

uwgb

**Graduate Studies  
INTERIM GUIDE  
Spring '80**

**University of Wisconsin-Green Bay  
Green Bay, Wisconsin 54302**

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It is the policy of the University of Wisconsin-Green Bay to adopt and support measures designed to prevent and eliminate discrimination in educational programs, activities, or employment on the basis of race, color, religion, sex, national origin, age, or physical handicap.

This statement is published in accordance with the requirements of Title IX of the 1972 Education Amendments and of Section 504 of the Rehabilitation Act of 1973 (as amended) regarding nondiscrimination on the basis of sex or handicap, respectively.

Inquiries concerning compliance with any of the above Federal regulations may be directed to: Sidney Bremer, Equal Opportunity Officer, University of Wisconsin-Green Bay, Library Learning Center, Room 820, Green Bay, Wisconsin 54302.



# General Information

## The University

UWGB is one of the newest members of the University of Wisconsin System. With about 3500 students, the University is large enough to offer a diversity of programs, and small enough for you to have an individualized educational experience. The University has over 160 full-time faculty, 95% of whom have earned a doctorate or its equivalent.

The University is situated on a beautifully landscaped 584 acre site located north of the City of Green Bay, overlooking wooded hills which slope from the Niagara Escarpment to the shoreline of the bay. All of the University's academic buildings have been built since 1969. Instructional buildings surround the eight-story Library Learning Center, which houses approximately 200,000 volumes, 400,000 items in microform, 5,000 periodicals, and serves as a State Depository for U.S. and Canadian documents. The Library also participates in an excellent inter-library loan system. The Computer Center has a Sigma VI Computer connected to a Univac 1110 on the Madison Campus which provides students access to a superb array of programs. Laboratory facilities are modern and well equipped for the mission of the University and include facilities for land and water based field research. In addition, a full range of student activities is offered, including theater, musical groups, art fairs, political clubs, environmental action groups, social and service groups, and recreational and intramural activities in the new Phoenix Sports Center.

UWGB officially 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. The university was provided with 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 to 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. UWGB has been assigned a special mission to provide an education 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 relationships between humans and their environments. The concern with the nature and effects of our relationships with the physical, social, cultural, biological, and aesthetic environments in which we live has gained national and international recognition for UWGB.

### 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 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.

### Academic Calendar

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

UWGB's 4-1-4 calendar sets January aside as a month in which the student can concentrate on a single course or project emphasizing relevance, focus, intensive learning, and practical application.

### International Students

This school is authorized under Federal Law to enroll non-immigrant alien students. Additional information about international student admission is provided in the Academic Information section of this catalog.

### Handicapped Students

UWGB has had an on-going concern to insure equal and independent access for handicapped students to the full range of opportunities within the University. At UWGB all academic buildings are interconnected with the exception of the Phoenix Sports Center. Once within an entrance, a student can progress from one building to another without returning to the outside. To assist handicapped students, special reserved parking spaces are located as close to building entrances as possible. Water fountains are at levels within reach of wheelchair users and a table with 32 inch knee clearance for wheelchairs is located in the Loft, a food service center. The University catalog and other pertinent admissions information is available on cassette tapes. Health Service is equipped with extra crutches and wheelchairs. Tape transcription and reader services for visually impaired students are provided in the Handicap Resource Center, Library Learning Center 305B. If you have questions regarding handicapped student needs, please contact Fred Sanderson, the handicap resource person (Student Services 1929) 465-2671.

## The Graduate Program

UWGB offers a graduate program leading to the degree, Master of Environmental Arts and Sciences (MEAS). The MEAS is an interdisciplinary, individualized, pragmatically-oriented degree that allows a student, with the aid of his/her graduate committee, to design and implement a program of study based on the student's intellectual interests and career needs.

The intent of the program is threefold—to study the nature of physical, social, intellectual, and cultural environments, to contribute to the understanding and solution of problems 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 addition, students have an opportunity to design an individual program of study. In this way the student may draw upon resources and course offerings from the complete spectrum of the program.

**COMMUNITY HUMAN SERVICES:** The Community Human Services track is concerned with human service systems and the interplay between these systems, other implicated systems, and the human beings who comprise, respond to, and influence them. Health agencies, human service planning agencies, mental health organizations, police departments, school systems, welfare agencies, and community organizations receive special attention. Among the areas of expertise of the associated faculty are psychology, sociology, economics, political science, and environmