-level understanding of the characteristics, causes, and effects of a major public problem or problem set and of the major related public policies or delivery systems. This understanding can be developed through additional course work, tutorials, independent reading and study, thesis work, or work experience. Demonstration of the required knowledge may be accomplished by completing a relevant thesis or through a satisfactory score on the comprehensive examination.



- 002-752 Environmental Policy and Administration, 3 cr.
- 002-754 Human Ecology and Public Policy, 3 cr.
- 002-758 Problems in Environmental Administration, 3 cr.
- 008-724 Hazardous and Toxic Materials, 3 cr.
- 008-742 Human Population Dynamics and Policy, 3 cr.
- 008-751 Bases of Community Health, 3 cr.
- 008-759 Coastal Zone Management, 3 cr.
- 009-737 Community Human Services, 3 cr.

SPECIALIZATIONS

Each student is expected to complete 18 credits of coursework required by one of the specializations: Administrative Sciences, Policy Analysis, or Systems Planning and Analysis. Additional credits (6-12 credits) are selected with the assistance of the graduate student's committee.

ADMINISTRATIVE SCIENCES SPECIALIZATION

Adviser: Arthur A. Atkisson

The specialization in Administrative Sciences is intended for students who wish to pursue management careers in public or private organizations. Students complete a set of courses designed to meet criteria published by the National Association of Schools of Public Affairs and Administration.

Required Specialization Courses (18 credits)

- 002-750 Executive Decision-Making, 3 cr.
- 002-753 Administrative Theory and Behavior, 3 cr.
- 002-755 Design and Analysis of Socio-Technical Systems, 3 cr.
- 002-757 Management of Complex Organizations, 3 cr.
- 350-622 Advanced Program and Policy Analysis, 3 cr.
- or
- 575-485 Managerial Economics, 3 cr.
- 002-795 Special Topics: Law and the Administrator, 3 cr.
- or
- 575-663 Labor Legislation and Administration, 3 cr.
- or
- 350-505 Regulatory Policy and Administration, 3 cr.

Electives

- 289-306 Public Finance and Fiscal Policy
- 350-435 Administrative and Policy Laboratory
- 350-610 Administration of Local Government I
- 350-611 Administration of Local Government II
- 350-615 Administrative Planning, Programming and Budgeting Systems
- 575-485 Managerial Economics
- 575-662 Seminar in Personnel Management
- 575-663 Labor Legislation and Administration

POLICY ANALYSIS SPECIALIZATION

Adviser: Michael E. Kraft

The specialization in Policy Analysis is intended for students who want to focus their graduate studies on the substantive policy issues associated with contemporary public problem-solving activities, on the characteristics of the American public policy system, and on the methods of policy analysis.

Required Specialization Courses (18 credits)

- 002-750 Executive Decision-Making, 3 cr.
- 350-622 Advanced Program and Policy Analysis, 3 cr.
- 350-660 Public Policy Analysis, 3 cr.
- 002-752 Environmental Policy and Administration, 3 cr.
- or
- 002-754 Human Ecology and Public Policy, 3 cr.
- 298-602 Resource Economics Analysis, 3 cr.
- or
- 009-765 Evaluating Social Programs, 3 cr.
- 350-505 Regulatory Policy and Administration, 3 cr.
- or
- 778-416 American Legislative Process, 3 cr.

Electives

- 004-722 General Theory of Values
- 008-759 Coastal Zone Management
- 009-736 The Concept of Change and Social Intervention
- 350-435 Administrative and Policy Laboratory
- 350-621 Planning Theory and Methods
- 862-660 Resource Management Strategy
- 944-305 Urban Politics and Policy
- 944-351 Transportation and the City
- 944-421 Urban Planning I

SYSTEMS PLANNING AND ANALYSIS SPECIALIZATION

Adviser: Daniel J. Alesch

The Systems Planning and Analysis specialization is for quantitatively oriented students who wish to prepare to engage in sophisticated, professional-level systems planning and analysis operations.

Required Specialization Courses

- 002-750 Executive Decision-Making, 3 cr.
002-755 Design and Analysis of Socio-Technical Systems, 3 cr.
008-764 Mathematics of Operations Research and Management Science, 3 cr.
008-768 Multivariate Statistical Analysis, 4 cr.

298-602 Resource Economics Analysis, 3 cr.
or
350-621 Planning Theory and Methods 3 cr

350-622 Advanced Program and Policy Analysis, 3 cr.
600-460 Business and Industrial Statistics, 3 cr.

Electives

- 002-757 Management of Complex Organizations
004-722 General Theory of Values
009-736 The Concepts of Change and Social Intervention
009-739 Behavioral Research Strategies
009-747 Trends and Issues in Regional Planning
009-765 Evaluating Social Programs
350-615 Administrative Planning, Programming, and Budgeting Systems
944-421 Urban Planning I
944-479 The Concept of Community in American Society

COMPREHENSIVE EXAMINATION

Each degree candidate will complete a comprehensive examination intended to test the candidate's knowledge and skill in his or her specialization and mastery of the core program.

The examination may be conducted orally or in writing. It may be based in part on review of the candidate's academic record and work experience and may be conducted in one session or, at the option of the candidate, over several sessions. However, it is expected that each candidate will engage in substantial independent reading and study.

THESIS PROJECT

Each degree candidate must complete a thesis integrating and focusing his or her graduate studies and demonstrating mastery of the knowledge and skills expected of those who successfully complete the program. The project must further show the candidate's professional-level knowledge of one or more public problems, the etiology of such problems, and the relationship of administrative practice to resolving such problems.

FACULTY

Alesch, Daniel J., Adjunct Associate Professor of Public and Environmental Administration (political science); B.S. (1962), M.S. (1964), UW-Madison; Ph.D. (1970), UCLA.
Urban planning and development, local government management, public planning and budgeting.

Atkisson, Arthur A., Professor of Environmental Administration (public administration); B.S. (1958), Lewis and Clark; D.P.A. (1973), Southern Cal.

Management for local government, environmental quality control, and health care enterprise; chemical pollution of the environment, mitigation of natural hazards, U.S. settlement and migration patterns, relationship between urban environmental variables and health.

Harris, Hallett J., Associate Professor of Science and Environmental Change; Coordinator of Green Bay Subprogram, Wisconsin Sea Grant Institute; B.A. (1961), Coe College; M.S. (1965), Ph.D. (1969), Iowa State.

Animal and wetland ecology; management of coastal areas, wildlife management.



Jowett, David, Professor of Science and Environmental Change; 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, Michael E., Associate Professor of Public and Environmental Administration (political science); A.B. (1966), UC-Riverside; M.A. (1967), Ph.D. (1973), Yale.

American politics and government; public policy analysis; congressional behavior and legislative processes; environmental and population policy; the social, economic and political consequences of population stabilization in the United States; political adaptation to a sustainable society; the utilization of public policy analysis and social science research by political decision makers, especially in the environmental and population policy areas; the political context of policy implementation; the impact of presidential leadership on public policy making.

Littig, David M., Associate Professor of Urban Studies (political science), and Co-Director of Local Government Systems Program; B.A. (1960), Indiana; M.A., Ph.D. (1974), UW; Madison.

Urban politics and public policy—neighborhood government and social welfare policy. Analysis of public policy. Impact of federalism on public policy outcomes. U.S. mass transportation policy. Comparative study of urban policy in advanced industrial nations. Current research on intellectual and ethnical development in the college years. Latin American politics.

Pollis, Nicholas P., Professor of Urban Studies (psychology); B.A. (1951), Johns Hopkins; Ph.D. (1964), Oklahoma.

Small group formation and functioning, basic theory and cross-cultural applications. Social judgment and attitude change as related to specific social issues. Collective behavior as mediated by behavior settings and normative factors. Analysis of organizational structures with emphasis on organization development. Socio-cultural aspects of urban stress. The relationship of conformity and compliance to social change. Altruism and helping behavior.

Troyer, Michael D., Associate Professor of Managerial Systems; B.A. (1966), Cornell; M.A. (1971); Ph.D. (1975), Duke.

Health economics, administration and financial management of nonprofit and human service organizations, health care systems and the delivery of health services, health planning, ethics and social responsibility for business and human services.

Wenger, Robert B., Associate Professor of Science and Environmental Change (mathematics); B.S. (1958), Eastern Mennonite; M.A. (1962), Pennsylvania State; Ph.D. (1969), Pittsburgh.

Systems analysis. Theory and applications of mathematical optimization. Resource recovery and solid waste management problems. Energy usage in solid waste systems. Management models for controlling ragweed pollen. Algebra, operations research.

Yarbrough C. Jarrell, Associate Professor of Urban Studies (political science); B.A. (1961), Western Washington; M.A. (1963), M.A. (1966), Ph.D. (1971), Washington.

American government and politics, political theory, public law, environmental policy and administration—particularly coastal land use policy and urban resource policy. Urban environmental management.



ENVIRONMENTAL ADMINISTRATION COURSES

GRADUATE ONLY (700-LEVEL) COURSES

002-750 Executive 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 skill in the use of the major decision assisting tools. Uses case studies and examples from the fields of environmental management, public administration, and business or industrial management. P: course in statistics, prior or concurrent registration in 002-753 or 002-754 recommended.

002-752 Environmental Policy and Administration 3 cr.

Analyzes environmental policy-making and implementation, with emphasis on advanced industrialized societies, and a special focus on the United States. Topics include the nature of environmental problems; indicators of environmental quality and change; the political and administrative context of environmental problems; policy-making and implementation at federal, state, and local levels—with comparisons to other nations and to international efforts; political, organizational, legal, and technical constraints on environmental administration; policy and program evaluation; and selected problems and issues in environmental policy and administration. The particular focus reflects students' needs and interests. P: 002-756 or cons inst.

002-753 Administrative Theory and Behavior 3 cr.

The structure and internal system maintenance processes of formal organizations, with an emphasis on the roles of supervisors, team leaders, executives, managers, administrators, and administrative staff specialists. The major theories and schools of thought in the fields of administrative behavior, organizational theory and leadership are examined. Attention is given to major factors which influence the success of organizational activity and administrative behavior, and to effects associated with a range of organizational and administrative practices and behavior. P: gr st.

002-754 Human Ecology and Public Policy 3 cr.

Examines interactions between human beings and their environments as mediated by public policies, focusing on the impact of these processes on health, longevity, productivity, and life quality. Considers the interrelationships between socially significant macro problem sets, and focuses on application of general systems theory and of epidemiologic, policy analysis, demographic, and statistical risk assessment methods to identifying and analyzing psychosocial and pathophysiologic problems. P: gr st.

002-755 Design and Analysis of Socio-Technical Systems 3 cr.

Socio-technical systems analysis is a means for examining organizations, clusters of organizations, and other complex systems where there is interdependency among persons, technologies, and natural systems for the purpose of accomplishing stated objectives. The emphasis is prescriptive. The approach is intended to result in more effective analysis, design, and intervention in such systems to achieve objectives. The approach is applicable for planners, managers, and change agents in private, non-profit, and public sectors. P: 350-421 or 005-533 or cons inst.

002-756 The Policy-Making Process 3 cr.

American governmental institutions, policy-making processes, and public policy issues. Topics covered each semester will depend upon student interests and needs, but will include: the nature, purpose, and scope of American government; approaches to the study of government, politics, and public policy; political behavior and its impact on policy making; the structure and operation of governmental institutions at national, state, and local levels; social, technical, administrative, political, legal and economic constraints on policy-making and implementation; public policy analysis; and selected issues and problems in contemporary public policy. P: gr st.

002-757 Management of Complex Organizations 3 cr.

Advanced concepts and methods of managing project teams, complex organizations, and multiorganizational systems in the public, non-profit, and private sectors. Major topics include administrative leadership, constraints on organizational managers, internal control and management processes, problems and philosophies of public and private enterprise management, and others. Course uses a central text, separate readings for students depending on their interest in the public, non-profit, or private sectors, and a variety of learning methods, including case studies. P: 002-753 or cons inst.

002-758 Problems in Environmental Administration 3 cr.

Guided student study and supervised student exercises and problem-solving conducted study around a selected set of formal problems designed to depict the typical decision problems faced by environmental administrators and further designed to require solutions typical of those expected of mature practitioners. P: cons inst.

002-795 Special Topics

This course number is used to designate 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 special topics course as announced in the *Timetable* will appear on transcripts of the students who enroll. Credits earned in the 795 special topics courses may not be applied toward the graduate core requirement.

002-797 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 student's major professor and director of graduate studies. P: student classification of MS6, MA6, ME6 or higher.

002-798 Directed Study 1-3 cr.

Reading and research under the supervision of a member of the graduate faculty. Directed study credits may only be earned when this activity is included as part of an approved program plan. P: student classification of MS6, MA6, ME6 or higher.

002-799 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 MS7, MA7, or ME7.

004-722 General Theory of Values 3 cr.

A systematic and critical study of the problems, concepts and methods of value inquiry with specific focus on value claims and value problems of the environment. Some of the topics to be considered will be the origins, traditional problems of general theory of value; methods of value inquiry; emotion, desire, and value; genuine spurious, private and intersubjective, intrinsic and extrinsic value; relation of general theory of value to other disciplines in the humanities and the sciences. P: gr st.

008-724 Hazardous and Toxic Materials 3 cr.

The handling, processing, and disposal of materials which have physical, chemical, and biological properties presenting hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. Topics include organic and inorganic materials; radioactive materials, and pathogenic human, animal, and plant wastes. Required field trip. P: undergraduate courses in chemistry, physics, bio-organic chemistry or equivalent.

004-732 Qualitative Research Methods 3 cr.

Students explore thesis topic responsibilities, engage in thesis-related pilot projects and develop appropriate research skills leading to success in the thesis project. Students develop techniques and standards in research design, analysis and synthesis and presentation. Seminar method. P: gr st.

008-742 Human Population Dynamics and Policy 3 cr.

Surveys a variety of population problems facing governments at the international, national, state, and local levels and considers public policies which have been adopted or which might be adopted to deal with those problems. The focus is on issues raised by population problems and by the attempt of governments to affect population change. These problems include global population growth and its relation to food supply, economic development, and community health; international migration and its impact on recipient countries; internal migration (especially within the U.S.) within the urban context and from region to region; the causes and consequences of changing fertility rates and population composition (age structure), especially in developed nations; the role of population planning in anticipating and providing for future needs; the effectiveness of population programs, with special attention to family planning in the U.S. and abroad. P: gr st and course in human population studies or cons inst.

008-751 Bases of Community Health 3 cr.

An overview of community health including concepts of health and disease. Indices of health status discussed, as well as patterns of morbidity and mortality. Students are introduced to the process of perception, identification and delineation of health problems, along with strategies for intervention. Such strategies include safe water supply, immunization, proper nutrition, appropriate laws and policies. Significant problem areas are analyzed, including problems of the environment, population, food, and communicable disease. Special emphasis is placed on the concept of humans and their environment and how these interrelationships affect community health. The role of public health in diagnosing and treating disease is explored. The American health care system is discussed, along with basic principles of health care organization. P: gr st.

008-759 Coastal Zone Management 3 cr.

Examination of the interdependency of humans and coastal zone environments, causative factors of problems to all coastal environments, state coastal zone management programs and the demand for resource development in various coastal regions in the U.S. The course focuses on the coastal areas of the bay of Green Bay and Lake Michigan, but also includes a broader geographic perspective. P: gr st and cons inst.

008-764 Mathematics of Operations Research and Management Science 3 cr.

Mathematical models which are frequently and extensively used in analyzing environmental, public sector, management, and business problems. These models include allocation, network, location, scheduling, and queuing models. An important part of the course is a study of applications of models through case studies or other examples. P: undergraduate courses in calculus and matrix algebra, or cons inst.

008-767 Statistical Design and Analysis of Experiments 4 cr.

Review of the common principles underlying the design of experiments and methods of analysis for such experiments. The purpose is to enable students to design and analyze their own experiments; for any degree of experimental complexity, and to understand the description and analysis of such experiments in the literature. Topics include the principles of replication, randomization, error; linear models and least squares, hierarchical models, blocking, and factorial designs. Complex designs such as Latin squares, incomplete blocks, split plots, and the concepts of expectation of mean squares are developed as justification for the statistical tests applied. Non-parametric statistical methods, particularly as applied to designed experiments; concepts of ordinal and nominal data, and chi-square contingency analysis are discussed. The principles are motivated throughout by reference to the theory and practice of scientific experimentation, and illustrated by examples. Laboratory analyses are performed on actual experimental data. P: elementary course in statistics.

008-768 Multivariate Statistical Analysis 4 cr.

Analysis of multifactorial data. Regression, multiple regression, curvilinear regression, nonlinear regression, correlation, multiple and partial correlation, path analyses, principle components, factor analysis, discriminant analysis. Emphasis on the computer analysis of actual data. P: elementary statistics and cons inst.

008-778 Epidemiology 3 cr.

Concepts and methods of epidemiology are presented in lectures and in weekly problems. The problems are involved with establishing criteria for research problem designing and investigating epidemiological problems both in the community and on a global basis. Problems include examples of both infectious and non-infectious diseases. Examples of the non-infectious diseases will be environmental in nature (for example the effect of noise, or color on work performance). A team-oriented field project is a requirement. Each student is expected to contribute to the project and to preparation of a paper. The functioning of epidemiology in community health is emphasized. P: course in statistics.

009-736 The Concept of Change and Social Intervention 3 cr.

General concepts of planned change as they apply to our various efforts as change agents. This course, which uses general systems theory as the theoretical background, concerns itself more with specific methodologies for defining problems and the various skills, techniques and processes involved in intervening. A course participant should learn skills useful in intervening in any size system whether the client is an individual, family, or societal institution. Specific attention will be paid to the role of the "change agent" and how this person functions given limited resources. P: gr st.

009-737 Community Human Services 3 cr.

The insights and methods of many fields of study are used to provide an integrated picture of the nature and functioning of human service agencies and programs. It examines them through the concerns that shaped them—e.g., mental health, social problems, community development—and through organizational, ecological and general systems theory. Specific topics include the community mental health movement, crisis theory, social movements, economic and political forces affecting human service delivery, planning, and methods of intervention to increase program effectiveness. The course is team taught by members of the Community Human Services emphasis area. P: gr st.

009-739 Behavioral Research Strategies 4 cr.

Conceptual and procedural issues in research. This is a laboratory course in research methods and design. This course provides knowledge and skills to collect adequate, accurate, and useful information about behavioral science questions. Although issues of control and experimental design are a central concern, the concepts, techniques, and skills learned in this course are applied to a variety of research situations. P: introductory statistics.

009-747 Trends and Issues in Regional Planning 3 cr.

The course has three parts: part one is a critical review of trends and salient issues in regional planning in North American situations in general and in Wisconsin in particular. Part two deals with some of the concepts and strategies which have been countered to tackle these issues. Then, based on the deliberation of concepts and strategies, each student selects a manageable research topic dealing with one of the issues in the context of a geographic region, preferably in Wisconsin. P: cons inst.

009-765 Evaluating Social Programs 3 cr.

Since the early 1960's there has been a growing trend to ask programs providing social or educational services to provide evidence that they are effective. A new field—evaluation research—has emerged in response to this trend by adapting the methods of social research to the problem of assessing program quality. This course provides an introduction to evaluation research. It emphasizes 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 throughout. Course procedure is informal with much of the class time spent in developing and discussing model evaluation studies. P: introductory statistics.

UNDERGRADUATE/GRADUATE (500-699 LEVEL) COURSES

298-602 Resource Economics Analysis 3 cr.

Application of tools and concepts in current economic decision-making with special emphasis upon common property resources management (i.e. water and air). P: jr st and 298-202 and 203.

350-505 Regulatory Policy and Administration 3 cr.

An examination of the purposes, structure, legal aspects, and operation of public regulatory agencies and programs in the United States. Topics include theories and controversies underlying regulatory policy, issues in contemporary regulatory policy and administration, and rational models and methods for risk analysis and decision-making. Case studies and exercises will cover a variety of regulatory processes, including those associated with public health, consumer protection, product safety, environmental quality, and energy development and use. P: 778-101 or 350-102 or cons inst.

350-610 Administration of Local Government I 3 cr.

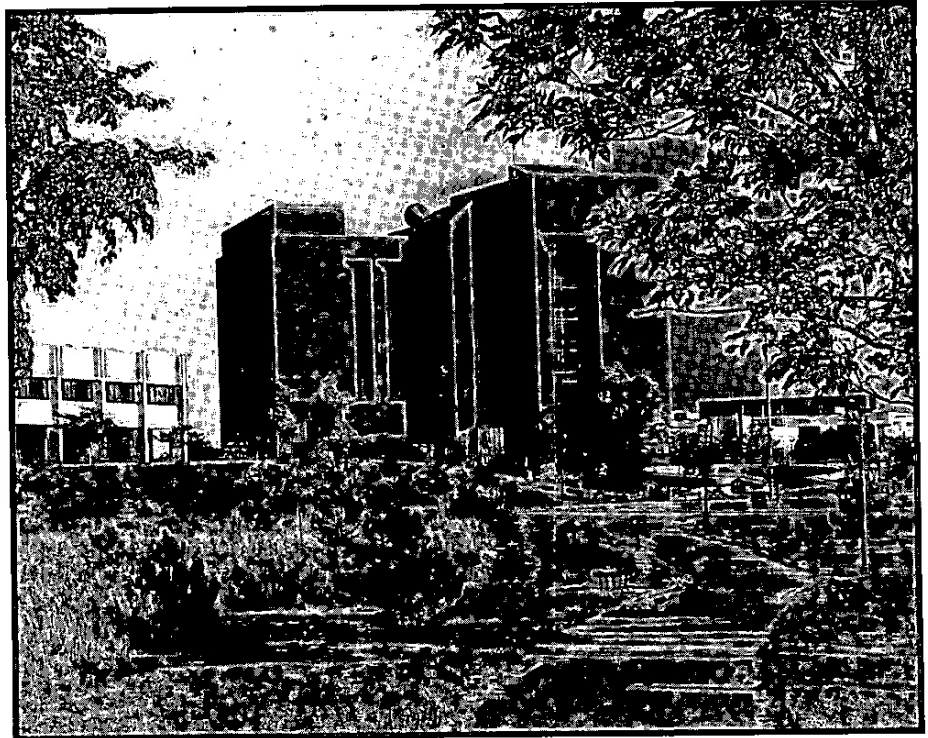
Covers the contemporary mechanisms in local government management and policy implementation focusing on the basic authority, limitations, financing, and rights of local government. Introduces the participant to the authority structures of local government and their limitations, with emphasis on comparison of national models and opportunities to analyze those models against specific local government systems and functions.

350-611 Administration of Local Government II 3 cr.

Continuation of 350-610. Focuses on problem solving at the local level and implementing national policies at the local level. Opportunities include small team research in developing model programs and workable alternatives to the critical problems of local government. P: 350-610 or cons inst.

350-615 Administrative Planning, Programming, and Budgeting Systems 3 cr.

Covers the history, philosophy, purposes, attributes, types, and operational elements of major public budgetary systems used in the United States, with emphasis on object, performance, program, and PPB systems and their applicability to various programs, organizations, and governmental jurisdictions. Examines principles and methods used in designing and managing public budgeting systems and relationship between program planning, policy planning, and budgetary operations. Develops skill in applying analytic and decision-assisting tools to public budgetary operations. P: 350-102, or another course in American government, or cons inst.



350-621 Planning Theory and Methods 3 cr.

Focuses on planning for complex socio-technical systems in the public sector, including analysis, design, evaluation, and control. Covers the theory of planning, general systems theory, the political and administrative setting of public planning operations, and methods of planning analysis, such as cost-effectiveness analysis and model building. Emphasizes practical application of theory and methods through case studies and projects, and provides both a theoretical and methodologic basis for study of specialized fields of planning, including those concerned with urban, regional, land use, environmental policy, and resource planning. P: one course in statistics or cons inst.

350-622 Advanced Program and Policy Analysis 3 cr.

Provides fundamental skills in program planning and evaluation. Theory is introduced to explain practical application. Emphasis is on building skills and understanding: how to plan for effective implementation; how to apply cost-effectiveness analysis; how to do cost-estimating; how to schedule priorities; how to design evaluation into programs from the start. Relevant for those interested in government, business, or nonprofit organizations. P: 350-621 or cons inst.

350-660 Public Policy Analysis 3 cr.

An introduction to public policy analysis and to the policy-making process in American government. Topics include approaches to the study of public policy, the nature of public problems, the policy agenda, policy formulation, assessment of policy alternatives, policy adoption, policy implementation and evaluation, and the use of policy analysis in decisionmaking. Special attention is given to political aspects of policy analysis, to models and methods for critical analysis and rational design of public policies, and to practical applications of policy studies. Develops skills in legislative research, preparation of position papers and other policy-development documents, and methods of policy analysis and evaluation. P: 778-101 or 350-102 or cons inst.

575-662 Seminar in Personnel Management 3 cr.

Provides a foundation through discussion of personnel problems and experiences which can be translated into developing corporate personnel policies. Case studies related to urban, cultural, and legal realities along with making decisions which affect the administration and development of personnel policies are included.

575-663 Labor Legislation and Administration 3 cr.
Federal and state statutory and administrative regulation of social legislation and benefit programs; other regulations, including workmen's compensation, unemployment compensation, social security, and labor laws with respect to women and children. P: jr st or cons inst.

600-555 Applied Mathematical Optimization 3 cr.
Analytical and numerical optimization techniques: linear, non-linear, integer, and dynamic programming. Techniques applied to problems of water, forest, air, and solid waste management. P: 600-202 and 320, or concurrent enrollment in 320.

862-660 Resource Management Strategy 3 cr.
Applications of principles of system analysis to designing resource management systems and to developing strategies for maintaining optimum environmental utilities. Decision models and the role of economic systems in resource management. P: sr st and some background in economics or conservation.

UNDERGRADUATE (300 and 400-LEVEL) COURSES

Graduate credit for the 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 director of graduate studies. An assigned study card is required for registration in one of these courses.

298-306 Public Policy and Fiscal Policy 3 cr.
Effects of government spending and taxation on resource allocation, incomes, prices, and employment. Includes a consideration of the uses and effects of fiscal policy. P: jr st and 298-202 and 203, or cons inst.

350-435 Administrative and Policy Laboratory 3 cr.
Multi-disciplinary team investigation of selected problems, policies, operations, programs, program outcomes, organizations, and organizational subsystems in the public sector. Students participate in design and implementation of project plan and function in appropriate project-related roles.

575-485 Managerial Economics 3 cr.
Application of the basic theoretical tools of economic analysis (micro and macro) to the problems of business management, including topics on demand, production, costs, pricing, forecasting, etc. Current economic issues of interest to the manager, such as environmental policies and regulations are discussed. P: 298-202, 203 and sr st.

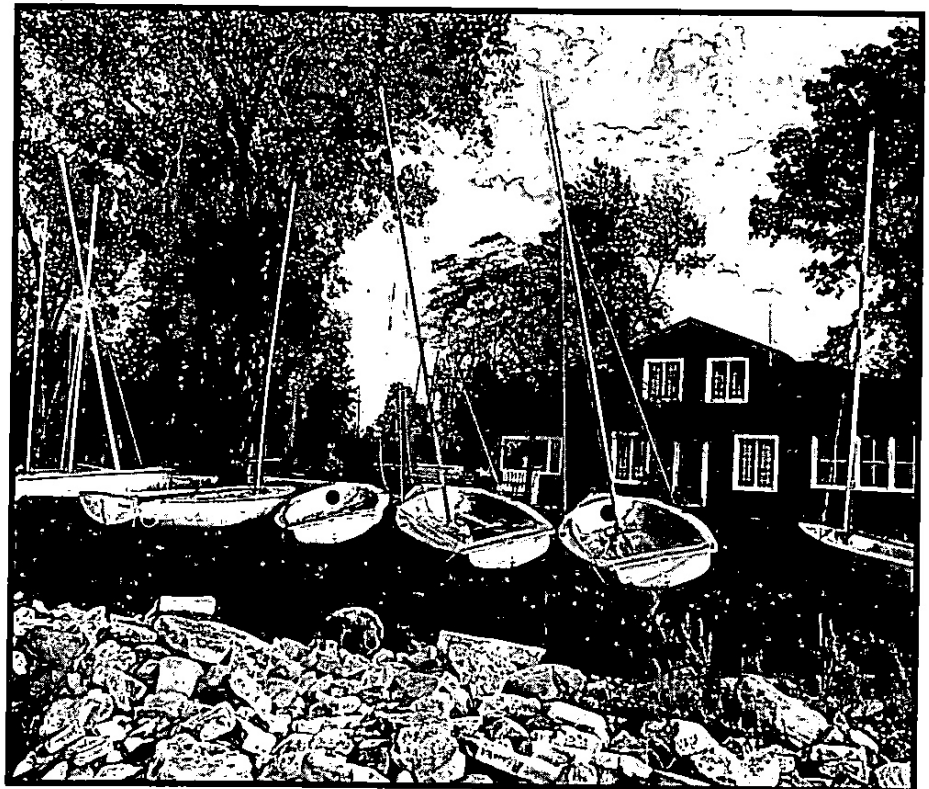
778-416 American Legislative Process 3 cr.
An examination of legislative institutions and policymaking, with special emphasis on the United States Congress. Topics include: the role of legislatures in American politics; the electoral process; the nature of representation and the impact of the public on policy decisions; the political behavior of legislators; the impact of formal and informal institutions and practices on public policymaking; political parties, leaderships, staffs, committees, rules and norms, interest groups and lobbying; the role of the mass media; the role of legislatures in policy innovation and social change. P: 778-100 or 778-101 or cons inst.

944-305 Urban Politics and Policy 3 cr.
Concerned with urban social theory and its relation to urban political processes and public policy. Of central concern is the question: To what extent are basic human needs, as identified by urban theorists, frustrated and/or fulfilled by urban political processes and public policy. Policy arenas examined include: urban renewal, welfare policy, urban transportation, fiscal policy.

944-351 Transportation and the City 3 cr.
The impact of the transportation subsystem of the city upon urban subsystems (residential, commercial) and upon urban dwellers.

944-421 Urban Planning I 3 cr.
Planning as a generic process—an examination of planning activities in the various delivery systems of the city, introduction to the basic methods and techniques of urban land use planning, contemporary issues in planning, implementation of plans, an overview of major federal programs for the delivery and improvement of the urban environment.

944-479 The Concept of Community in American Society 3 cr.
Analyzes changing concepts of community and consequent difficulties involved in American urbanization and industrialization. The term "community" is a complex concept encompassing a variety of both social structures and cultural paradigms. The course examines American tensions between community and individualism emerging from the interplay of agrarianism, urbanization, industrialization, nationalism, and the impact of mass culture on American life. Issues focused upon include the self and social interaction, naturalness and artificiality, freedom and order, and spontaneity and organization. Also, changing occupational patterns, family structures, ascribed sex roles and styles of pseudo-communities will be examined. In so doing, the course explores folklore and myth, law and art, social science and literature, and philosophy and political theory.



Environmental Science

Coordinator: Nancy J. Sell
(414) 465-2261

PURPOSE

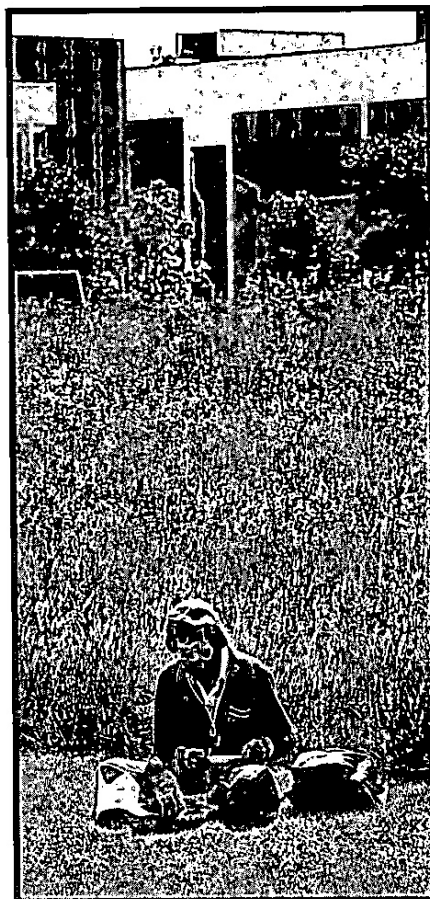
The Environmental Science program is appropriate for students with a strong background in the natural sciences who are interested in studying the dynamics of the natural environment, issues related to environmental quality, and the interactions of humans with their environments from a technical perspective. The specializations included in this area of emphasis are directed toward developing skills appropriate for designing and interpreting data derived from these studies, and communicating the results of environmental studies to other scientists, decision-makers, and the public.

ADMISSION REQUIREMENTS

At the time of application and entry into the graduate program, each student's prior academic work is evaluated. Applicants are expected to have a strong background in the natural sciences which includes college courses in biology, chemistry, physics, earth science and mathematics. A knowledge of statistics and computer science must be demonstrated. Additional requirements may be specified by a particular specialization. Provisions are made for students who need to strengthen their background in some areas. Credits earned in undergraduate courses numbered at the 100- and 200-level cannot be applied toward the graduate degree.

DEGREE REQUIREMENTS

Students who are adequately prepared at the time they enter the program may earn the Master of Science (M.S.) in Environmental Studies degree by completing 30-36 credits of graduate coursework and thesis. The credit requirements are determined by the student's chosen specialization. At least 12 credits of 700-level courses must be included in each student's program plan.



An individual program plan is developed for each student. Each program plan must include the following three courses:

- 008-701 Perspectives in Environmental Science, 3 cr.
- 008-730 Technology Assessment, 2 cr.
- 008-762 Natural Sciences Seminar, 1 cr.

The remainder of the course credits are earned by completing the requirements and elective courses specified by one of the specializations described below.

ECOSYSTEMS STUDIES SPECIALIZATION

Adviser: James H. Wiersma
465-2281

The focus of the Ecosystems Studies specialization is the study of the dynamics, processes, and productivity of both natural and agricultural ecosystems. Special emphasis is given to aquatic systems and water quality, thereby taking advantage of the University's location on the bay of Green Bay, near the mouth of the Fox River.

Specific Specialization Requirements

A student pursuing this specialization must complete a minimum of 30 credits of graduate work. In addition to the general requirements for the Environmental Sciences area of emphasis, all students are expected to include courses 862-322 Ecosystems Analysis I and 862-323 Ecosystems Analysis II in their program of study unless they have completed equivalent ecology courses as part of their undergraduate work. All students must complete either 008-767 Statistical Design and Analysis of Experiments or 008-768 Multivariate Analysis. At least three courses must be selected from one of the course groups, Aquatic Systems or Terrestrial Systems. Additional courses may be selected from the other course group or the suggested list of electives.

Aquatic Systems (9 credits)

- 008-749 Wetland Ecology and Management
- 008-759 Coastal Zone Management
- 008-777 Hydrobiology
- 204-541 Ichthyology
- 862-603 Limnology
- 862-605 Winter Conditions in Lakes
- 862-630 Quantitative Hydrology
- 862-634 Water Chemistry

Terrestrial Systems (9 credits)

- 008-773 Soil-Plant Relationships
- 008-774 Procedures in Habitat Evaluation
- 008-775 Ecology of Food Production
- 008-776 Bioclimatology
- 204-310 Plant Taxonomy
- 204-311 Plant Physiology
- 779-601 Agricultural Genetics and Food Production

- 862-307 Ecology of Fire
- 862-563 Plant and Forest Pathology
- 862-622 Environmental Biogeochemistry
- 862-666 Vegetation Management

Electives

- 009-741 Land Use Institutions & Policy
- 204-602 Advanced Microbiology
- 226-613 Instrumental Analysis
- 779-602 Population Biology
- 779-612 Principles of Parasitology
- 862-578 Chemical Ecology
- 862-580 Radiobiology
- 862-612 Bio-Energetics
- 862-620 Soil Classification and Geography
- 862-650 Air Pollution Chemistry and Meteorology

RESOURCE PLANNING AND MANAGEMENT SPECIALIZATION

Adviser: Hallett J. Harris
465-2796

A specialization in Resource Planning and Management is appropriate for students who wish to study the utilization and conservation of natural resources, including energy, mineral resources, and bioresources. Particular emphasis is given to the study of alternative strategies for effective management.

Specific Specialization Requirements

A student pursuing this specialization must complete a minimum of 36 credits of graduate work including the thesis project. Courses must be selected as indicated from the course groups below:

Methodology Courses (5-7 credits)

- 008-764 Mathematics of Operations Research and Management Science
- 008-768 Multivariate Statistical Analysis
- 008-774 Procedures in Habitat Evaluation
- 416-553 Air Photo Interpretation
- 600-551 Data Structures and Retrieval
- 600-555 Introduction to Quantitative Methods of Spatial Analysis
- 834-556 Environmental Impact Analysis
- 862-454 Remote Sensing of the Environment by Satellite
- 862-555 Applied Mathematical Optimization

Resource Utilization and Management (9 credits)

- 008-738 Global Ecology: International Conservation of Natural Resources
- 008-749 Wetland Ecology and Management
- 008-759 Coastal Zone Management
- 008-766 Waste Management/Resource Recovery Seminar
- 298-602 Resource Economics Analysis
- 862-542 Environmental Geology
- 862-545 Geology of Energy Resources
- 862-614 Conventional Energy Sources
- 862-615 Solar and Alternative Sources of Energy
- 862-660 Resource Management Strategy

Environmental Policy and Planning (3 credits)

- 002-752 Environmental Policy and Administration
- 002-754 Human Ecology and Public Policy
- 002-756 The Policy-Making Process
- 009-741 Land Use Institutions and Policies
- 779-656 Demographic Methods
- 834-620 Regional Planning
- 834-621 Techniques and Methods of Planning Analysis

Additional courses may be selected from any of the groups above or from the course list for the Environmental Science emphasis.

ENVIRONMENTAL STRESSORS SPECIALIZATION

Adviser: Dennis M. Girard
465-2285

An environmental stressor is an agent or mechanism which has a deleterious effect on a living organism. The stressor may affect the behavioral, developmental, or physiological responses of an exposed organism, and it may be of a chemical, physical, or social nature. Some examples are food additives, PCB's and other organic compounds, heavy metals, radiation, noise, and crowding.

The aims of this specialization are to provide advanced instruction in the sciences necessary for an understanding of the nature and impact of environmental stressors; to provide training for

individuals in the techniques required to identify environmental stressors and measure their levels; to provide the training necessary for the evaluation and understanding of the responses of an organism to environmental stressors.

Students completing the program will be prepared to take positions in government or industry related to occupational or public health (typically in the area of environmental monitoring or applied toxicology) or to pursue additional graduate work. Recent government regulatory activity has led to projections of substantial growth in professional opportunities available to graduates in this area.

Specific Course Requirements

Ideally, students who wish to pursue this specialization will have completed courses in analytical chemistry, organic chemistry, basic zoology, physiology, and general psychology in addition to the general requirement. Students who lack this preparation should include appropriate courses in their program of study to remedy deficiencies. A total of 36 credits is required for this specialization.

Required Courses (14 credits)

- 008-724 Hazardous and Toxic Materials
- 008-767 Statistical Design and Analysis of Experiments
- 008-768 Multivariate Statistical Analysis
- 008-771 Behavioral Toxicology

The remaining credits are selected from the following course groups. The student's program plan must include at least 9 credits from one of the groups.

Group A: Emphasis on Monitoring

- 008-763 Monitoring of Environmental Stressors
- 008-778 Epidemiology
- 204-602 Advanced Microbiology
- 226-617 Nuclear Physics and Radiochemistry
- 226-618 Nuclear Physics and Radiochemistry Laboratory
- 779-612 Parasitology
- 862-580 Radiobiology
- 862-634 Water Chemistry
- 862-650 Air Pollution Chemistry and Meteorology

Group B: Emphasis on Evaluation

- 008-704 Discrete Multivariate Analysis
- 008-778 Epidemiology
- 008-779 Evaluation of Environmental Stressors
- 009-739 Behavioral Research Strategies
- 204-547 Developmental Biology
- 478-602 Human Physiology
- 779-612 Parasitology
- 478-613 Neurophysiology
- 478-625 Physiological Responses to Toxic Chemicals
- 478-648 Human Histology

Some potential areas for thesis work include measuring the impact of deleterious organic compounds on the reproductive or behavioral processes of animals, design of experimental procedures to measure the impact of low-level doses of contaminants, and some aspects of the consequences of exposure to noise or crowding.

COMMUNITY HEALTH SPECIALIZATION

Adviser: Elaine N. McIntosh
465-2368

This specialization offers training for persons entering the public health field. Such training includes advanced skills in the analyzing and interpreting of data, knowledge of epidemiological principles, skills required for identifying target populations, and an understanding of broad community health concepts. Students may profitably develop a program plan using science-oriented health courses with courses sponsored by Community Human Services and Environmental Administration or may wish to emphasize community nutrition, nutrition education, or health education.

Specific Specialization Requirements

Students pursuing this specialization must complete 30-36 credits of graduate coursework including the required courses listed below, with the remainder of the courses selected from the list of electives.

Required Courses (6 credits)

- 008-742 Bases of Community Health
- 008-778 Epidemiology

Quantitative Methods (3-4 credits required)

- 008-704 Discrete Multivariate Analysis
- 008-767 Statistical Design and Analysis of Experiments
- 008-768 Multivariate Statistical Analysis
- 600-564 Biometrics

Management (3 credits)

- 002-753 Administrative Theory and Behavior
- 575-562 Principles of Personnel Management
- 575-582 Principles of Management
- 575-585 Management of the Non-Profit Organization

Electives

- 002-758 Problems in Environmental Administration
- 008-733 Recent Advances in Nutrition
- 008-765 Evaluating Social Programs
- 008-711 Behavioral Toxicology
- 008-779 Evaluation of Environmental Stressors
- 009-703 Community Organization and Planning
- 204-602 Advanced Microbiology
- 694-604 Food Science
- 694-621 Community Nutrition I
- 694-622 Community Nutrition II
- 694-685 Advanced Human Nutrition
- 694-688 Nutrition in Disease

WASTE MANAGEMENT/RESOURCE RECOVERY SPECIALIZATION

Adviser: Leander J. Schwartz
465-2262

The Waste Management/Resource Recovery specialization addresses the recognized need for trained individuals who have acquired the scientific and technical knowledge to plan and evaluate waste treatment systems and who have developed the management and administrative skills necessary to work in or with public agencies. Students study the handling, processing, treatment, and disposal of municipal, industrial, and agricultural wastes.

Specific Specialization Requirements

Students must complete 30 credits of coursework including the thesis project. Students must complete a minimum of (9) credits of waste management courses.

Required Course

- 008-766 Waste Management/Resource Recovery Seminar

Waste Processing and Disposal (minimum of 6 credits)

- 008-724 Hazardous and Toxic Materials
- 862-518 Industrial Pollution Control Techniques
- 862-519 Industrial Pollution Control Field Trips
- 862-334 Solid Waste Management
- 862-535 Water and Waste Water Treatment

The remaining credits may be selected from the suggested list of electives, the choice to be determined by the students' interests (examples: management, land disposal, mathematical modeling).

Quantitative Methods

- 008-764 Mathematics of Operations Research and Management Science
- 008-767 Statistical Design and Analysis of Experiments
- 008-768 Multivariate Statistical Analysis

Suggested Technical Electives

- 204-502 Microbiology
- 204-602 Advanced Microbiology
- 226-617 Nuclear Physics and Radiochemistry
- 226-618 Nuclear Physics and Radiochemistry Laboratory
- 296-620 Soil Classification and Geography
- 862-520 Soil Environment
- 862-521 Soil Environment Laboratory
- 862-542 Environmental Geology
- 862-614 Conventional Energy Technology
- 862-615 Solar and Alternate Energy Systems
- 862-622 Environmental Biogeochemistry
- 862-634 Water Chemistry
- 862-630 Quantitative Hydrology
- 862-650 Air Pollution Chemistry and Meteorology

Management Electives

- 002-750 Executive Decision-Making
- 002-752 Environmental Policy and Administration
- 002-753 Administrative Theory and Behavior
- 002-757 Administration of Public Systems
- 002-758 Problems in Environmental Administration
- 350-615 Administrative Planning, Programming, and Budgetary Systems
- 350-660 Public Policy Analysis

Economics Electives

298-602 Resource Economics Analysis
862-660 Resource Management Strategy

FACULTY

Day, Harold Jack, Professor of Science and Environmental Change; 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.

Dutch, Steven I., Assistant Professor of Science and Environmental Change (earth science-geology); B.A. (1969), UC-Berkeley; M. Phil. (1974), Ph.D. (1976), Columbia.

Structural geology, tectonics; mineralogy; petrology. Pre-Cambrian geology.

Fischbach, Fritz A., Associate Professor of Science and Environmental Change (environmental health); B.S. (1959), Ph.D. (1966), UW-Madison.

Community ragweed pollenosis, air quality, small biological particulate structure and function, public health education. Environmental health, aeroallergens, biophysics.

Girard, Dennis M., Associate Professor of Science and Environmental Change (mathematics and statistics); B.S. (1961), M.A. (1962), Detroit; Ph.D. (1968), Ohio State.

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.

Goldsby, Alice T., Associate Professor of Science and Environmental Change (microbiology); B.A. (1942), M.S. (1953), Utah State; Ph.D. (1963), UW-Madison.

Parasitic populations of domestic and wild animals. Water microbiology. The interaction of microbes with the environment.

Guilford, Harry G., Professor of Human Biology (human adaptability), (zoology); Ph.B. (1944), Ph.M. (1946), Ph.D. (1949), UW-Madison.

Parasite diseases of fishes, particularly disease caused by myxosporidia. Life cycles of trematode parasites. Vertebrate anatomy, parasitology, entomology, anatomy. Changes in biota of Wisconsin 1634-1910.

Harris, Hallett J., Associate Professor of Science and Environmental Change; Coordinator of Sea Grant Green Bay Subprogram, Wisconsin Sea Grant Institute; B.A. (1961), Coe College; M.S. (1965), Ph.D. (1966), Iowa State.

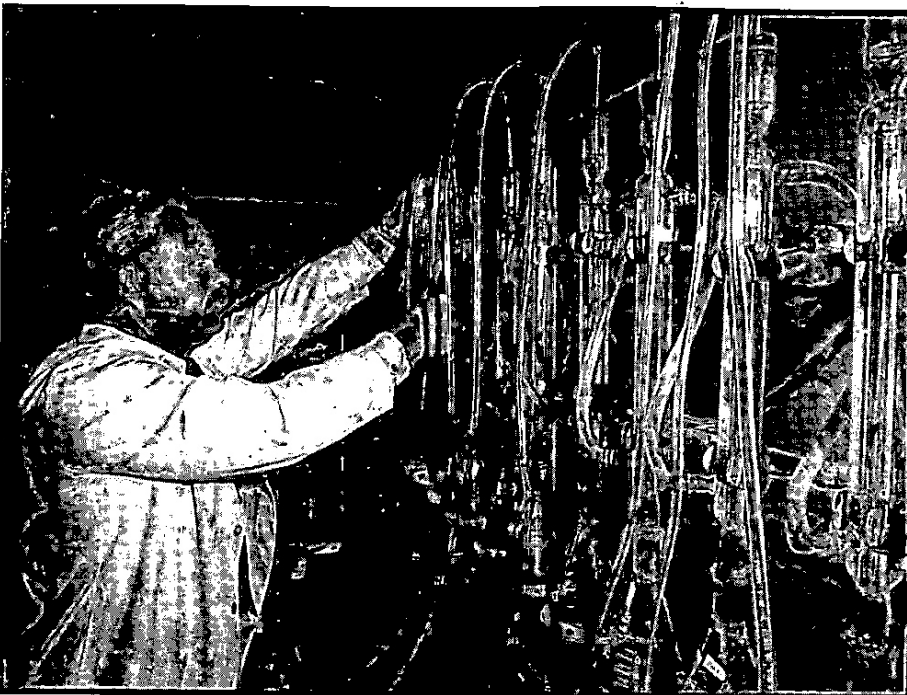
Animal and wetland ecology; management of coastal areas, wildlife management.

Ihrke, Charles A., Associate Professor of Human Biology (population dynamics-biology); B.S. (1960), UW-Oshkosh; M.S. (1966), Nebraska-Omaha; Ph.D. (1969), Oregon State.

Genetics and cytogenetics. Chromosomal recombinations and analysis of factors influencing recombination frequency. Plant breeding and population genetics aspects of food production. Inheritance of disease syndromes in human health. Agricultural genetics, cellular biology.

Jowett, David, Professor of Science and Environmental Change; 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.



Kaufman, William C., Professor of Human Biology (biology); B.A. (1948), Minnesota; M.S. (1952), Illinois; Ph.D. (1961), Washington. Human and environmental physiology. Temperature regulation and the peripheral circulation as a thermoregulatory function. Evaluation and design of cold-weather clothing. Evolution and the origin of life, interrelationships of science and society.

Laatsch, William G., Associate Professor of Regional Analysis (geography); B.S. (1960), Carroll; M.S. (1966) Oklahoma; Ph.D. (1972), Alberta.

Morphology of landscape. The form and process of settlement. Settlement types in Northeastern Wisconsin. Ethnic settlements of North America. Development and community planning in thinly populated regions. Rural land use problem. Cultural geography.

Lanz, Robert W., Associate Professor of Science and Environmental Change (engineering); B.S. (1963), M.S. (1965), Ph.D. (1969), UW-Madison.

Engineering analysis of conventional energy systems used to support urban areas. Energy conservation practices and equipment modification in HVAC (heating, ventilating and air conditioning) and other existing energy intensive systems. Scientific analysis of alternative energy conservation systems such as solar, heat pumps and wind. Alternate fuels for electric power generation such as solid waste or sewage sludge. Theory and fatigue behavior of conventional structural materials. Mechanical engineering.

Mannino, Joseph A., Assistant Professor of Human Biology (anthropology); B.S. (1969), Western Michigan; M.A. (1974), Ph.D. (1978), Wayne State.

Human variability, particularly population pharmacogenetics; effects on human populations to man-made mutagens; physiologic adaptations of human populations to environmental stressors; evolutionary biology of primates.

Matter, Charles F., Associate Professor of Urban Studies (psychology); A.B. (1969), Lycoming, Ph.D. (1972), Washington.

Community noise and the effects of noise on people. Neurobehavioral consequences of environmental contaminants. Animal behavior. Evolution and behavior. Perceptual processing.

McIntosh, Elaine N., Associate Professor of Human Biology (nutritional sciences); B.A. (1945), Augustana; M.A. (1949), South Dakota; Ph.D. (1954), Iowa State.

Community nutrition. Changing nutritional needs of the life phases. Special nutritional needs of "target" population groups. Problems of food safety, potential toxicity of substances in food. Dietetics, nutrition education.

McIntosh, Thomas H., Professor of Science and Environmental Change (earth sciences) and Senior Adviser to the Chancellor; B.S. (1956), M.S. (1958), Ph.D. (1962), Iowa State.

Soils, agronomic systems, biogeochemical cycles, especially nitrogen, remote sensing.

Mehra, Anjani K., Associate Professor of Science and Environmental Change (chemistry-physics); B.S. (1962), M.S. (1964), Allahabad, India; Ph.D. (1967), I.I.T., Kapur, India.

Solar energy as an alternative source of energy. Astronomy and cosmology. Spectroscopic studies of crystals. Solid state physics.

Moran, Joseph M., Professor of Science and Environmental Change (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., Associate Professor of Science and Environmental Change (biology); B.S. (1963), Butler; M.S., Ph.D. (1968), Illinois. Relations between climatic change and plant production and distribution. Ecological relationships during late Pleistocene. Plant phenology.

Murray, James M., Professor of Regional Analysis (economics); B.S. (1956), M.A. (1958), North Dakota; Ph.D. (1962), Oregon.

Regional economics including industrial and commercial location criteria. Economic development in both developed and less developed regions. Labor and manpower economics. Public finance, especially at local and state levels. Quantitative methods, new planned communities.

Nair, V.M.G., Professor of Science and Environmental Change (forest and plant pathology, mycology) and Director of International Programs; 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. Host parasite interactions of vascular wilt pathogens. Electron and three-dimension electron microscopy.

Norman, Jack C., Associate Professor of Science and Environmental Change (chemistry-physics); 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. Solar and other alternative sources of energy. Appropriate technology applications and education.

Presnell, Richard W., Associate Professor of Education; B.A. (1958), M.A. (1961), Iowa; Ph.D. (1971), Cornell.

Teaching-learning communication, processes and students' environments in elementary and secondary schools. Problem-solving education. Ecological education and outdoor environmental education processes.

Randall, Sterling P., Assistant Professor of Science and Environmental Change (chemistry-physics); B.S. (1948), St. Norbert; M.S. (1950), Ph.D. (1968), UW-Madison.

Energy conversion and storage, especially solar energy. Classical and statistical thermodynamics. Infra-red spectroscopy and molecular structure. High temperature chemistry. Physical and inorganic chemistry.

Reed, John F., Professor of Environmental Sciences (botany); A.B. (1933), Dartmouth; M.A. (1935), Ph.D. (1936), Duke.

Design and operation of institutions for international environmental planning and research. Plant ecology. Rocky Mountain botany. Botany-plant anatomy.

Rhyner, Charles R., Associate Professor of Science and Environmental Change (physics), and Director of Graduate Studies; B.S. (1962), M.S. (1964), Ph.D. (1967), UW-Madison.

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

Sager, Dorothea B., Associate Professor of 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. Biological factors in family planning. Reproductive physiology, zoology, embryology.

Sager, Paul E., Professor of Science and Environmental Change and Assistant Vice Chancellor; 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.

Schwartz, Leander J., Associate Professor of Science and Environmental Change (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.

Sell, Nancy J., Associate Professor of Science and Environmental Change (chemistry-physics); B.A. (1967), Lawrence; M.S. (1968), Ph.D. (1972), Northwestern.

Industrial resource recovery, pollution control. Industrial energy conservation by raw material and waste recycling and reclamation.

Starkey, Ronald H., Associate Professor of Science and Environmental Change (chemistry); B.A. (1963), Augsburg; M.S. (1965), Ph.D. (1968), Michigan State.

Organic chemistry, natural products; synthesis, spectrometric identification; chromatographic separations; chemical ecology; air pollution chemistry, airborne carcinogens.

Stieglitz, Ronald D., Associate Professor of Science and Environmental Change (earth science-geology); B.S. (1963), UW-Milwaukee; M.S. (1967), Ph.D. (1970), Illinois.

Environmental geology, land capability studies, mineral resources, stratigraphic analysis, depositional systems, land use sedimentary geology, applications of geology to land use problems.

Stiehl, Richard B., Assistant Professor of Science and Environmental Change (biology) and Curator, Richter Natural History collection; B.S. (1969), M.S. (1971), Southern Oregon College; Ph.D. (1978), Portland State.

Vertebrate biology, ecology, mammalian taxonomy, avian biology, terrestrial ecology, radio telemetry.

Van Koevering, Thomas E., Associate Professor of Science and Environmental Change (science education); B.S. (1962), Western Michigan; M.A. (1965), Michigan; Ph.D. (1969), Western Michigan.

Science and environmental education, particularly at the elementary and secondary school level. Preservice and inservice teacher training in environmental education. Curriculum evaluation. Innovation in teaching high school physics and chemistry. Local and regional health care planning. Chemical education.

Wenger, Robert B., Associate Professor of Science and Environmental Change (mathematics); B.S. (1958), Eastern Mennonite; M.A. (1962), Pennsylvania State; Ph.D. (1969), Pittsburgh.

Systems analysis. Theory and applications of mathematical optimization. Resource recovery and solid waste management problems. Energy usage in solid waste systems. Management models for controlling ragweed pollen. Algebra, operations research.

White, Keith L., Professor of Science and Environmental Change (biology); B.S. (1950), UW-Madison; M.S. (1958), Montana-Missoula; Ph.D. (1962), UW-Madison.

Structure and function of forest and wetland plant communities. Preservation of natural areas. Effects of fire, grazing and logging on ecosystems. Plant ecology and resource management.

Wiersma, James H., Associate Professor of Science and Environmental Change (chemistry); B.S. (1961), UW-Oshkosh; M.S. (1965), Ph.D. (1967), Missouri-Kansas City.

Assessment of effects of water pollutants and water pollution abatement procedures on aquatic ecosystems. Development of new analytical chemical methods with emphasis on techniques applied to environmental problems. General interest areas—water chemistry and hazardous and toxic materials.

ENVIRONMENTAL SCIENCE COURSES

GRADUATE ONLY (700-LEVEL) COURSES

002-750 Executive 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 skill in the use of the major decision assisting tools. Uses case studies and examples from the fields of environmental management, public administration, and business or industrial management. P: course in statistics, prior or concurrent registration in 002-753 or 002-754 recommended.

002-752 Environmental Policy and Administration 3 cr.

Analyzes environmental policy-making and implementation, with emphasis on advanced industrialized societies, and a special focus on the United States. Topics include the nature of environmental problems; indicators of environmental quality and change; the political and administrative context of environmental problems; policy-making and implementation at federal, state, and local levels—with comparisons to other nations and to international efforts; political, organizational, legal, and technical constraints on environmental administration; policy and program evaluation; and selected problems and issues in environmental policy and administration. The particular focus reflects students' needs and interests. P: 002-758 or cons inst.

002-753 Administrative Theory and Behavior 3 cr.

The structure and internal system maintenance processes of formal organizations, with an emphasis on the roles of supervisors, team leaders, executives, managers, administrators, and administrative staff specialists. The major theories and schools of thought in the fields of administrative behavior, organizational theory and leadership are examined. Attention is given to major factors which influence the success of organizational activity and administrative behavior, and to effects associated with a range of organizational and administrative practices and behavior. P: gr st.

002-754 Human Ecology and Public Policy 3 cr.

Examines interactions between human beings and their environments as mediated by public policies, focusing on the impact of these processes on health, longevity, productivity, and life quality. Considers the interrelationships between socially significant macro problem sets, and focuses on application of general systems theory and of epidemiologic, policy analysis, demographic, and statistical risk assessment methods to identifying and analyzing psychosocial and pathophysiologic problems. P: gr st.



002-756 The Policy-Making Process 3 cr.

American governmental institutions, policy-making processes, and public policy issues. Topics covered each semester will depend upon student interests and needs, but will include: the nature, purpose, and scope of American government; approaches to the study of government, politics; and public policy; political behavior and its impact on policy making; the structure and operation of governmental institutions at national, state, and local levels; social, technical, administrative, political, legal and economic constraints on policy-making and implementation; public policy analysis; and selected issues and problems in contemporary public policy. P: gr st.

002-758 Problems in Environmental Administration 3 cr.

Guided student study and supervised student exercises and problem-solving conducted study around a selected set of formal problems designed to depict the typical decision problems faced by environmental administrators and further designed to require solutions typical of those expected of mature practitioners. P: cons inst.

008-701 Perspectives In Environmental Science 3 cr.

Applications of the scientific method to contemporary problems. Emphasis is on experimental design and data acquisition and interpretation. Major problem areas in the environmental sciences are reviewed through lectures and student research papers. Major areas of concern are aquatic studies, waste management/resource recovery, plant and agricultural ecology, environmental health, and rehabilitation of ecosystems. Students are expected to identify a specific problem, research the literature, formulate a hypothesis, and propose an experimental approach to investigate the problem. This process culminates in formation of a research protocol or "grant proposal."

008-704 Discrete Multivariate Statistical Analysis 2 cr.

The statistical analysis of categorical data by long-linear models. Categorical data arises in circumstances when members of a population are characterized as either possessing or not possessing a particular property. For example, members of a human population may be characterized by sex, socio-economic status, medical status, presence of disease, opinion on current political events, behavior in specified circumstances, etc. Customarily this leads to two-way cross classifications where the cell entries are counts of subjects; and analysis is by chi-squared. Should 3, 4 or more criteria of classification be used, analysis becomes vastly more complex. This course discusses techniques for analyzing and interpreting such complex situations.

008-724 Hazardous and Toxic Materials 3 cr.

The handling, processing, and disposal of materials which have physical, chemical, and biological properties presenting hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. Topics include organic and inorganic materials, radioactive materials, and pathogenic human, animal, and plant wastes. Required field trip. P: undergraduate courses in chemistry, physics, biorganic chemistry or equivalent.

008-730 Technology Assessment 2 cr.

The purpose of technology assessment is to predict a broad range of impacts on the environment and society due to application of technological advances. Of particular interest are impacts which are indirect and may be unexpected. In addition to science-based impacts, the economic, legal, and social implications of technology are of concern. This course focuses on various methods used for technology assessment. Simulations are done using these strategies on a variety of problems or technologies. One technology, with wide-ranging potential environmental impact, is selected for an in-depth assessment by the class.

008-733 Recent Advances in Nutrition 3 cr.

New developments in the field of nutrition are explored within a lecture-seminar context. P: 204-202; 226-330; 694-485 or equivalent.

008-738 Global Ecology: International Conservation of Natural Resources 3 cr.

Principles of conservation of natural resources, renewable and nonrenewable, with specific emphasis on international programs connected with conservation of soil, water resources, mineral resources, grass land resources, wildlife resources, forest types as resources, fishery resources, recreational resources, etc. Special emphasis is on preserving environment, pollution problems, and food-population problems.

008-742 Human Population Dynamics and Policy 3 cr.

Surveys a variety of population problems facing governments at the international, national, state, and local levels and considers public policies which have been adopted or which might be adopted to deal with those problems. The focus is on issues raised by population problems and by the attempt of governments to affect population change. These problems include global population growth and its relation to food supply, economic development, and community health; international migration and its impact on recipient countries; internal migration (especially within the U.S.) within the urban context and from region to region; the causes and consequences of changing fertility rates and population composition (age structure), especially in developed nations; the role of population planning in anticipating and providing for future needs; the effectiveness of population programs, with special attention to family planning in the U.S. and abroad. P: gr st and course in human population studies or cons inst.

008-749 Wetland Ecology and Management 2 cr.

Ecological processes and characteristics of wetlands such as primary productivity, hydrology, decomposition and nutrient dynamics are studied. Wetland classification systems are examined and evaluated. Management practices and potential as well as current approaches to values assessment are addressed. P: 862-302 or equivalent.

008-751 Bases of Community Health 3 cr.

An overview of community health including concepts of health and disease. Indices of health status are discussed, as well as patterns of morbidity and mortality. Students are introduced to the process of perception, identification and delineation of health problems, along with strategies for intervention. Such strategies include safe water supply, immunization, proper nutrition, appropriate laws and policies. Significant problem areas are analyzed, including problems of the environment, population, food, and communicable disease. Special emphasis is placed on the concept of humans and their environment and how these interrelationships affect community health. The role of public health in diagnosing and treating disease is explored. The American health care system is discussed, along with basic principles of health care organization. P: gr st.

008-759 Coastal Zone Management 3 cr.

Examination of the interdependency of humans and coastal zone environment, causative factors of problems to all coastal environments; state coastal zone management programs and the demand for resource development in various coastal regions in the U.S. The course focuses on the coastal areas of the bay of Green Bay and Lake Michigan, but also includes a broader geographic perspective. P: gr st and cons inst.

008-761 Global Environmental Monitoring 2 cr.

The gross aspects of human food supply, certain diseases, natural resources, and environmental quality are best observed on a global basis. The course seeks to provide knowledge of global scientific monitoring systems, national and international institutions including both governmental and private sectors evaluation and potential use of global monitoring data in providing advanced warning of issues and problems affecting people. The general framework focuses on the environmental assessment. (Earth Watch) component of the United Nations Environmental Program (UNEP). P: gr st.

008-762 Natural Sciences Seminars 1 cr.

A course designed to provide natural science students the opportunity to gain knowledge about a variety of science specialty areas; and to give them experience in public speaking. Requirements include attending the seminars, writing a critique of each, and presenting one seminar on the student's own research. P: gr st in natural science-related program.

008-763 Monitoring of Environmental Stressors 3 cr.

A survey of monitoring local environments for air and water pollutants, noise and radiation. Lecture/discussion emphasizes current techniques for monitoring environmental stressors and the laboratory/field work provides experience with instruments and methods used to assess environmental quality. The application of environmental monitoring for industrial hygiene and public health is stressed. P: Admission to Environmental Stressors track.

008-764 Mathematics of Operations Research and Management Science 3 cr.

Mathematical models which are frequently and extensively used in analyzing environmental, public sector, management, and business problems. These models include allocation, network, location, scheduling, and queuing models. An important part of the course is a study of applications of models through case studies or other examples. P: undergraduate courses in calculus and matrix algebra, or cons inst.

008-766 Waste Management/Resource Recovery Seminar 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.

008-767 Statistical Design and Analysis of Experiments 4 cr.

Review of the common principles underlying the design of experiments and methods of analysis for such experiments. The purpose is to enable students to design and analyze their own experiments, for any degree of experimental complexity, and to understand the description and analysis of such experiments in the literature. Topics include the principles of replication, randomization, error, linear models and least squares, hierarchical models, blocking, and factorial designs. Complex designs such as Latin squares, incomplete blocks, split plots, and the concepts of expectation of mean squares are developed as justification for the statistical tests applied. Non-parametric statistical methods, particularly as applied to designed experiments, concepts of ordinal and nominal data, and chi-square contingency analysis are discussed. The principles are motivated throughout by reference to the theory and practice of scientific experimentation, and illustrated by examples. Laboratory analyses are performed on actual experimental data. P: elementary course in statistics.

008-768 Multivariate Statistical Analysis 4 cr.

Analysis of multifactorial data. Regression, multiple regression, curvilinear regression, nonlinear regression, correlation, multiple and partial correlation, path analyses, principle components, factor analysis, discriminant analysis. Emphasis on the computer analysis of actual data. P: elementary statistics and cons inst.

008-770 Scientific and Technical Communicating 3 cr.

A course for students interested in the scientific and technical aspects of their chosen majors. Instruction and experience are combined in preparing and presenting representative reports and statements appropriate to students' participation in the public and professional role for which their graduate programs prepare them.

008-771 Behavioral Toxicology 3 cr.

(Description not available at time of printing.)

008-773 Soil-Plant Relationship 3 cr.

A study of the biological, chemical and physical factors in soils and plants and their interactive effect on plant growth and yield. Scientific principles employed to enhance production of food and fiber are included. P: Either 862-311 or 862-320, or 862-323.

008-774 Procedures in Habitat Evaluation 2 cr.

Habitat-based evaluation methodologies for use in impact assessment and project planning. Rationale for a habitat-based technique and the conceptual approach to habitat assessment are covered. Implementation of the concepts of habitat evaluation through standardized procedures are considered. P: 862-302 or equivalent.

008-775 Ecology of Food Production 3 cr.

The major factors concerning global food production include edaphic, climatic, biological, environmental, and political. These factors are examined and evaluated separately and then in conjunction with the effects of interaction between and among the *food production factors*. Major topics include a contemporary view of present global food production; factors affecting food demand; crop plants and world affairs; crop production and the environment; soils of the world; crop geography and the plant environment; animal production. P: gr sl.

008-776 Bioclimatology 3 cr.

The influence of the atmosphere on plants and animals including humans and the adaptations of organisms to the atmosphere. Emphasis is on subjects related to plant and animal productivity and to the well-being of organisms. P: Undergraduate courses in biology and physics.

008-777 Hydrobiology 3 cr.

Fundamental features of aquatic organisms are discussed with emphasis on plankton, benthos, and fish communities. Trophic-dynamics in aquatic ecosystems are examined to demonstrate interrelationships based on energy flow and nutrient transfer processes. Structural functional characteristics of undisturbed communities are analyzed to provide a base for evaluation of the effects of water quality deterioration on aquatic ecosystems. P: College level course on ecology or limnology.

008-778 Epidemiology 3 cr.

Concepts and methods of epidemiology are presented in lectures and in weekly problems. The problems are involved with establishing criteria for research problem designing and investigating epidemiological problems both in the community and on a global basis. Problems include examples of both infectious diseases. Examples of the non-infectious diseases will be environmental in nature (for example the effect of noise, or color on work performance). A team-oriented field project is a requirement. Each student is expected to contribute to the project and to preparation of a paper. The functioning of epidemiology in community health is emphasized. P: course in statistics.

008-779 Evaluation of Environmental Stressors 2 cr.

This course acquaints the student with laboratory techniques for evaluating potential toxicity of chemical and other agents. Includes laboratory methods used to evaluate the effect of mutagenic, carcinogenic, teratogenic and organ specified toxicants and, as well as agents that induce behavioral dysfunction. Statistical techniques.

008-795 Special Topics

This course number is used to designate courses and seminars offered by graduate faculty in response to special demand or 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 special topics course as announced in the *Timetable* will appear on the transcripts of the students who enroll. Credits earned in the 795 special topics courses may not be applied toward the graduate core requirement.

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 director of graduate studies. P: Student classification of MS6, MA6, ME6 or higher.

008-798 Directed Study

Reading and research under the supervision of a member of the graduate faculty. Directed study credits may only be earned when this activity is included as part of an approved program plan. P: Student classification of MS6, MA6, ME6 or higher.

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 MS7, MA7, or ME7.

009-703 Community Organization and Planning 3 cr.

Reviews and examines community organization and social planning and the problems inherent in their practice. A community problem solving model aimed at social change is developed. Other elements of social planning and community organization examined include: setting priorities in a community, doing research studies, the politics of planning, developing and implementing plans of action, the strategy and tactics of social action, goal analysis, decision-making analysis, feedback mechanisms and planning management. P: gr st.

009-739 Behavioral Research Strategies 4 cr.

Conceptual and procedural issues in research. This is a laboratory course in research methods and design. This course provides knowledge and skills to collect adequate, accurate, and useful information about behavioral science questions. Although issues of control and experimental design are a central concern, the concepts, techniques, and skills learned in this course are applied to a variety of research situations. P: introductory statistics.

009-740 The Geography of Settlement 3 cr.

This course focuses on the morphology of the rural countryside. Within this broad purview the emphasis is on the patterns on the land; the form, material and arrangement of buildings and other more humble constructs; villages and other small agglomerations; the colonization of the countryside. The course also deals with perceptions, political traditions, economic precepts and ethnic heritages as they apply to the land and the built environment. Through readings, field observations, and some lectures, students will be exposed to these aspects of settlement geography as well as to the geographer's craft. Students are encouraged to do a major portion of their research in north-eastern Wisconsin.

009-741 Land Use Institutions and Policy 3 cr.

The institutional arrangements which determine the control and use of land resources. Attention is directed to the evaluation of contemporary land use institutions in this country and selected other countries and to the role of these institutions in the development process. These institutions are examined from the standpoint of how they might be altered to promote rational developmental processes at local, regional, national, and international levels. Various land use policy alternatives and strategies for implementation are explored. P: Two courses in Regional Analysis, economics, political science, or the equivalent, or cons inst.

009-747 Trends and Issues in Regional Planning 3 cr.

The course has three parts: part one is a critical review of trends and salient issues in regional planning in North American situations in general and in Wisconsin, in particular. Part two deals with some of the concepts and strategies which have been countered to tackle these issues. Then, based on the deliberation of concepts and strategies, each student selects a manageable research topic dealing with one of the issues in the context of a geographic region, preferably in Wisconsin. P: cons inst.

009-765 Evaluating Social Programs 3 cr.

Since the early 1960's there has been a growing trend to ask programs providing social or educational services to provide evidence that they are effective. A new field—evaluation research—has emerged in response to this trend by adapting the methods of social research to the problem of assessing program quality. This course provides an introduction to evaluation research. It emphasizes 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 throughout. Course procedure is informal with much of the class time spent in developing and discussing model evaluation studies. P: introductory statistics.

UNDERGRADUATE/GRADUATE (500-699 LEVEL) COURSES**204-602 Advanced Microbiology 3 cr.**

Detailed study of microorganisms from virus to fungi in their environment. A study of both free-living and pathogenic organisms and their degrading abilities. P: 204-302

226-613 Instrumental Analysis 4 cr.

A survey of the theory and practice of analysis by instrumental methods including those based on absorption and emission of radiation, electroanalytic methods; chromatographic methods; and radio-chemical methods. P: 226-311 and credit or concurrent registration in 226-321.

226-617 Nuclear Physics and Radiochemistry 3 cr.

Introduction to the properties and reactions of atomic nuclei; the application of the properties of radioactive nuclei to the solution of chemical, physical, biological, and environmental problems. P: 226-112 and either 226-202 or 226-104 and 600-203.

226-618 Nuclear Physics and Radiochemistry Laboratory 1 cr.

One three-hour laboratory per week. P: credit or concurrent registration in 226-417.



298-505 Natural Resources Economic Policy 3 cr.

Acquaints the student with policies leading to arrangements for the development, management, and use of natural resources. Emphasizes the longer time horizon required for the conservation of resources and a general concern for the quality of the ecosystem. P: jr st.

298-602 Resource Economics Analysis 3 cr.

Application of tools and concepts in current economic decision-making with special emphasis upon common property resources management (i.e., water and air). P: jr st and 298-202 and 203.

296-620 Soil Classification and Geography 3 cr.

Morphological properties of soils, major kinds of soil horizons; principles of soil classification, taxonomic systems; soil-landscape relationships; genesis and global distribution of major kinds of soils, soil surveys and their interpretations for agriculture, engineering, and urban planning. Field trips. P: 296-320 or 202.

350-615 Administrative Planning, Programming, and Budgeting Systems 3 cr.

Covers the history, philosophy, purposes, attributes, types, and operational elements of major public budgetary systems used in the United States, with emphasis on object, performance, program, and PPB systems and their applicability to various programs, organizations, and governmental jurisdictions. Examines principles and methods used in designing and managing public budgeting systems and relationship between program planning, policy planning, and budgetary operations. Develops skill in applying analytic and decision-assisting tools to public budgetary operations. P: 350-102, or another course in American government, or cons inst.

350-660 Public Policy Analysis 3 cr.

An introduction to public policy analysis and to the policy-making process in American government. Topics include approaches to the study of public policy, the nature of public problems, the policy agenda, policy formulation, assessment of policy alternatives, policy adoption, policy implementation and evaluation, and the use of policy analysis in decisionmaking. Special attention is given to political aspects of policy analysis, to models and methods for critical analysis and rational design of public policies, and to practical applications of policy studies. Develops skills in legislative research, preparation of position papers and other policy-development documents, and methods of policy analysis and evaluation. P: 778-101 or 350-102 or cons inst.

416-553 Air Photo Interpretation 3 cr.

Techniques for the interpretation of the uses humans make of the earth. Vertical, oblique, and infrared aerial photography are used in the analysis of the human use of the earth and its resources. P: jr st.

478-602 Human Physiology 3 cr.

The functions of the major organs and organ systems of humans other than the central nervous system and the special senses. P: 204-202, 203 and 226-111, 112, or equivalent.

478-613 Neurophysiology 3 cr.

The nervous system and its functions in perception, interpretation, and the production of physiological and behavioral response: fundamental concepts, neuronal function, sensory systems, and processing mechanisms. Emphasis is on limitations imposed by various environments. P: 204-202, 203 and 226-111, 112, or its equivalent or cons inst.

478-625 Physiological Response to Toxic Chemicals 3 cr.

This course examines physiological mechanisms which are affected by toxic chemicals at the biological, cell and organ levels. Major toxic processes including mechanisms of intake, dose-response, synergisms, detoxification, neurotoxicosis, cancer, metabolic disruption, mutagenesis, teratogenesis and causes of death will be considered in the context of significant organ systems affected such as cardiovascular, respiratory, nervous, and immune systems as well as the placenta and fetus. Representative toxins will include nitrates, nitrites, pesticides, tobacco, alcohol, heavy metals, and metabolic poisons. P: 478-402, or 204-346, or 226-300, or 226-302, or cons inst.

478-648 Human Histology 3 cr.

A lecture-laboratory course dealing with the microscopic structure and function of cells, tissues, and organs of vertebrates, with emphasis on the human. P: 204-202; 204-203 or 478-104; and one upper-level vertebrate biology course, or cons inst.

575-562 Principles of Personnel Management 3 cr.

Introduction to personnel management. Manpower planning, selection, recruitment, training, motivation, fringe benefits, salary and wages, and labor relations. P: jr st.

575-582 Principles of Management 3 cr.

Basic ideas and concepts of managing. The realities of management in contemporary situations with emphasis on the behavioral approach, understanding the environment of managing, the knowledge required by managers, functions performed, and adjustment to rapid changes in the future. P: jr st.

575-585 Management of the Nonprofit Organization 3 cr.

The operation and management of organizations that operate within our society for purposes other than the generation of profit for owners or shareholders. Models such as the hospital and the university focus on the operational principles, optimizing criteria, and management control techniques characteristic of such institutions. In addition to examining the areas of accounting, finance, marketing, organization, and personnel, the nonprofit organization is discussed in terms of its social responsibility and the political and economic conditions in which it operates. Case studies used in a seminar format. P: jr st or cons inst.

600-551 Data Structures, Storage and Retrieval 3 cr.

An introduction to concepts involved in storage, retrieval, and processing of data for use in computer applications. Included are structures such as arrays, stacks, queues, linked lists, trees, and networks. Particular emphasis is placed on design of efficient algorithms that use these different structures for various processing needs. These include searching, sorting, evaluation of arithmetic expressions, construction of symbol tables, and memory management. P: 600-251.

600-564 Biometrics 4 cr.

Emphasis on life science problems. Analysis of variance techniques, linear regression, correlation analysis and nonparametric techniques; introduction to statistical computation. P: 600-260.

694-604 Food Science 4 cr.

Standards of food quality, food preferences, food assay, food deterioration, adulteration; methods of preservation and distribution. Laboratory includes quantitative analysis of and instrumental procedures for various food components; arranged student visits and/or interaction with specific area food laboratories. P: 226-303 or 226-330.

694-621 Community Nutrition I 2 cr.

Nutritional problems of the individual and family within a local ecological setting—county, city, nation, region, and state. P: 694-302.

694-622 Community Nutrition II 2 cr.

Nutritional problems of the individual and family within a local ecological setting—county, city, special population segments. Includes field work. P: 694-421.

694-685 Advanced Human Nutrition 3 cr.

Physiological and biochemical principles of nutrition; fundamental concepts of human nutrition and nutritional diseases. P: 204-202; 226-330, 331; 694-232 or equivalent.

694-688 Nutrition in Disease 3 cr.

Therapeutic applications of nutrition in treatment of human disease. Emphasis is placed upon familiarization of student with the medical terminology, etiology, biochemical and clinical manifestations of disease conditions. Students will determine changes in nutrient intake, food and eating patterns necessary for treating disease conditions and construct suitable meal plans. P: 694-485; 226-330 or equivalent.

834-620 Regional Planning 3 cr.

The concepts of planning, the history of its use in the development of regions, and the present status of planning in the United States with some international comparisons. P: jr st.

834-621 Techniques and Methods of Planning Analysis 3 cr.

The use and application of basic tools for urban and regional planning; source of data and other basic information; techniques and methods of population, economics, land use, housing, and transportation analysis and projects. P: jr st.

862-518 Industrial Pollution Control Techniques 2 cr.

This course will first explain general air and water pollution control methods, including the nature of the major existing pollutants and a brief overview of the present governmental regulations. Then several selected types of industries (for example, paper and pulp making, cement manufacture, iron and steel processing, breweries, foundries, chemical process industries...) will be discussed in detail; the general manufacturing process, how and where the major pollution arises, and the specific techniques used in that industry to control these emissions. P: 226-112.

862-519 Industrial Pollution Control Field Trips 1 cr.

Optional field course to accompany 862-518. Field trips will be scheduled to a variety of local industries including paper mill, foundry, MSD, etc. In addition, each student will be required to prepare a research paper. P: Concurrent registration in 862-518.

862-520 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. P: 226-108 or 112; 296-202 recommended.

862-521 The Soil Environment Laboratory 1 cr.

Laboratory and field study of physical, chemical, and biological properties of soils. P: credit or concurrent registration in 862-520.

862-535 Water and Waste Water Treatment 3 cr.

Fundamentals of water and waste water treatment systems including both sewage and potable water treatment plants and their associated collection and distribution systems. Study of the unit operations, physical, chemical, and biological, used in both systems. P: 296-202 or 226-111 or 204-202.

862-563 Plants and Forest Pathology 3 cr.

Studies of important diseases of forest, shade, and orchard trees and diseases of representative economic plants; fungus deterioration in wood storage and their economic importance with methods of control; field trips. P: 204-203.

862-578 Chemical Ecology 2 cr.

Selected topics concerning the chemical interactions of organisms and the environment. Topics such as chemical communications, chemical defense mechanisms, and sex attractants will be covered. The course is in basic lecture format and each student is asked to prepare a paper on an aspect of chemical ecology which is of interest to him or her. P: cons inst.

862-580 Radiobiology 2 cr.

An introduction to the use of radionuclides (C-14, P-32, etc.) and sources of ionizing radiation in biology, medicine and environmental sciences. Emphasis is on experimental methods currently used in the life sciences: including tracers in biology, radiation biology, nuclear medicine and radioecology. This course provides the background needed to obtain an NRC license to use radionuclides in most tracer experiments. Credit will not be given for both this course and 226-418.

862-603 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 the aquatic environment. P: 204-203 and 226-111.

862-605 Winter Conditions in Lakes 3 cr.

Physical, chemical and biological characterizations of selected Wisconsin lakes will be examined. Emphasis will be placed on limnological parameters that demonstrate trophic status and the effects of metabolism of lake ecosystems imposed by winter conditions of low temperature and reduced light. Intensive sampling and analysis during a one week field trip to northern Wisconsin lakes will provide a data base for specialized individual student projects. An interdisciplinary analysis of the data will be accomplished through student seminar presentations of specialized projects. P: Advanced course work in ecology and/or chemistry desired (analytical chemistry); also cons of inst; 1 week field trip to northern Wisconsin.

862-612 Bio-Energetics 3 cr.

Energy biology, a thermodynamic and information content view of energy and energy flow in biological systems. Results applied to biochemical, human, and ecological systems. P: 204-203 and either 226-104 or 226-202.

862-614 Conventional Energy Technology 3 cr.

An advanced course on conventional energy conversion equipment, electric power generation facilities, available fuels, energy related to transportation of energy and policy. P: 600-203, 226-320.

862-615 Solar and Alternate Energy Systems 3 cr.

A study of alternate energy systems which may be the important energy sources in the future such as solar, wind, biomass, fusion, ocean thermal, fuel cells and magnetohydrodynamics. P: 226-104 or 226-202 or equivalent.

862-622 Environmental Biogeochemistry 3 cr.

Microbial and chemical transformations of carbon, nitrogen, phosphorus, sulfur, and certain trace compounds in soil-water-atmosphere systems; fate of selected pesticides, fertilizers, natural and synthetic wastes in the ecosystem; beneficial and toxic effects on plants and animals, role in pollution on the environment; use of waste disposal systems for pollution abatement. Field trip. P: 204-202, 226-300, 296-202.

862-630 Quantitative Hydrology 3 cr.

Quantitative oriented study of the water cycle including precipitation, run off, infiltration, evapotranspiration and ground water. Numerical procedures for various water resource developments including hydrograph prediction in both urban and rural areas, reservoir and stream flow routing and hydrologic uncertainty. P: 600-202, 296-202.

862-634 Water Chemistry 4 cr.

The physical, chemical, and biological factors that alter the composition of surface and ground water. Field and laboratory analysis techniques. Field trip. P: 226-311

862-650 Air Pollution Chemistry and Meteorology 3 cr.

Chemical reactions and transport phenomena in the unpolluted and polluted atmosphere with emphasis upon dispersal processes and control. P: 226-112.

862-660 Resource Management Strategy 3 cr.

Applications of principles of system analysis to designing resource management systems and to developing strategies for maintaining optimum environmental utilities. Decision models and the role of economic systems in resource management. P: sr st and some background in economics or conservation.

862-666 Vegetation Management 3 cr.

An analysis of current practices in managing U.S. vegetation, including establishment, maintenance, control and conversion. An assessment of management tools, such as cutting, grazing, chemical spraying, flooding and burning. Experience with and potential for vegetation management on the UWGB campus is observed and discussed, e.g., prairie and pond establishment, tree and shrub control, erosion control, conversion of forest to park and old field to forest, maintenance of lawns, golf greens and fence rows. The various practices and tools are evaluated in regard to their effectiveness, economic cost and environmental impact. P: 204-203.

UNDERGRADUATE (300 AND 400-LEVEL) COURSES

Graduate credit for the 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 director of graduate studies. An assigned study card is required for registration in one of these courses:

204-302 Principles of Microbiology 4 cr.

A study of microorganisms and their activities. Included is their form, structure, reproductive physiology, metabolism, and identification; their distribution in nature and relationship to each other and to other living things. P: 204-202 and 226-108 or 226-112.

204-310 Plant Taxonomy 3 cr.

A laboratory, field and discussion course in identification and classification of plants of North America including flora of Wisconsin. P: 204-203.

204-311 Plant Physiology 4 cr.

General physiology of vascular plants within the context of a plant life cycle. Seed dormancy and germination, metabolism, transport systems, mineral nutrition, patterns of plant growth and development, growth regulators, reproduction, and senescence. P: 204-203, 226-112.

204-315 Biology of Lower Green Plants 3 cr.

A survey of the photosynthetic non-vascular plants including the algae, lichens and bryophytes. Emphasis will be placed on morphological study of these groups and will also include field collections and laboratory identification. P: 204-203/jr st or cons inst.

204-341 Ichthyology 3 cr.

An examination of the biology of fishes including classification, phylogeny, functional morphology and population characteristics. Aspects of the ecology of the fishes will be studied in relation to behavior, distribution, diversity and production in freshwater environments. P: 204-203 or equivalent.

204-347 Developmental Biology 4 cr.

Principles of development including gametogenesis, fertilization, gastrulation, organogenesis, and the effects of internal and external environmental factors on development. Laboratory work includes morphogenesis of amphibians, chicks and pigs; and work with living embryos. P: 204-203

204-350 Field Zoology 3 cr.

Field collection and laboratory identification of aquatic and terrestrial invertebrates and vertebrates of the region with analysis of their structure, behavior and habitats. A collection is required. P: 204-203.

834-355 Introduction to Quantitative Methods of Spatial Analysis 3 cr.

The scientific approach to geographic problems; basic techniques for the analysis of spatial distributions and spatial relationships. P: a course in statistics.

834-356 Environmental Impact Analysis 3 cr.

Procedural requirements of NEPA; State NEPA equivalents; methodologies of and approaches to environmental impact analysis; assessment of alternatives; interdisciplinary exposure to substantive types of impacts using natural and social sciences; emphasis on social impact analysis; local field project in impact analysis. P: jr st.

862-307 Ecology of Fire 2 cr.

The use of fire to modify vegetation by native peoples in the past and by contemporary landscape managers. Examples of landscapes considered are grasslands, chaparral, southern pine forests and northern aspen forests. Causes and control of wild-fires are discussed, as well as their impact on air pollution and soil condition. Case histories of prescribed burning, e.g., blueberry production, big game management and bird habitat preservation are analyzed.

862-334 Solid Waste Management 3 cr.

A study of the nature of the solid waste problem including generation, collection, processing, and disposal. Special attention is given to the recovery of material and energy resources from solid wastes. Guest speakers and field trips will contribute to an understanding of local and regional solid waste problems and solutions.

862-342 Environmental Geology 3 cr.

Applications of fundamental geologic concepts in the interpretation of environmental problems resulting from our exploitation of crustal resources. The environmental impact of construction, mining, waste disposal, natural geologic hazards, and the tapping of crustal energy reservoirs (fossil fuels, geothermal heat). P: 296-202.

862-345 Geology of Energy Resources 3 cr.

A survey of geological energy resources: petroleum and natural gas, coal, uranium and geothermal energy. Geological environment of these resources, methods of discovery and utilization, and environmental and economic problems associated with them. P: 296-200 or 296-202 or equiv.

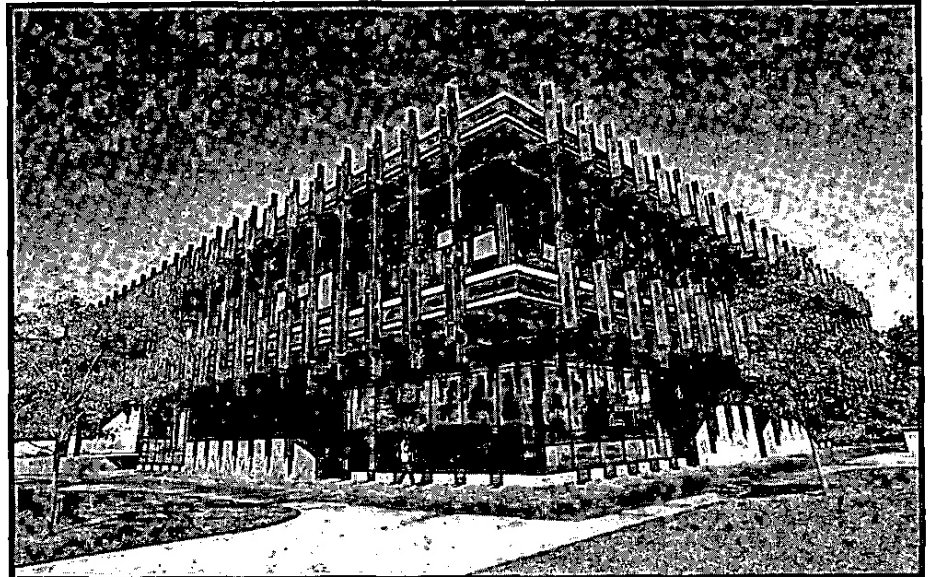
Cooperative Programs

UNIVERSITY OF WISCONSIN-GREEN BAY AND UNIVERSITY OF WISCONSIN-MILWAUKEE COOPERATIVE PROGRAM

A cooperative arrangement between the University of Wisconsin-Milwaukee School of Education Departments of Educational Psychology and Administrative Leadership, and the University of Wisconsin-Green Bay Graduate Program provides opportunities for students in northeastern Wisconsin to pursue graduate studies qualifying them for certification in the areas of administrative leadership and supervision in education (educational administration and supervision) and educational psychology (counseling).

The purpose of the arrangement is to provide, on the UWGB campus, a coordinated set of UWGB and UW-Milwaukee course offerings to enable students to complete the UW-Milwaukee requirements for the master's degree and certification. All courses are offered at the UWGB campus. Students who wish to pursue degrees in these areas must be admitted to the UW-Milwaukee Graduate School and to the appropriate department there, and are subject to the rules and regulations of UW-Milwaukee. Students who satisfactorily complete program requirements will receive the appropriate degree from UW-Milwaukee. Recommendations for certification will be made by the UW-Milwaukee Certification Office.

Students in this cooperative program normally will include 12 UWGB course credits in their program of study. A list of appropriate UWGB courses and a projected schedule of offerings are included in this chapter. UW-Milwaukee graduate rules state that no more than 12 credits of degree work may be taken at any institution other than UW-Milwaukee. For information about course selection, students should contact Dr. James Busch, chairperson of the Education professional program at UWGB.



APPLICATION FOR ADMISSION

Students who wish to pursue a master's degree in one of these cooperative programs complete the UW-Milwaukee Graduate School application for admission and send the completed application and \$20 application fee to:

The Graduate School
University of Wisconsin-Milwaukee
P.O. Box 413
Milwaukee, WI 53201

Instructions are on the form. Because students are enrolled in a UW-Milwaukee program and are subject to that university's rules and regulations, records pertaining to degree progress are maintained at UW-Milwaukee.

PROGRAM INFORMATION

For a more complete description of the UW-Milwaukee Graduate Program, courses, degree requirements, rules and regulations, and other information, copies of the UW-Milwaukee graduate catalog should be requested from the above address.

ADVISING

For information and advising for the cooperative program, students should contact Dr. James Busch, chairperson of the Education professional program at UWGB (414-465-2149) or the UWGB Graduate Office (414-465-2484).

REGISTRATION

Students must complete the admission and registration forms of the institution sponsoring the course—UW-Milwaukee for courses sponsored by that university, and UWGB for courses supported by that institution. Forms are available at the Graduate Studies Office at UWGB in CC 335.

FEES

Students pay UW-Milwaukee fees for courses identified as UW-Milwaukee courses, and UWGB fees for courses supported by UWGB.

ADMINISTRATIVE LEADERSHIP

Degree

Master of Science in Administrative Leadership and Supervision in Education

Graduate Program

The Department of Administrative Leadership at UW-Milwaukee offers a graduate program of studies through which the student can fulfill professional education requirements for administrative and supervisory licenses in Wisconsin and most other states.

This program prepares the student for a career as a school district administrator, elementary school administrator, secondary school administrator, or supervisor.

Degree Requirements

Minimum degree requirement is 33 credits. The following courses are required for the degree program.

Courses

UW-Milwaukee

- 103-705 Principles of Administrative Leadership
- 103-706 Practicum in Administrative Leadership
- 103-720 Collective Bargaining and Contract Administration in Education
- 103-740 Instructional Supervision
- 103-745 Seminar in Educational Administration and Supervision
- 103-840 Legal Aspects of Educational Administration
- 315-640 Human Development: Theory and Research

UWGB

- 302-606 Evaluation and Testing in Education
- 006-795 Business Administration of School Systems
 - One course in curriculum planning
 - One elective course

Projected Schedule of Course Offerings

Fall 1981-Spring 1983

(All courses are offered at the UWGB campus. The sponsoring institution is indicated in parenthesis.)

Fall 1981

- 103-705 Principles of Administrative Leadership (Milwaukee)
- 006-795 Section 3, Business Administration of School Systems (UWGB)

UWGB Electives

- 302-610 Introduction to the Education of Exceptional Children
- 302-695 Section 1, Curriculum and Program Development in Adult Education
- 302-695 Section 2, Administration and Supervision of Gifted and Talented Education
- 006-786 Current Issues and Trends in Education

Spring 1982

- 103-740 Instructional Supervision (Milwaukee)
- 103-840 Legal Aspects of Educational Administration (Milwaukee)
- 315-640 Human Development: Theory and Research (Milwaukee)

UWGB Electives

- 302-610 Introduction to the Education of Exceptional Children
- 006-787 Analysis and Improvement of Teaching Effectiveness
- 006-788 International Comparative Education
- 006-795 Comprehensive Educational Planning

Summer 1982

- 103-706 Practicum in Administrative Leadership (Milwaukee)
- 103-745 Seminar in Educational Administration and Supervision (Milwaukee)

UWGB Elective

- 006-772 Contemporary Educational Thought

Fall 1982

- 103-720 Collective Bargaining and Contract Administration in Education (Milwaukee)
- 006-780 Foundations of Elementary and Secondary School Curriculum (UWGB)

UWGB Elective

- 302-610 Introduction to the Education of Exceptional Children

Spring 1983

- 315-640 Human Development: Theory and Research (Milwaukee)
- 302-606 Evaluation and Testing in Education (UWGB)
- 006-784 Development of Contemporary Problem-Focused Curricula (UWGB)
- UWGB Electives**
- 302-610 Introduction to the Education of Exceptional Children
- 006-786 Current Issues and Trends in Education

NOTE: Additional courses to meet the elective requirement will be available. Check the UWGB *Timetable* for updated information and time schedule for courses each semester.

EDUCATIONAL PSYCHOLOGY

Degree

Master of Science in Educational Psychology (Counseling Area)

Graduate Program

The Counseling Area prepares students for school counselor certification. Opportunities also are available for students who desire to counsel in non-school settings. Students are able to specialize in child, adolescent, or adult counseling.

Degree Requirements

Students seeking an emphasis in counseling are required to complete 39 credits. The following courses satisfy the requirements.

Courses

UW-Milwaukee

- 265-603 Essentials of Counseling Practice
- 265-604 Awareness: Counseling, Poverty, and Urban Cultures
- 265-674 Field Work in Counseling
- 265-700 Foundations of Career Development
- 265-710 Counseling: Theory and Issues
- 265-800 Group Counseling Theory
- 265-970 Supervised Practicum in Counseling
- 315-640 Human Development: Theory and Research

One of the three following courses depending upon concentration:

- 265-810 Developmental Counseling in the Elementary School
- 265-811 Counseling in the Secondary School
- 265-900 Clinical Studies in Counseling

UWGB Electives

- 302-695 Statistical Methods Applied to Education
- 481-537 Developmental Tests and Measurements
Two elective courses (for certification in school counseling this must include 302-610, Introduction to the Education of Exceptional Children, if a comparable course has not been completed).

Projected Schedule of Course Offerings

Fall 1981-Spring 1983

(All courses are offered at the UWGB campus. The sponsoring institution is indicated in parenthesis.)

Fall 1981

- 265-674 Field Work in Counseling (Milwaukee)
- 309-695 Statistical Methods Applied to Education (UWGB)

UWGB Electives

- 302-610 Introduction to the Education of Exceptional Children
- 302-695 Section 1, Curriculum and Program Development in Adult Education
- 302-695 Section 2, Administration and Supervision of Gifted and Talented Education
- 006-786 Current Issues and Trends in Education

Spring 1982

- 315-640 Human Development: Theory and Research (Milwaukee)
- 481-537 Developmental Tests and Measurements (UWGB)

UWGB Electives

- 302-610 Introduction to the Education of Exceptional Children
- 006-787 Analysis and Improvement of Teaching Effectiveness
- 006-788 International Comparative Education

Summer 1982

- 265-603 Essentials of Counseling Practice (Milwaukee)
- 265-710 Counseling: Theory and Issues (Milwaukee)

UWGB Electives

- 006-795 The Teacher and the Law
- 006-772 Contemporary Educational Thought

Fall 1982

- 265-700 Foundations of Career Development (Milwaukee)

UWGB Electives

- 302-610 Introduction to the Education of Exceptional Children
- 006-780 Foundations of Elementary and Secondary School Curriculum

Spring 1983

- 265-970 Supervised Practicum in Counseling (Milwaukee)
- 315-640 Human Development: Theory and Research (Milwaukee)

UWGB Electives

- 302-610 Introduction to the Education of Exceptional Children
- 006-772 Contemporary Educational Thought (if not taught in summer of 1982)
- 006-784 Development of Contemporary Problem-Focused Curricula

Summer 1983

- 265-604 Awareness: Counseling, Poverty, and Urban Cultures (Milwaukee)
- 265-800 Group Counseling Theory (Milwaukee)

UWGB Elective

- 066-786 Current Issues and Trends in Education

NOTE: Additional courses to meet the elective requirement will be available. Check the UWGB *Timetable* for updated information and time schedule for courses each semester.

The University of Wisconsin-Milwaukee, in compliance with Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act of 1967 and Section 402 of the Vietnam Era Veterans Readjustments Act of 1974, does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, sexual preference, or Vietnam era veterans' status in any of its education or employment policies, procedures, or practices. Inquiries concerning the application of these regulations to the University may be directed to the appropriate admitting or employment office, or to the campus Equal Opportunity Office, Room 302, Chapman Hall.

Service Programs

EDUCATION

Chairperson: James W. Busch
(414) 465-2149

The University of Wisconsin-Green Bay does not offer a graduate degree program in Education. The courses offered may apply as elective credits in support of graduate work in some areas of emphasis of the Environmental Studies degree program or toward a degree offered through a cooperative arrangement.

FACULTY

Bruss, Lyle R., Adjunct Associate Professor of Education; Director, School Services Bureau; Director, Facilities Planning and Management; B.S. (1955), UW-Oshkosh; M.Ed. (1959), Illinois; Ph.D. (1970), UW-Madison.

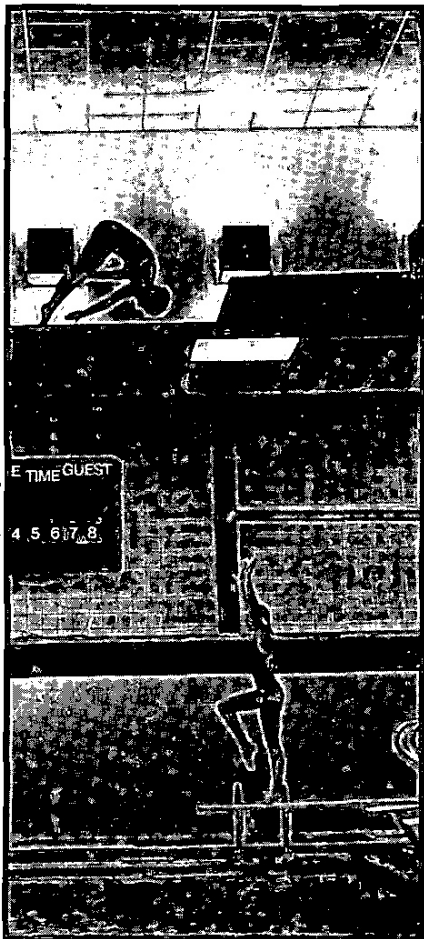
Educational planning in school districts and higher education including such aspects as finance, facilities, and politics. Educational administration and governance of school districts.

Bryan, Dennis L., Associate Professor of Education (curriculum); B.S. (1960), M.S. (1962), Western Michigan; Ed.D. (1972), Michigan State.

The relationship between teaching behavior and student learning. Curriculum development and evaluation. School organization and curriculum designed for individualized learning. Environmental education through problem-focused curriculum.

Busch, James W., Associate Professor of Education (physics); B.S. (1951), UW-Superior; M.S. (1957), Ph.D. (1969), UW-Madison.

Science education, secondary education. Environmental education, evaluation of clinical experiences in education (student teaching-internships). Educational development in Middle Eastern countries, particularly science education. Elementary education, school mathematics.



Corpier, Leslee N., Assistant Professor of Education and Visual Arts; B.F.A. (1972) California College of Arts & Crafts; M.S. (1977), M.F.A. (1978), UW-Madison.

Elementary/secondary art education. Art curriculum development. Creativity, aesthetic awareness, perception, meaning, significance. Archeological artifacts, ritual and domestic objects. Crafts, fiber arts, mixed media constructions.

Engelman, Marge A., Director of Outreach (adult education); Lecturer in Education; B.A. (1949), Illinois Wesleyan; M.A. (1952), Northwestern; M.S. (1965); Ph.D. (1977), UW-Madison.

Adult education; adult development and learning, educational gerontology; administration and governance of lifelong learning; creative problem solving, research on creativity in aging.

Hall, Eleanor G., Lecturer of Education and Specialist, School Services Bureau; B.A. (1958) M.A. (1974), Ph.D. (1978), Michigan.

Educational psychology, education of gifted and talented, child development, psychology of women.

Hogan, Thomas P., Lecturer of Education; Director of Educational Testing Center; Co-Director of Wisconsin Assessment Center;

B.A. John Carroll; M.A., Ph.D. (1970), Fordham. Educational and psychological measurement. Program evaluation and research and methodology.

Laughlin, Margaret A., Assistant Professor of Education (social sciences); B.A. (1959), M.A. (1964), California State; Ed.D. (1978), USC-Los Angeles.

Social science curriculum and methods of K-12; international/comparative education; multicultural/global perspectives; social, philosophical and historical foundations of education; curriculum; elementary and secondary methods and materials; study skills.

O'Hearn, George T., Professor of Education (physics); Director of Educational Development and Research; Co-Director of State Assessment Center; B.A. (1957), M.S. (1960), Ph.D. (1964), UW-Madison.

Research design, program evaluation. International comparative education; Science curriculum development, teaching, methods and effectiveness. Scientific literacy—the cultural impact of science.

Peck, Michaeleen P., Assistant Professor of Education (reading); A.B. (1974), Augusta College; M.Ed. (1976), South Carolina; Ph.D. (1980), Penn. State.

Language education, developmental reading, diagnosis and remediation of reading disabilities, content area reading, measurement and evaluation of instruction, objective assessment of written language, psycholinguistics and theoretical models of reading.

Presnell, Richard W., Associate Professor of Education; B.A. (1958), M.A. (1961), Iowa; Ph.D. (1971), Cornell.

Teaching-learning communication, processes and students' environments in elementary and secondary schools. Problem-solving education. Ecological education and outdoor environmental education processes.

Thompson, Phillip E., Associate Professor of Education (English); B.A. (1958), Beloit; M.S. (1962) UW-Madison; Ph.D. (1972), Illinois.

Discursive and nondiscursive symbolism; creativity, aesthetics, and the imagination. Composition and computer grading. Native American education, English, language arts and aesthetics education.

Van Koevering, Thomas E., Associate Professor of Science and Environmental Change and Education (science education); B.S. (1962), Western Michigan; M.A. (1965), Michigan; Ph.D. (1969), Western Michigan.

Science and environmental education, particularly at the elementary and secondary school level. Preservice and inservice teacher training in environmental education. Curriculum evaluation. Innovation in teaching high school physics and chemistry. Local and regional health care planning. Chemical education.

EDUCATION COURSES

GRADUATE ONLY (700-LEVEL) COURSES

006-705 Education: Mind Styles and Life Styles 3 cr.

Explores the relationship between education and consciousness. Formal education in the United States promotes specific views of reality, truth, and values. However, personal values and other cultural adaptations can transform consciousness and offer alternative realities for personal and cultural enrichment. Different realities, their associated mind styles and life styles, definitions, sources, contributions and potential for future consciousness are considered through readings and experiences. P: gr st.

006-707 Outdoor Environmental Education: Philosophies and Practices 3 cr.

For teachers and others who want to become proficient in outdoor environmental education leadership roles, it will be sufficiently individualized to allow persons with minimal specific experience or training in outdoor environmental education as well as experienced outdoor environmental educators to further their studies and goals. Basic techniques of field ecology, botany, zoology and geology appropriate to outdoor environmental education are included, as well as outdoor recreation skills and philosophies. Sensitizing processes such as acclimatization are considered. The course is intended for persons in the humanities and social sciences as well as those in the natural sciences. Projects focus on developing outdoor environmental education leadership skills and resources. A minimum of 4 class hours each week will be spent outdoors. P: 302-407, or 006-781, or an equivalent course, or cons inst.

006-772 Contemporary Educational Thought 3 cr.

A critical examination of 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 are included for discussion and consideration. P: gr st, experience in professional education, teacher certification, and cons inst.

006-780 Foundations of Elementary and Secondary School Curriculum 3 cr.

This course for experienced educators focuses on the philosophical, sociological, historic and psychological underpinnings of curriculum design, development and evaluation for the elementary, secondary and VTAE educator. It examines the 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 Environmental Education Processes and Materials 3 cr.

The purpose of this course is to involve students in a variety of experiences that will more adequately prepare them to: (1) communicate environmental concepts; (2) develop an increased awareness of their local environment; and (3) initiate positive *environmental action programs*. Although a primary source of students will be elementary and secondary teachers, this course will also be valuable for anyone who wants to be involved in any other formal or informal educational activity such as working with recreation and outdoor education programs or community service clubs, etc. P: gr st.

006-784 Development of Contemporary Problem-Focused Curricula 3 cr.

Development of problem-focused courses to be implemented in existing school structure. Course content will include the nature, purpose, potential, implementation strategies and problems associated with problem-centered learning. Students will be required to develop a problem-centered learning package appropriate to their level of responsibility in the school. P: cons inst.

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

In recent years numerous educational innovations have appeared on the scene, differing educational viewpoints (issues) have been articulated and alternative educational trends have been proposed. Educators and citizens are faced with numerous choices regarding education for the 1980's and beyond. Students enrolled in this class will critically examine and evaluate these innovations, issues and trends in education with particular attention focused on educational practices for the future. P: gr st or cons inst.

006-787 Analysis and Improvement of Teaching Effectiveness 3 cr.

This course provides teachers with the knowledge and background necessary to conduct an appraisal of their own teaching effectiveness. The central topic is the appraisal of teaching—concepts and processes. From this background, participants develop and implement an appraisal system to assess their own teaching effectiveness. Information gathered will be summarized and analyzed. Finally, teachers will conclude the course by developing a maintenance and improvement program for themselves. P: Must be teaching when the course is taken.

006-788 The Teacher and the Law 3 cr.

Concerns of teachers relating to tenure, nonrenewals, 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. Topics are considered with an emphasis on Wisconsin. P: gr st and teacher certification or cons inst.

006-789 International Comparative Education

Introduces the experienced educator to practices in selected Western and non-Western countries, explores the ways and the extent to which the school systems reflect the prevailing national characteristics and trends and documents in summary form the mechanisms of change and control which characterize these national systems of education. Students are encouraged to complete an in-depth analysis of schools and schooling practices in one of the target nations and to draw comparisons with American traditions. The role of education in the changing cultural milieu of the various nations is stressed. P: teacher certification or cons inst.

006-795 Special Topics

This course number is used to designate 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 special topics course as announced in the *Timetable* will appear on the transcripts of the students who enroll. Credits earned in the 795 special topics courses may not be applied toward the graduate core requirement.

006-798 Directed Study 1-3 cr

Reading and research under the supervision of a member of the graduate faculty.

UNDERGRADUATE/GRADUATE (500 AND 600-LEVEL) COURSES

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

Examines practices which produce an effective children's literature program. Analysis of current children's books; development of instruction units and independent programs to foster positive attitudes toward reading; using books for personal development; using books for developing attitudes about social issues such as ecological concerns and social and minority group relations; and criteria of evaluation of content, methods, and effect on students.

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

Examines practices in high schools, junior high schools, and middle schools which produce effective adolescent literature programs. Includes analysis of literature for the adolescent, current practices in literacy curriculum, personal development and literature for the adolescent, literature and social issues, and criteria for evaluation of adolescent literature and literature program.

302-604 Creative Learning 3 cr.

Students define creativity, confront creative experiences in their lives, structure and evaluate creative programs, review research on creativity, and synthesize a creative program in their roles as student, teacher, or parent. P: jr st.

302-605 Individualizing Instruction 2-3 cr.

New and innovative learning programs in grades K-12 designed to individualize instruction. Development of specific performance objectives, diagnostic procedures, staff organizations, student monitoring systems, and choice-elective instructional programs. Students may participate in a task force student-initiated project for the third credit. P: jr st.

302-606 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 standardized tests. Students may participate in a task force student-initiated project for the third credit. P: jr st.

302-607 Developing Environmental Education Materials for the Schools 2-3 cr.

Focuses on developing instructional materials and strategies to integrate environmental concepts, environmental values clarification, problem identification and problem solving techniques into elementary and secondary programs both in and outside of the classroom. Environmental education materials and methods appropriate to a variety of areas of study are considered, including art, music, theater, social studies, mathematics, language arts, and conservation, as well as environmental sciences. Emphasis is on designing, using and evaluating instructional processes and materials. P: jr st.

302-608 Reading Disability: Diagnosis and Remediation of Reading Problems 3 cr.

Important causes of reading disability and appropriate corrective strategies and materials. Psychological, physiological, and sociological considerations affecting disabled readers. The student learns to administer related diagnostic instruments, interpret results, and prescribe instructional procedures. Designed to meet expectations of classroom teachers. Suitable for both elementary and secondary school teachers. P: 302-307 or 318.

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

A survey of the kinds of exceptionalities found in the school population, the needs of such children, and some methods for meeting them. Information enables the teacher or parent to recognize and understand exceptional children and unique subtleties that deserve specific attention. P: jr st.

302-611 Nature and Identification of Learning Disabilities 3 cr.

An introduction to the nature and identification of learning disabilities and educational programs for their amelioration. Seeks to provide an understanding of the facets of learning disabilities and varying terminology in the field. Emphasis on contemporary theories concentrating on neurological organization and communication disorders as related to normal child development. Designed to provide an understanding of learning disabilities for those who intend to enter the general field of teaching. P: jr st.

302-695 Current Issues in Education 1-3 cr.

A variable content course for special topics in education. P: gr st with additional prerequisites as appropriate for specific offerings.

481-537 Developmental Tests and Measurements 3 cr.

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

UNDERGRADUATE COURSES (300 AND 400) NUMBERS

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 director of graduate studies. An assigned study card is required for registration in one of these courses.



Projected Course Schedule

PROJECTED SCHEDULE OF GRADUATE COURSES

This projected schedule of course offerings has been prepared to assist students in preparing their programs of study. An asterisk (*) denotes a late afternoon or evening offering.

Please note that this course list and schedule represents the best available information at the time this catalog was published. *Timetable* preparation is based on this list. However, since this catalog was prepared well in advance of the 1981-82 academic year, it is possible that some courses may be added or deleted, or the schedule altered due to availability of faculty, program changes, or other factors, over the two-year life span of this catalog. Students should use this list as advisory, and check the offerings for each semester in the *Timetable* and with the other information from the Graduate Studies Office.

Fall 1981

- *002-750 Executive Decision Making
- *002-753 Administrative Theory and Behavior
- *002-754 Human Ecology and Public Policy
- *004-732 Qualitative Research Methods
- *006-786 Current Issues and Trends in Education
- *006-795 Supervision of Student Teachers
- *006-795 Business Administration of School Systems
- *008-751 Bases of Community Health
- 008-762 Natural Science Seminar
- *008-766 Waste Management/Resource Recovery Seminar
- *008-767 Statistical Design and Analysis of Experiments

008-774 Procedures in Habitat Evaluation
008-776 Bioclimatology

*009-726 Special Topics: Skills Training for Coping in the Professional World
*009-737 Community Human Services
*009-739 Behavioral Research Strategies

January 1982

*009-795 The Political and Social Functions of Human Services

Spring 1982

*002-752 Environmental Policy and Administration
*002-757 Management of Complex Organizations

*006-787 Analysis and Improvement of Teaching Effectiveness
*006-789 International Comparative Education
*006-795 Comprehensive Educational Planning

*008-724 Hazardous and Toxic Materials
008-759 Coastal Zone Management
*008-762 Natural Science Seminar
*008-768 Multivariate Statistical Analysis
*008-770 Scientific and Technical Communicating
008-778 Epidemiology

*009-703 Community Organization and Planning
*009-736 The Concept of Change and Social Intervention
*009-765 Evaluating Social Programs
*009-769 Seminar in Community Human Services

Summer 1982

002-755 Design and Analysis of Socio-Technical Systems

006-707 Outdoor Environmental Education
006-772 Contemporary Educational Thought
006-788 The Teacher and the Law

009-702 Principles and Practices of Consultation

Fall 1982

*002-750 Executive Decision Making
*002-753 Administrative Theory and Behavior
*002-754 Human Ecology and Public Policy
*002-756 Policy Making Process

*006-780 Foundations of Elementary and Secondary School Curriculum

*008-701 Perspectives in Environmental Science
008-749 Wetland Ecology and Management
008-762 Natural Science Seminar
*008-767 Statistical Design and Analysis of Experiments
*008-771 Behavioral Toxicology
008-775 Ecology of Food Production

009-726 Skills Training for Coping in the Professional World
*009-737 Community Human Services
*009-739 Behavioral Research Strategies
009-795 The Political and Social Functions of Human Services

January 1983

008-761 Global Environmental Monitoring

Spring 1983

*002-752 Environmental Policy and Administration
*002-757 Management of Complex Organizations

*006-784 Development of Contemporary Problem-Focused Curricula

008-724 Hazardous and Toxic Materials
*008-730 Technology Assessment
*008-738 Global Ecology: Conservation of Natural Resources
*008-762 Natural Science Seminar
*008-764 Mathematics of Operations Research and Management Science
*008-768 Multivariate Statistical Analysis

*009-703 Community Organization and Planning
*009-736 The Concept of Change and Social Intervention

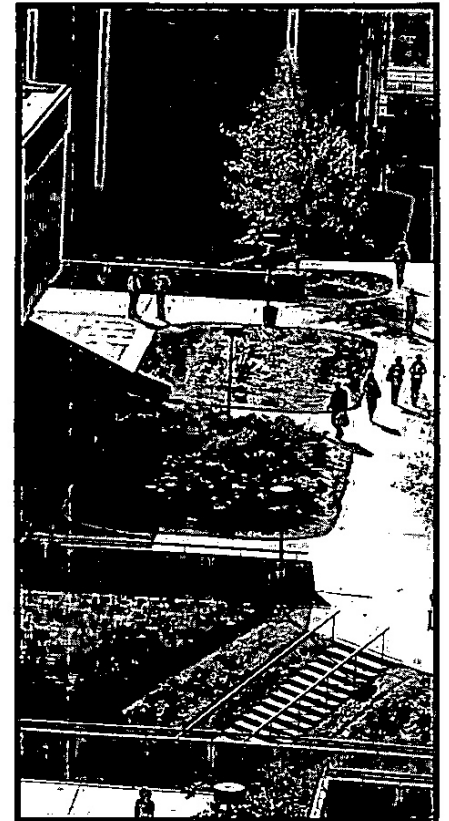
*009-741 Land Use Institutions and Policy
*009-765 Evaluating Social Programs
*009-769 Seminar in Community Human Services

Summer 1983

002-755 Design and Analysis of Socio-Technical Systems

006-781 Environmental Education Processes and Materials
006-786 Current Issues and Trends in Education

009-702 Principles and Practices of Consultation



Admissions, Costs, and Financial Aids

ADMISSION INFORMATION

Admission to a UWGB graduate degree program is a decision by the director of graduate studies and the Admission Committee for the area of emphasis identified by the student on the application form. The decision is a judgment of the student's suitability, based on educational background and educational objectives, to pursue the M.S. or M.A. in Environmental Studies Degree, and an estimate of the applicant's potential to succeed in graduate degree work at the University of Wisconsin-Green Bay.

ADMISSION REQUIREMENTS

While UWGB has a basic admission policy for the M.S. or M.A. in Environmental Studies Degree, a philosophy of personalized admission assures that each applicant will be considered on an individual basis. Entry requirements for full admission include:

1. A baccalaureate degree from an accredited institution.
2. A 3.0 grade point average, measured on a 4.0 scale, for the final two years of study. Students from colleges or universities not using a grading system will be evaluated on an individual basis.
3. Specific prerequisites for entrance to the area of emphasis specified on the application.

Students who do not meet the 3.0 gpa requirement or have other deficiencies may be admitted on a provisional basis. Provisionally admitted students who maintain a 3.0 gpa through 9 credits of graduate work subsequently will be fully admitted.

International students must be prepared to submit a minimum score of 500 on the Test of English as a Foreign Language (TOEFL). International student applicants must show official evidence of having financial resources which are adequate to provide for their educational expenses.

THE APPLICATION

An application form can be obtained on campus at the Office of Admissions or the Office of Graduate Studies. Forms will be mailed in response to telephone requests, (414) 465-2484, or written requests directed to: Office of Graduate Studies, University of Wisconsin-Green Bay, Green Bay, Wisconsin 54302.

The following documents are required:

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. or M.A. in Environmental Studies Degree.
3. Official undergraduate and graduate transcripts from each previous college or university attended, sent directly to UWGB from these institutions.
4. Three letters of recommendation from responsible persons who can comment on academic abilities.

Under the requirements of the Buckley Amendment to the Family Educational Rights and Privacy Act of 1974, files of registered students are open to their inspection unless they can waive their right to see letters of recommendation.

Additionally, an applicant may wish to provide quantitative and verbal scores from the Graduate Record Examination or Miller Analogies Test scores. These are *not* requirements for admission; however, in cases where the student has a marginal or low gpa, the student is encouraged to submit the Graduate Record Examination scores as supplementary information.

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

THE ADMISSION PROCESS

The admission process is initiated by submission of the completed application form to the Office of Admissions. The Admissions Office notifies applicants whose files are incomplete. When the file is complete, the transcripts of previous undergraduate work and of all graduate courses are examined and evaluated by the Office of the Registrar. Factors which may affect either admission to the graduate program or the acceptance of transfer credits are noted. The file is forwarded to the Office of Graduate Studies where the director of graduate studies, on the advice of the Admissions Committee for the area of emphasis specified on the admissions form, either admits the applicant to the graduate program and area of emphasis, provisionally admits the applicant, or denies admission. In the event that a student is denied admission, a reason for the denial will be provided along with an explanation of available options. Students denied admission may request reconsideration by writing to the director 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.

PERMIT INFORMATION

A permit to register is sent to each student upon his/her admission to the graduate program. The following information appears on the permit:

Student Number

The permanent student number of each applicant is his/her social security number or a University assigned identification number.

Classification and Year

The status of each student is designated by one of these abbreviations:

MS5/MA5 First semester M.S. or M.A. student without approved program plan.

MS6/MA6 M.A. or M.A. student with approved program plan. A degree seeking student may not register for classes in a second term without an approved program plan.

MS7/MA7 M.S. or M.A. student with approved program plan and approved thesis proposal. A student may not register for thesis without the MS7 or MA7 classification.

GSP Graduate Special student. This classification indicates that course work is being taken for graduate credit, however, the student is not participating in a UWGB graduate degree program. A graduate special student who decides to pursue a UWGB graduate degree is required to 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. or M.A. degree; however, there is no guarantee of this.

Students who entered the Master of Environmental Arts and Sciences (MEAS) degree program prior to Fall, 1981, will be classified ME5, ME6, or ME7, where the 5, 6, and 7 designations indicate progress toward the degree in the manner cited for the M.S. or M.A. classifications.

APPLICATION FEE

A non-refundable twenty dollar (\$20) application fee 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 \$20 fee does not apply to students who wish to be admitted as special students (i.e. non-degree students). The fee does not apply to students seeking readmission after a period of inactivity or students seeking reconsideration for admission provided that reconsideration is sought within a period of two years, measured from the first day of that term for which the original admission was sought.

APPLICATION DEADLINE

Application, undergraduate transcripts, and letters of recommendation should be submitted no later than July 1 for entry into the M.S./M.A. degree program for the fall semester. The application deadline for the spring semester is December 1. Students who do not meet these deadlines have an opportunity to take courses as a graduate special student and apply for admission to the degree program for the next semester.

ACTIVE/INACTIVE STATUS

Students who have been admitted into the graduate program and have earned credits in the program, who subsequently earn no graduate credit at UWGB for four consecutive semesters without notifying the Graduate Studies Office by filing a request for leave, are considered inactive and must be formally readmitted before they can re-enroll. Inactive students who are required to reapply must meet admission standards in effect at the time of readmission and are expected to meet degree requirements in effect at that time. The \$20 application fee does not apply to students seeking readmission after a period of inactivity.

For students admitted into the program who do not enroll for classes, UWGB will keep their records for two years. If the student wishes to enroll after that two year period, he or she will have to reapply for admission and pay another \$20 application fee.

COSTS

Tuition and fees for full-time graduate study (9 credits or more) for the 1981-82 academic year were \$570.00 per semester for residents of Wisconsin and \$1722 per semester for non-residents. Part-time students were assessed a fee of \$64.25 per credit for residents of Wisconsin and \$192.25 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 fee information sheets and are available on request from the office of the Registrar.

RECIPROCITY

A reciprocity agreement exists between Minnesota and Wisconsin. Minnesota residents may pay in-state 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.

GRADUATE ASSISTANTSHIPS

Graduate assistantships are available on a competitive basis. Graduate assistantships carried a stipend of \$4700 in 1981-82. Students receiving assistantships are expected to devote approximately 20 hours per week performing assigned duties. Typical duties are: to serve as a teaching assistant in a laboratory or discussion class; tutor students in the Academic Support Program; assist in a staff office; or serve as a research assistant.

To be eligible for graduate assistantships students must:

- be fully admitted to the M.S. or M.A degree program;
- be enrolled for a minimum of six credits of graduate course work each semester and no less than 15 credits during the academic year.

Applications for a graduate assistantship should be filed before March 15 for the following September. Applications received after this date or at other times of the year will be considered for unfilled assistantships or assistantships funded from grant monies. Students who wish information on availability of assistantships should inquire at the Graduate Office.

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 tuition.

OTHER FINANCIAL AID

In addition to graduate assistantships, students may apply for several other grant or aid programs, such as National Direct Student Loans, Wisconsin Guaranteed Student Loans, or University work/study awards. Minority students may apply for Advanced Opportunity Grants or Wisconsin Indian Student Assistance Grants. For more information, contact the Financial Aids Office, (414) 465-2075.

Resources and Services

DEAN OF STUDENTS

Conciliator, mediator, ombudsperson, counselor, friend. Any of these might describe the function of the Dean of Students as a student resource person. He is concerned with all aspects of student life and with a student's adjustment to the University. He is particularly interested in how the various student service offices function to help students. These include Admissions and Orientation, Financial Aids and Student Employment, the Counseling and Student Development Center, Placement and Career Development, Student Health Services, the International Student Center, the Ethnic Heritage Center, the Children's Center, the Lucy Stone Center (Women's Center), and University Housing.

The Dean of Students tries to help students accomplish personal goals and solve problems through a variety of means, most often by providing advice, counsel, referral, and support to aid students in using their own personal resources and those of the University to resolve problems and make changes.

The Dean's Office provides some special services including coordinating a free legal consultation service for students. A student who has a problem he or she feels requires legal advice may discuss it with personnel in the Dean of Students Office, Counseling and Student Development Center, or Student Life Office. If a legal adviser is required, a free consultation is arranged with a Green Bay law firm. After the first visit, consultations are the student's financial responsibility. Often, one visit can solve the matter.

The Dean of Students serves as a campus resource for academic and non-academic student disciplinary procedures. He gives advice and opinions on individual cases involving the UW System's student disciplinary guidelines. The dean is concerned with student rights and due process, but his primary goal is appropriate counseling if a student needs and requests it.

Copies of UWGB disciplinary guidelines and procedures are distributed in the student resource and handbook.

The Dean of Students is interested in all concerns or problems students may have relative to the total learning environment at UWGB. Students are encouraged to provide appropriate responses at any time.

COUNSELING AND STUDENT DEVELOPMENT CENTER

The Counseling and Student Development Center provides three basic services: counseling for students and their families wanting to develop their personality resources, and/or experiencing emotional crisis in their lives; growth group experiences for students, including para-professional training; and consultation to student organizations, faculty, and other administrative units toward better use of human resources.

Individual counseling helps students in making decisions which affect their educational, vocational, and personal-social development and adjustment. Vocational interest and personality test are available.

Students using the center are provided with a confidential setting where they can freely explore their concerns. Students requiring long-term counseling or those with severe emotional problems are helped to find appropriate community resources and services.

Various short term, structured growth groups are offered to students wanting to improve their self-awareness, communication, and relationship skills. Such topics as stress reduction, assertiveness, transactional analysis, parent effectiveness, family/couple enrichment, career life planning, and para-professional training are examined and developed in small, experimentally oriented groups.

The center's staff is committed to the belief that various social environments can influence behavior positively or negatively. Consequently, it provides consultation, occasional workshops, and media resource on humanizing work groups and work environments. Groups of students doing joint independent studies or leading their own courses may consult with center staff on enhancing their own processes of interaction.

An informal atmosphere is maintained in the Counseling and Student Development Center and everyone is encouraged to drop in for coffee and to meet the staff.

PLACEMENT AND CAREER DEVELOPMENT

The Placement and Career Development Office provides comprehensive career advising and placement services for UWGB students and alumni.

Employers from business, industry, government, and education come to the campus to interview students for career opportunities. Additional services offered to career seekers include help in preparing resumes and in developing good interviewing skills.

Vacancy notices listing current job openings in business, industry, government, and education are published and distributed weekly. A video taping laboratory is maintained to help students prepare for interviewing. Video taped interviews are sent to prospective employers who request them and who are located at a distance which would make in-person interviews difficult and expensive to arrange.

The office maintains individual placement (credential) files for graduates seeking employment.

Information describing various employers and their position descriptions are housed in the career library and are of special value to graduates who are investigating the opportunities available.

STUDENT HEALTH SERVICE

The Student Health Service exists to care for illness and injury on campus and to help students develop physical and mental health care patterns that will equip them for productive lives.



Free medical service is available on a walk-in basis. Three key concepts are integral to the physical and philosophical operations of the Health Service: preventive medicine, student-oriented service, and a referral system to area doctors. The nurses and support staff approach the often unique needs of students with personal and confidential service.

In addition to treating minor illness or injury, the Health Service dispenses commonly used medications approved by the medical consulting staff; provides information on nutrition, dieting, and other health topics; and assists handicapped students with reserved parking and other services.

All UWGB students are urged to obtain health insurance to cover emergencies that may arise throughout the year. Students not covered under a family policy may get information on student health insurance through the Health Service. Insurance coverage is mandatory for intramural sports participation.

A medical history form is required of all students before enrolling at any University of Wisconsin System campus. A medical report form is mailed to students after they are accepted. The personal health history section of this form must be completed and on file in the health office in order to receive health services.

HANDICAPPED STUDENT FACILITIES

Students with physical disabilities will find that efforts are made to accommodate their special needs.

There are reserved parking areas near the buildings for persons with handicaps. The academic buildings and the University Commons are connected by concourses so that once inside, students can move from building to building without going outdoors.

Ramps, elevators, and special toilet facilities are provided throughout the University for the benefit of wheelchair students. There are telephones and drinking fountains at convenient levels. Wheelchair students also have easy access and seating space in the University Theatre. Two science laboratories—one for chemistry-physics and one for microbiology—have been constructed so that students in wheelchairs can use the facilities.

The Phoenix Sports Center is built on one level and has special shower and dressing facilities. Also, the pool has a lift for persons with physical disabilities and has depths as shallow as 30 inches.

A Resource Center is located in the Library Learning Center. There; students with hearing, visual, and orthopedic impairments are offered academic support services. Notetaking, test reading, research assistance, and textbook recording are some of the services offered. The center is equipped with tape recorders, a braille writer, automatic page turner, a talking calculator, and typewriter. The center also provides referral services for additional needs.

The Health Services Office provides special help, such as arranging for special parking spaces. The office of Academic Advising, counseling staff in the Counseling and Student Development Center, and other offices are ready to assist students with disabilities.

CHILDREN'S CENTER

The University student who is the parent of children aged 2 to 6 may use the facilities of the Children's Center while attending class, studying, or working. The center, located on campus, is open from 7:30 a.m. to 5:45 p.m. Licensed nursery kindergarten teachers plan a balanced early childhood program with the assistance of practicum and work/study students. Registration begins one month prior to each session. Sessions are offered in the fall, spring, January interim, and summer. Space is limited, so applications should be in early. Further information can be obtained from the center or the Dean of Students Office.

LIBRARY

Located at the hub of the campus, the architectural award-winning Library Learning Center building is the intellectual heart of the University. Its first seven floors house a modern library learning facility, with 240,000 books, 1,100 current periodical subscriptions, 120,000 maps, 2,500 sound recordings, and over 800 reader stations, including carrels, study tables, and small private and group study rooms. A host of other materials and services make up a fully appointed academic library.

A trained and versatile library staff is on hand to help students and others use and interpret this wealth of materials.

Besides the customary books and journals, the library makes available through playback carrels in the media services room films, videotapes, and other media materials, and has a growing collection of phonograph records and tapes, including a basic music collection, drama and other spoken word recordings, listening equipment and music scores. There are 500,000 microprint cards and over 20,000 reels of microfilm plus thousands of other microforms, making retrospective or out-of-print information available in a small space.

Media Services furnishes audio-visual materials and equipment for playback and projection. Media equipment is available on a checkout basis to faculty and students.

The library is a depository for United States government publications and for Wisconsin documents. Selected Canadian and British materials are included. Many retrospective United Nations documents are available on microprint as well as a good selection of current U.S. materials. The map collection is substantial. The library is a depository for Wisconsin and Michigan maps of the U.S. Geological Survey and for the Department of Defense, Defense Mapping Agency.

The Area Research Center is active in the network established by the State Historical Society to make municipal and county manuscript records more accessible to people of the area. These records are a rich source of original information for students of history, genealogy, and local culture, and the network also makes possible easy use of the records maintained in other parts of the state. A Bicentennial study of the Belgian-American culture, which attracted national and international interest, is one example of the kind of research project which is housed in the Area Research Center.

Throughout the library, the open stack arrangement, on comfortably carpeted floors, brings together books and readers quickly and pleasantly. Copy machines (including copying from microforms) and free and rental typewriters ease the task of the student. There are special facilities for blind and other physically handicapped students.

An active interlibrary loan department obtains materials not available here by tapping the resources of other libraries. The UWGB Library is an active member of NEWIL, an organization of Northeast Wisconsin libraries sharing resources, and WILS, (Wisconsin Interlibrary Loan Service), an office headquartered in Madison to expedite interlibrary lending from the substantial collections there. A microfilm copy of the UW-Madison card catalog (as of 1969) and an unusually full and varied collection of periodical indexes and abstracts facilitate such borrowing.

ECUMENICAL CENTER

The religious ministry on campus is focused in the Ecumenical Center sponsored by 12 Protestant denominations, the Roman Catholic church, and Cheshes Israel synagogue. Through its program and two full-time campus ministers, Father Dick Mauthe and the Rev. Dave Steffenson, the center ministers to the personal, intellectual, and spiritual needs of the UWGB community.

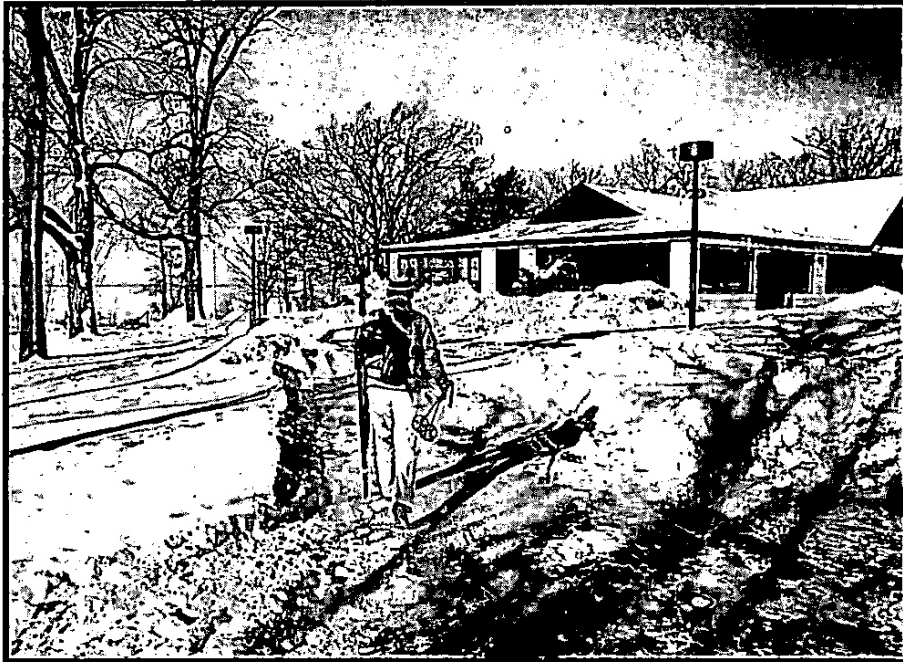
Traditional religious needs are met through regular worship, counseling, study of the Bible and other topics, and personal growth weekends. The center also brings nationally known speakers to the campus, provides programs and forums on current topics and values, and provides other group opportunities such as a marriage insight course, a world hunger task group, special courses and seminars on career and life planning, and other events.

The Ecumenical Center takes seriously UWGB's commitment to quality of life and human survival in the midst of the environmental crisis, and has been actively developing the religious, ethical, and value dimensions of ecology through conferences, programs, and courses.

The center is located in the comfortable Shorewood building near the main entrance to the campus. Worship and other large-group meetings are held at the Hartung Center near downtown Green Bay. A free church bus is provided every Sunday for University Village Apartments residents.

AMERICAN INTERCULTURAL PROGRAMS

American Indian Studies, Black Student Programs, and Hispanic Student Programs operate out of the American Intercultural Programs office on the plaza level of the Library Learning Center. The three programs generate a variety of academic and non-academic activities. Students and prospective students who have questions about American Intercultural Programs should direct them to the program coordinator.



INTERNATIONAL STUDENT CENTER

Ninety-five students from at least 20 different countries are attending UWGB to earn a degree which may not be readily available in their home country and to gain first hand knowledge of the American way of life. These international students have a wealth of information about their country and cultures as well as interesting perceptions of America and international affairs.

The International Student Center provides a setting for international students to share this information and to interact with Americans and each other. The Center lounge is a comfortable environment where ideas can be expressed and debated.

International arts, crafts, and periodicals are on display at the Center; information on study abroad opportunities is also available at the Center. The International Student Center is located on the seventh floor of the Library Learning Center.

INFORMATION CENTER

UWGB's Information Center provides services to the campus community, to visitors, and to the community at large.

The center can provide information about times and locations of events on campus; maintains a list of names, addresses, and telephone numbers of students; and can help visitors locate faculty, staff, and other offices. It offers campus tours and serves as a lost and found department. The University switchboard is located at the center.

In addition, it can provide emergency message service, provides an on-campus postal service for students, has information on the bus service, and sells student rate bus tickets.

It also distributes informational materials, maintains campus bulletin boards, and compiles a weekly list of events, "This Week on Campus."

The Alumni Association Office and the resource person for the handicapped are housed in the center.

The Information Center is located on the con-course level of the Library Learning Center just inside the main circle entrance, which is convenient from the visitor parking lot. The center's hours usually coincide with those of the Library. It is open seven days a week.

LIFELONG LEARNING

In 1980-81, 37 percent of UWGB's total student body was 25 years of age and older.

All courses at UWGB are open to adult students. Many courses are scheduled during late afternoon and evening hours to meet the needs of those unable to attend during the day. Also, some courses are scheduled in off-campus locations including Door, Manitowoc, Marinette, Menominee, and Outagamie counties to provide opportunities for persons in those areas to continue their education.

Credit courses on television and radio, a newspaper credit course printed in area papers, independent study, credit for experience, and the opportunity to gain credit by examination are unique ways for older students to work toward a degree even though they may have other major responsibilities.

A variety of noncredit courses is offered for those not interested in pursuing a degree.

Senior guests students 62 years of age and older may audit courses free of charge.

Students taking at least six credits may apply for financial aid. Some scholarships are available for persons with financial need who want to take only one course at a time.

Adults interested in taking advantage of the University's resources should also read the sections in this catalog describing the University's program and philosophy found in the introduction, as well as the section on admission.

Through the Speaker's Bureau maintained by the office of Outreach, University speakers and performers appear in the community also.

CONFERENCES, SEMINARS, WORKSHOPS

UWGB regularly conducts conferences, seminars, and workshops and is host to such events sponsored by other organizations in an effort to serve the community's need for educationally oriented programs. Students, faculty, and area citizens participate in these events.

Such events enrich both campus and community, as well as meeting UWGB's goal of community involvement.

Recent conferences on campus have included topics such as women in business, grantsmanship, inflation and presidential politics, gifted and talented students, learning disabilities, and many others.

COMPUTING AND DATA SERVICES

UWGB's computer system serves instructional, research, and administrative needs. Use by faculty and students of the batch processing capabilities and time sharing terminals for instructional purposes is encouraged. Computer accounts can be opened by any student. The system supports 40 time sharing terminals. The staff provides consulting services in all service areas. The Computer Center is open until midnight daily and during the day on weekends.

The computer system consists of a Xerox Sigma 6 computer with one million bytes of memory, tape, and disk drives.

Software capabilities include an Extended Data Management System (EDMS), the Statistical Programs for Social Sciences (SPSS), the Biomedical Computer Programs (BMCP), MINITAB, and a variety of computing languages such as BASIC, FORTRAN, COBOL, APL, PASCAL and others. Micro computers are available for use in laboratories and other special uses.

Keypunching and test-grading equipment are available. In a separate workroom, 12 DECWRITER II terminals, one graphics terminal, two cathode ray tubes (CRT's), and one key-punch are available to students.

EDUCATIONAL COMMUNICATIONS

UWGB's Educational Communications Office provides a variety of media-related services for faculty and students. The visual design staff provides graphics, layout and artwork for signs, displays, and exhibits; laminating services;

overhead transparencies; artwork for slides; photostat enlargements and reductions; limited typesetting; and consulting services. Still photography personnel work both in the studio and on location, process black and white and color slides, provide dry-mounting and copy stand services, and assist with production of slide/tape shows. The Educational Communications audio staff provides on-location and studio recording services, tape duplication, production of radio credit courses, and sound tracks for slide/tape presentations.

CENTER FOR TELEVISION PRODUCTION

The UWGB Center for Television Production is a nationally recognized production facility which produces college television credit courses and children's instructional television series, as well as documentary and public service programs. These programs are distributed and telecast by the Wisconsin Educational Television Network, the twelve-state Central Educational Network, the Agency for Instructional Television, the Public Broadcasting Service, and a variety of public and commercial stations, as well as cable systems throughout the country. UWGB programs have won numerous awards for production excellence.



Campus Life

This section of the catalog will give some idea of what life can be like for a student on the UWGB campus. It describes practical matters such as housing, food, and transportation, and some of the opportunities for activities, recreation, and involvement at UWGB. Activities listed are by no means all of the possibilities that exist. Students with a variety of interests will be able to find extracurricular activities in which to put their energies and talents to work.

HOUSING

Students at UWGB can choose from three housing alternatives:

1. They can live in the University Village Apartments adjacent to the campus. University Village Apartment rentals are competitive with dormitory rates in the UW System.
2. They can live in an apartment, room, or house in Green Bay or in the nearby rural area.
3. If they are from the region, they can live at home and commute.

The University Village Apartments are designed specifically for students. They offer more individual space and privacy than the traditional dormitory. A typical, furnished, four-person unit has a living room, two bedrooms with twin beds, a compact kitchen with built-in appliances and cupboards, and a bathroom with a shower. A few two-person and single person units are also available.

Resident resource students, selected and trained by UWGB's Housing Office and Counseling and Student Development Center, live in each apartment building. Resource students are familiar with campus and community resources and Red Cross First Aid procedures, and serve as organizers for activities. Information about apartment rentals is available from: Director of Housing, University Village, University of Wisconsin-Green Bay, Green Bay WI 54302.

Private housing off campus is not difficult to find in Green Bay. Both furnished and unfurnished accommodations are available for rent. The housing director also maintains a list of available housing off campus. Inquiries about off campus housing may be sent to the housing director, or obtained from the Dean of Student's Office.

Living at home and commuting offers an economical housing alternative providing distances to campus are not too great. The campus can be reached by private automobile and by Green Bay public transportation.

Each housing alternative has its own advantages and disadvantages. What kind of housing students choose must be based upon what each feels is appropriate for him or her.

TRANSPORTATION

The Green Bay Transit Commission provides bus service between the UWGB campus and downtown Green Bay on Monday through Saturday. Schedules usually operate from early morning to approximately 10 p.m. Student rate tickets and bus route information are available at UWGB's Information Center.

FOOD SERVICE

Students may purchase discount coupons at the Commons food service that are redeemable at any time in the cafeteria. Breakfast and lunch are available in these dining facilities. Lunches include a variety of hot and cold entrees, salads, desserts, and beverages, served cafeteria-style and some made-to-order items. Grill service is available in the Rathskeller during hours when the food service is not operating.

STUDENT GOVERNMENT

Student Government Association is an umbrella organization for two legislative bodies representing students at UWGB: One aspect of SGA is the Student Senate, comprised of two students chosen from each undergraduate concentration and graduate program in at-large elections. Student Senate will consider any issue important to the student body.

SUFAC (Segregated University Fee Allocation Committee) is the other branch of SGA. Its 12 student members allocate expenditure of all student fee monies to student organizations, student programs, athletics, and related activities—over \$375,000 a year.

Student Government Association welcomes interest from new students and invites them to visit SGA offices in the Student Services Building.

STUDENT UNIONS

Student Unions operate somewhat like lobbying groups. Students in several undergraduate academic concentrations have organized unions and use these organizations as structures through which to approach issues of concern to students in the concentration. Some student unions work with faculty in their concentrations on academic issues such as class offerings, requirements, faculty hiring and firing practices, and other issues. The unions also provide opportunities for social contacts among students and between students and faculty.

COMMITTEES

Student/faculty/staff committees provide other opportunities for students to have a voice in campus issues. Each committee deals with a specific activity or concern such as student conduct policy, student rights and responsibilities, library, academic actions, adult education, admissions, athletics, ethnic studies, women's studies, equal opportunity, awards and recognitions, chancellor's student advisory, and others. Students may volunteer to participate in these committees at the office of Student Life, the SGA office, or the office of the Dean of Students.

GOOD TIMES LTD.

Good Times Limited is a student-run programming board which coordinates the activities of six special interest committees. Good Times, through these committees, schedules films, bands, folk entertainment, arts and crafts shows, and outdoor entertainment.

The committees are: SPORE, International Film, Popular Film, Arts and Crafts, Bands, and Coffeehouse. Committee names are self-explanatory, except for SPORE which stands for Self-Propelled Outdoor Recreation Enthusiasts (canoers, bicyclists, hikers, etc.) and possibly Coffeehouse which schedules entertainment in the Shorewood Club, and occasionally sponsors folk festivals and other entertainment.

Students who would like to work on any of these committees may sign up in the office of Student Life.

STUDENT ORGANIZATIONS

Nearly 50 student organizations registered with the office of Student Life at the close of the 1979-80 academic year ranged from A—Accounting Club, Agape Christian Fellowship, AIESEC, Alternate Theater, Alternative Energy Society, and Aviation Club—to W—Writer's Union (there were no X's, Y's, and Z's).

Students with recreational, social, political, academic, environmental, social service, or religious interests who wish to become involved in activities have a variety of campus clubs and organizations to choose from.

Registering with the office of Student Life makes organizations eligible for student fee funds. Unregistered organizations also exist which require no financial support or support themselves.

Student groups are easy to organize by registering at the office of Student Life. Some clubs serve short term purposes, such as those supporting political candidates; others become permanent parts of the campus scene.

Among organizations serving academic, cultural and professional interests are the foreign language clubs; Philosophy Forum; the Writers Union, Accounting Club, Social Work Club, Alternate Theater, Science and Environmental Change, Jazz Club, and others.

Some groups have state, national, and international affiliations, such as AIESEC (Association for the International Exchange of Students of Economics and Management), MENC (Music Educator's National Conference), Student Wisconsin Educational Association, and the student chapter of the Wisconsin Society of Professional Engineers.

Other groups serve students with common ethnic backgrounds or common experience in coming to UWGB, such as the Black Student Organization, the Native American Club, and the International Student Club. Black and White Awareness promotes communication between ethnic groups.

Veterans Club is based upon shared experience.

Organizations concerned with environmental issues include Round River Alliance, Alternative Energy Society, and Organic Gardening Club.

These are only some of the student organizations at UWGB. More information about existing organizations or about forming new ones is available at the office of Student Life.

BAYSHORE OUTING CENTER

Bayshore Outing Center provides information, equipment, and instruction for persons interested in taking advantage of the outdoor recreation possibilities provided by Brown and Door counties and the larger area of north-eastern Wisconsin and Upper Michigan.

The center operates separate recreation programs for summer and winter. The winter program is housed in Shorewood Club East. From about mid-December to mid-March, cross country skis, snowshoes, toboggans, and sleds are available for rent. Marked ski trails are maintained on the campus and golf course and group lessons are given.

The summer outing program, which operates from the center on the bay, offers equipment for hiking, backpacking, canoeing, and sailing. Tents, sleeping bags, stoves, packs, canoes, and sail boats can be rented for nominal fees. Instruction, maps, and information can be obtained from the qualified staff. The Phoenix Sailing Club and Sailing Team have their headquarters at the Outing Center. Outing and group trip information also can be obtained.

THEATER

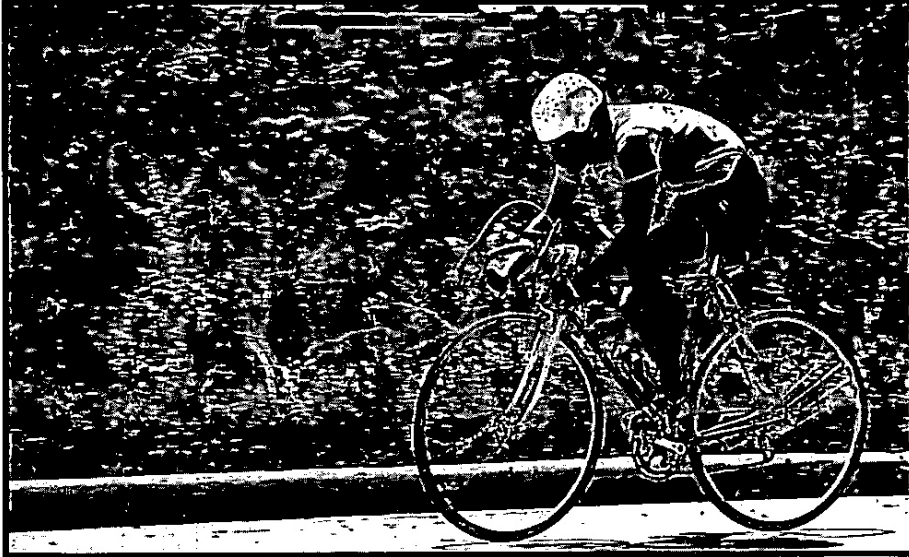
A student can become involved in theater at UWGB as a spectator or as a participant. One way to become a participant is through the academic program. Classes in theater can lead to work on all aspects of UWGB productions. Play writing classes can result in work in the theater also.

Two distinctive theater experiences are available: main stage productions, directed by faculty, and student-directed experimental theater productions which take place in a smaller, more intimate atmosphere. A student who has a desire to work in theater can probably do so without taking a class by watching for opportunities and volunteering. Many activities other than acting are available: set construction, scenery painting, lighting, publicity, photography, make-up, costume design, ushering, sewing, and stage managing.

UWGB students frequently participate in theater activities in the larger community too. Among opportunities are Green Bay Community Theater which holds open auditions for a full schedule of winter season plays; Harlequin Players, which present more avant-garde work, and others. Because northeast Wisconsin is a summer resort area, there also are opportunities for summer theater nearby.

DANCE

Students interested in the dance can see and participate in all styles of dance at UWGB. University Dance Theater presents a major performance each spring. Dancers also participate in UWGB theater productions.



MUSIC

Students can participate in music activities at UWGB no matter what their major. They can do so by registering for these activities when signing up for classes each semester.

The UWGB Marching Band, which plays for several Green Bay Packer games each fall, and the Oratorio Chorus are open to everyone without audition.

Other groups require auditions. These include concert band, the vocal choir, the University Singers (pops), jazz ensembles, Collegium Musicum, and a variety of small ensembles and groups. Some students audition for the Green Bay Symphony Orchestra and receive UWGB credit for playing in it.

Other opportunities—for credit or non-credit—exist on and off campus. Occasionally there are pit orchestras or other campus groups needed for special events. Green Bay Community Chorus is open to students. Many students form groups of their own and play for campus and community events.

LECTURES AND PERFORMANCES

Professional performing arts programs and entertainment appear on the UWGB campus under the auspices of the office of Lectures and Performances. Over the years performers such as Vincent Price, Carlos Montoya, the Murray Louis Dance Co., Lotte Goslar, the Oxford and Cambridge Shakespeare Co., the Minneapolis Guthrie Theater Co., and many others have appeared at UWGB.

Lectures and Performances also schedules the annual University Lecture Series which has brought to campus persons such as Margaret Mead; Dr. Bruno Bettelheim; *Roots* author Alex Haley; LaDonna Harris, founder of Americans for Indian Opportunity and 1973 Woman of the Year for Public Service, and others.

STUDENT LECTURE FORUM

Student Lecture Forum is a seven-member student board which sponsors and co-sponsors workshops, demonstrations, seminars, and films on campus. Lecturers who have appeared under their sponsorship include persons with varied interests as Black poet Nikki Giovanni, former Congresswoman Bella Abzug, sixties activist Abbie Hoffman, the mentalist The Amazing Kreskin, and others.

FOURTH ESTATE

Students plan, write, make photographs, sell and design advertising, draw cartoons, manage the budget, edit, and lay out the weekly student newspaper, *The Fourth Estate*. The newspaper is distributed free on campus.

Students interested in working on the newspaper can find information on who to contact and where to contact them in the first issues of the paper each academic year.

THE SHEEPSHEAD REVIEW

Creative writers and artists may get their work published in the campus literary magazine, *The Sheepshead Review*. The *Review* is published twice each academic year and concentrates on high quality writing—both prose and poetry—and photographs, drawings, prints and other reproducible work. The magazine has a student editor, and students are responsible for design and production. *Sheepshead Review* is distributed free on the campus.

RADIO STATION WGBW

Students operate station WGBW, a 3,000 watt stereo FM station. Students of all academic and social interests have the opportunity to apply their talents toward operating this "alternative" broadcasting service, which provides the people of northeast Wisconsin with programs they may not be able to hear on other area radio stations.

Programming to a large extent depends upon the interests of students who work at the station, but it always includes news, features, and a wide selection of music. Play-by-play broadcasts of some UWGB intercollegiate sports are scheduled.

INTRAMURAL SPORTS AND OPEN RECREATION

Intramural sports and recreational activity programs attempt to be responsive to student interests, so offerings vary from time to time. Both co-ed and men's and women's intramurals are organized.

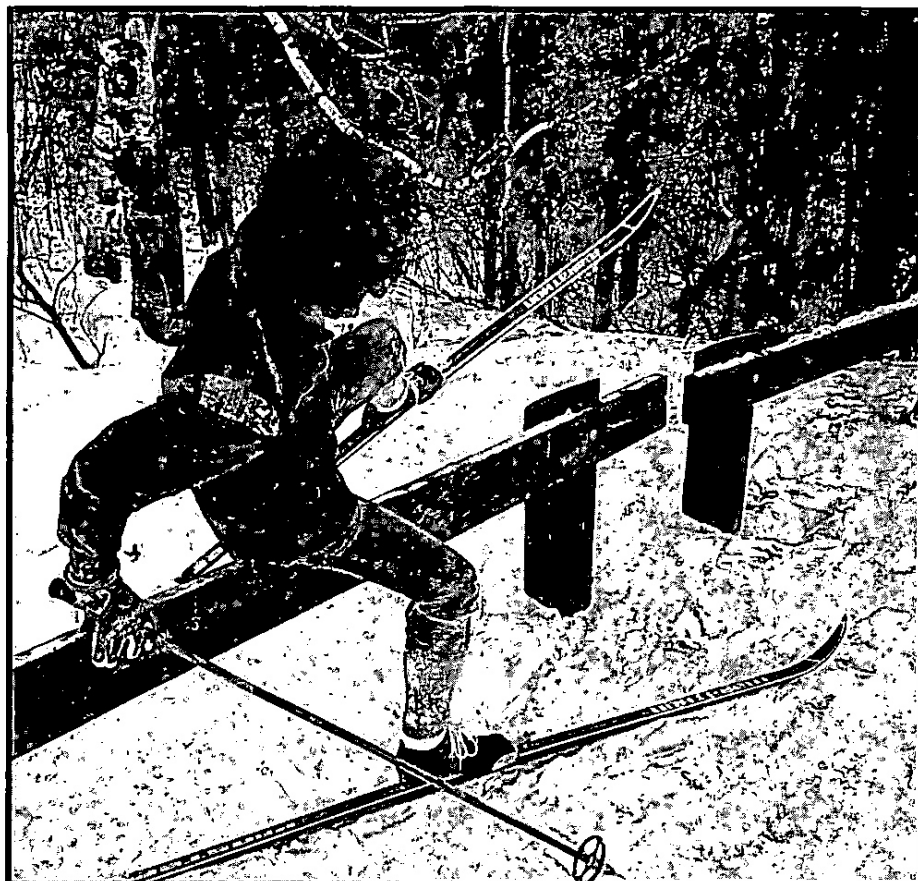
Intramural teams usually include basketball, volleyball, flag football, innertube water polo, water basketball, racquetball, table tennis, swimming, softball, and others. Teams in other sports may be organized.

Students, faculty, staff, and their families can use recreational facilities for open recreation when they are not scheduled for classes or organized intramural programs. These include the Phoenix Sports Center with its pool, gymnasium, and racquetball courts; outdoor tennis courts, softball diamonds, multi-purpose fields, and volleyball courts. In wintertime, there are toboggan runs, cross country skiing trails, and often an ice skating rink.

INTERCOLLEGIATE ATHLETICS

Varsity competition plays an important role in University campus life and gives students an opportunity to participate as players or spectators in 12 sports. The men field teams in basketball, soccer, tennis, golf, cross country, and sailing. Women participate in basketball, field hockey, tennis, swimming/diving, cross country, and sailing. Sailing, a new sport in 1980, is coeducational. Cross country competition also began in 1980.

All intercollegiate athletic events are held on campus with the exception of men's basketball, which plays games at the Brown County Veterans Memorial Arena.



Women's sports abide by the rules of the Wisconsin Women's Intercollegiate Athletic Conference (WWIAC) and the Association for Intercollegiate Athletics for Women (AIAW). The men are affiliated with the National Collegiate Athletic Association (NCAA). UWGB men played their final year in Division II sports in 1980 and will be elevated to Division I in the fall of 1981.

Men's and women's basketball, soccer, and diving teams have been successful.

Cross country, sailing, golf, and tennis are not generally considered major sports in most academic institutions, but they offer an excellent opportunity for many students to excel in sports which are among our most popular pastimes and compliment a well-rounded intercollegiate athletic program.

Information about game schedules and try outs for intercollegiate teams is available by contacting the Intercollegiate Athletic Office in the Phoenix Sports Center.

Calendar

Fall Semester

Registration and new student period
(or register by mail earlier)
Classes begin
Thanksgiving recess begins
Classes resume
Classes end
Study and advising days
Examinations begin
Commencement (Sunday)
Examinations end

1981-82

Aug. 31-Sept. 4
Sept. 8
Nov. 26
Nov. 30
Dec. 16
None
Dec. 17
Dec. 20
Dec. 23

1982-83

Aug. 30-Sept. 3
Sept. 7
Nov. 25
Nov. 29
Dec. 15
Dec. 16
Dec. 17
Dec. 19
Dec. 23

1983-84

Aug. 29-Sept. 2
Sept. 6
Nov. 24
Nov. 28
Dec. 14
Dec. 15-16
Dec. 17
Dec. 18
Dec. 23

January Interim Period

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

Jan. 4
Jan. 26-28
Jan. 29
Jan. 30-Feb. 7

Jan. 3
Jan. 25-27
Jan. 28
Jan. 29-Feb. 6

Jan. 2
Jan. 24-26
Jan. 27
Jan. 28-Feb. 5

Spring Semester

Classes begin
Spring recess begins
Classes resume
Memorial Day recess
Examinations begin
Examinations end
Commencement (Saturday)

Feb. 8
Apr. 10
Apr. 19
None
May 24
May 29
May 29

Feb. 7
Apr. 2
Apr. 11
None
May 23
May 28
May 28

Feb. 6
Apr. 21
Apr. 30
None
May 18
May 26
May 26

Summer Session (8 Week Session)

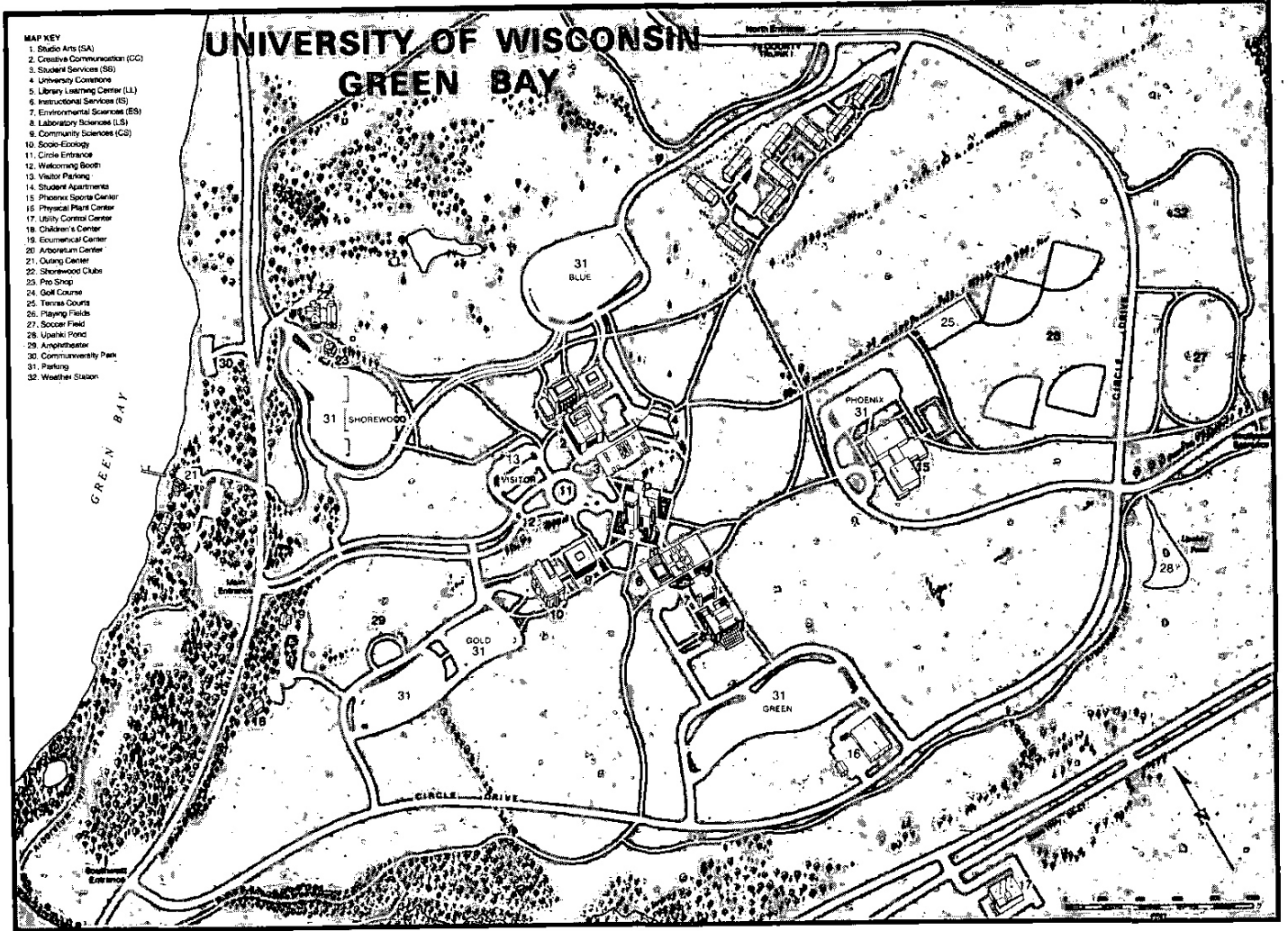
Registration
First day of classes
Last day of classes

June 10-11
June 14
Aug. 6

June 9-10
June 13
Aug. 5

June 7-8
June 11
Aug. 3

Please note: These dates may be subject to change. Consult the most recent *Timetable* to double check dates.



Map

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Appendix

Graduate Academic Rules and Regulations

DEFINITIONS

Graduate Credits - are those credits which are taken under a graduate course number (500 level or above) by a student enrolled with a graduate classification (GSP, ME, MA, MS) and are duly noted by a letter "G" after the credits on any enrollment forms and records.

Attempted Credits - are those graduate credits for which a letter grade of A, B, C, D, WF or F has been earned. Attempted credits are used to calculate the grade point average.

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

Graduate Record - is the permanent record of all graduate level credits attempted and grades earned and includes courses which may not be completed such as "PR" or "I," as well as audited graduate credits.

Undergraduate Record - is a separate permanent record which will include any undergraduate courses taken. A complete transcript will include copies of both the graduate and undergraduate records compiled at UWGB.

Maximum Credit Load - is 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 this maximum is reduced to 9 credits; for a shorter term, lower pro rata limitations shall be in effect.

Minimum Credit Loads - is 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 aids, and assistantships.

Grade Point Average (GPA) - is a numerical value used to express the general quality of all courses/credits completed on a regular graded basis (A, B, C, D, F, WF). Only attempted graduate credits taken at UWGB will be computed into the graduate gpa.

Probation - is an academic status assigned to a student who is achieving below the minimum gpa standards required for good standing and should be considered as an advisory warning that improved quality of work will be necessary to continue as a student.

Academic Drop - is a status assigned to a student who has a record of achievement consistently below the standards which are acceptable to the University. An academic drop means that the student is ineligible to enroll as a graduate student at UWGB until readmitted.

Good Standing - is a status assigned when a student is achieving at an adequate level (3.0 cumulative and semester gpa's).

Provisional Admission - is a conditional graduate admission status which shall be subject to review after 9 graduate credits have been attempted at UWGB.

GRADING SYSTEM AND GRADE POINTS

Letter Grade	Grade Points Per Credit
A (Excellent)	4.0
B (Good)	3.0
C (Fair)	2.0
D (Poor)	1.0
F (Unacceptable)	0.0
WF (Unofficial Withdrawal)	0.0
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.

ACADEMIC STANDING

Every student is expected to maintain certain standards of academic achievement in all work carried at the University. The University has established these standards in terms of the quality of the work, as measured by the semester and cumulative grade point averages.

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

PROBATION AND DROP STATUS

The University is concerned about students whose academic achievements seem to indicate that they are not able to meet the expectations of their instructors or are experiencing other problems that may be interfering with their studies. A probation action is an advisory warning that a student should take appropriate actions to improve his/her achievement. A drop action is taken when the University feels that the student's academic achievement record to date indicates a need to interrupt enrolled status to reassess and reevaluate goals and plans. A student who has been placed on probation or drop status should give careful consideration to the factors that may be involved. The University encourages such students to seek assistance from counselors, 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 (3.0 gpa) in any term will result in a probation, continued probation or drop action at the end of that term, as shown below. Drop actions are taken at the end of each term, however, if a student was not enrolled for the fall semester, a drop action will not be taken solely on the basis of inadequate achievement in the January interim.

1. Student in Good Standing

Grade-Point Requirements and Actions:

a 3.0 or better end of term cumulative gpa will result in continuing good standing.

a 2.0 to 2.999 end of term cumulative gpa will result in probation status.

a 1.999 or less end of term cumulative gpa will result in drop status; a student's graduate committee will review his/her record at that time and make a recommendation for continuation or to allow the drop status to go into effect.

action on a part-time student will be withheld until at least 9 credits have been attempted at UWGB.

2. Student on Probation

Grade Point Requirements and Actions:

a 3.0 or better end of term cumulative gpa will result in a return to good standing.

a 2.999 or less end of term cumulative gpa may result in a drop status at the end of any term after a cumulative total of 15 or more credits has been attempted at UWGB; a student's graduate committee will review his/her record at that point in time and make a recommendation for continuation or to allow the drop status to go into effect.

APPEALS

Academic probation is a non-punitive warning and is not subject to an appeal. Academic drop status may be appealed by means of a special academic appeal to the director of graduate studies. The director may seek advice from the Graduate Board of Advisers. Any appeal should be filed within two weeks after the end of the semester. A student who is allowed to continue will be on probation and will be subject to any other special conditions that may be designated. Any appeal must include a clear explanation of the problems that resulted in the inadequate achievement and how the student proposes to resolve those problems.



READMISSION

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

WITHDRAWAL FROM THE UNIVERSITY

A student who desires to withdraw from all academic course work at any time after completing the study list request form or final registration must see a counselor in the Student Development Center, his/her graduate adviser, or the director of graduate studies. A complete withdrawal without failure may be requested at any time before 4:30 p.m. on the afternoon of the last day of regularly scheduled classes during the twelfth week of a semester, the sixth week of an eight week summer session or the second week of a January interim period. If a student has not attended classes or taken the final examination in a course, a grade of WF will be given unless official withdrawal procedures have been followed.

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

COURSE DROPS

The course drop deadline has been established to allow the student ample opportunity to decide what content a course will cover, the type of readings and projects to be assigned, the instructor's teaching style and the methods of evaluation. In some courses results 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, results in the form of grades on papers or examinations are not an acceptable circumstance that would justify a late drop.

The drop deadline is intended to stimulate a student to weigh carefully all of the important considerations and to do this as early as possible. If a student decides that a course does not fulfill expectations, a reasonably early drop means that the student can then devote a greater portion of available study time and effort to remaining courses, and the instructor will be able to devote more time and effort to the students participating in the course. The 8 week deadline for 14 week semester courses should provide an adequate opportunity to become acquainted with the course and make a decision as to whether it fits into one's program of study.

The two phases of the drop policy are described below:

1. First 8 weeks of a 14 week semester
 Student can drop any course without the instructor's signature.
 No record of action on transcript.
2. 9th - 14th weeks
 No official drops allowed, WF or F appears on transcript.

For terms or classes of a shorter duration than 14 weeks, pro rata deadlines shall be established as follows:

Course Length in Weeks	Drop Deadline-End of Course Session Week
1.....	Wednesday, Week 1
2.....	Friday, Week 1
3.....	Wednesday, Week 2
4.....	Friday, Week 2
5.....	Wednesday, Week 3
6.....	Friday, Week 3
7.....	Wednesday, Week 4
8.....	Friday, Week 4
9.....	Wednesday, Week 5
10.....	Friday, Week 5
11.....	Wednesday, Week 6
12.....	Friday, Week 6
13.....	Wednesday, Week 7
14 or more.....	Friday, Week 8

(normal semester course)

A course session week always ends on a Friday. All courses that begin or end on non-standard session weeks will have a non-standard drop deadline, e.g., if 742-122-9, Sec 1 meets September 9 through November 10 (9 weeks), the drop deadline would be Wednesday, October 7.

COURSE ADDS

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

LATE PROGRAM CHANGES AND WITHDRAWALS

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

1. If the student has serious mental or physical health problems as verified by a physician's or professional counselor's statement.

2. If there is a death or prolonged serious illness in the immediate family as verified by the family physician.

Under any of these circumstances, a counselor in the Student Development Center or the director of graduate studies is authorized to grant permission for a late drop or withdrawal. If a student has any other reason for requesting a late drop or withdrawal he/she should direct a written appeal, stating the circumstances, to the director of graduate studies.

CLASS ATTENDANCE

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



MAXIMUM AND MINIMUM CREDIT LOADS

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

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

MAXIMUM CREDIT LOAD, PROBATIONARY STUDENTS

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

GRADE AND GRADE APPEALS

Each student will receive a grade from the instructor in charge of a course at the end of the respective semester or session. Grades must be in the office of the Registrar no later than 96 hours after the final examination. Accompanying the grade rosters received from the registrar each semester will be information on current grading policies.

If a student is dissatisfied and wishes to appeal a particular course grade, he/she must first contact the instructor who issued the grade. If the student is still dissatisfied he/she may appeal to the director of graduate studies who must, in turn, consult with the instructor in the course. If the student wishes to appeal further he/she consults with the vice chancellor of academic affairs who also consults with the instructor and the director of graduate studies. The vice chancellor or director acts in an advisory capacity to the student and instructor.

GRADE CHANGES

All final grades, with the exception of incompletes (I) or progress (PR), will become permanent grades at the end of the next semester. Any discussions with faculty regarding grade levels or missing (N) grades must be pursued within this time period.



INCOMPLETES

If, due to unusual yet acceptable circumstances, a student is unable to take or complete a final examination or other course work, he/she may arrange with the instructor to receive an 'Incomplete' in the course. The incomplete is filed with two tentative grades, one indicating the quality of the work to date, and a second to be assigned if no more work is completed, and a specific deadline for completing the work required for removal of the incomplete. The course instructor must file an incomplete removal form, stating the conditions for removal as well as the specific deadline for removal, before a grade of incomplete will be accepted for recording. Since the course is incomplete, grade points and degree credits remain undetermined until a permanent grade is established; however, a tentative academic action may be assigned on the basis of grades and credits received in other courses. Such an action will be reviewed after the incomplete has been converted into a permanent grade.

INCOMPLETES FOR GRADUATING STUDENTS

Students anticipating graduation must remove all pending incompletes by the end of the sixth week of the final semester of attendance. Outstanding incompletes will be considered as "I" grades for purposes of estimating eligibility for graduation.

REMOVAL OF INCOMPLETES

The course instructor is responsible for informing the student, the office of the Registrar and his/her concentration or professional program chairperson as to the specific deadline for removal of an incomplete. If no earlier deadline is specified, an incomplete (I) must be removed no later than the last day of classes for the next semester; **this is the absolute maximum allowable deadline.** If no other grade is submitted by the instructor within this deadline, incomplete (I) grades shall become a permanent grade of F with normal effect on the student's grade point average and earned credits.

A student may file a special petition for an exception to the removal deadline if bona fide unanticipated extenuating circumstances prevented compliance with the removal deadline, such as the following:

1. The student has serious physical or mental health problems which have been documented by a physician or professional counselor's statement.
2. The student has had a death or serious illness in the immediate family and this has been documented by a physician's statement.
3. The course instructor is on leave during the semester for removal.

If a student is graduating, all "I" or "PR" grades must be converted to a permanent passing or failing grade before his/her commencement date. All grades on the record shall become permanent as of that date with no possibility for removal or change.

An incomplete (I) grade is normally a temporary grade which is given when, due to unforeseeable extenuating circumstances, a student is unable to complete the course requirements within the normal term, e.g., illness during the final examination period.

REPEATING COURSES

Students may repeat a course only upon special petition to the director of graduate studies. All repeated courses will be designated with a letter "R" after the grade on the transcript. When a repeated course is completed, the original grade and entry on the transcript will remain on the transcript but the credits, grade, and grade points earned for the most recent completion shall be the only enrollment completion that will have effect on the cumulative attempted credits, grade points earned, and the grade point average. Courses repeated at another institution have no effect on the grade point average at UWGB.

PASS-NO CREDIT GRADING

This special grading is permitted and required only for internship (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 student may audit a course if space is available after students who have enrolled for credit have been accommodated. Special policies apply to senior citizen guest

students and any other students who enroll under the special half-price fee arrangements; these policy statements are published in the *Timetable* for each term. Conditions and requirements for class participation are completely at the discretion of the course instructor. A student enrolled for credit may change to auditor status, for grading purposes, at any time up to the course drop deadline. Audited credits do not count in the determination of credit completion requirements or for any program or benefits eligibility status. Audit credits do count toward maximum credit load limitations. Any change from audit status, for grading purposes, must be completed within the course add period.

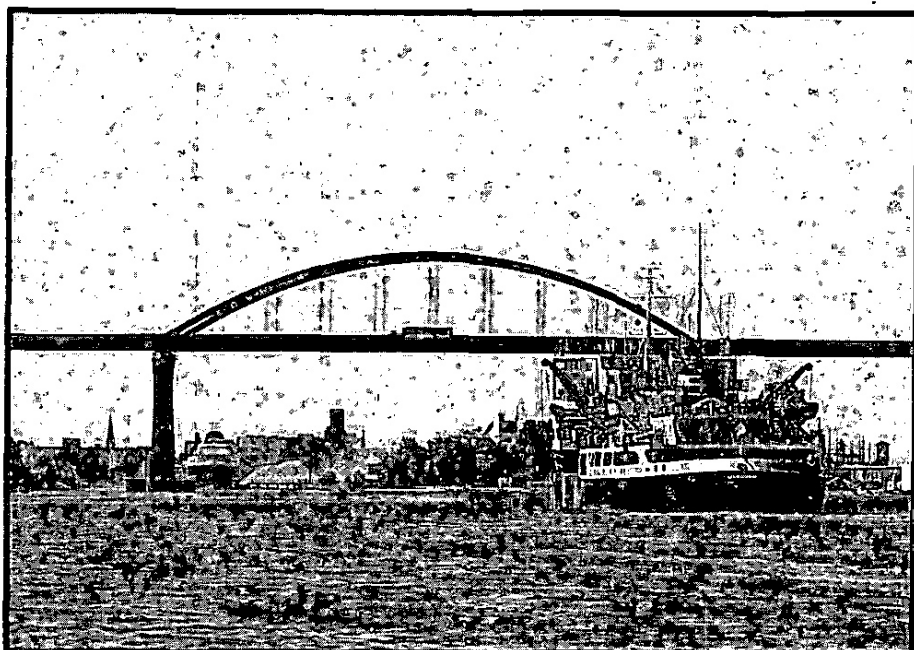
SPECIAL PETITIONS

A special petition is a formal written request for an exception to normal rules, regulations, requirements, 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 may be 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 vice chancellor for academic affairs. The director of graduate studies has the responsibility for reviewing the petition. If a petition is denied the student has the right of further appeal to the Academic Actions Committee.

In the event that an appeal is contemplated, the following items should be considered:

1. Are the relevant facts clearly stated and documented?
2. Are the extenuating circumstances cited of an unforeseeable nature?
3. Are relevant recommendations from the instructor included, if this was appropriate?
4. Are needs and wants distinguishable on the basis of the statements?



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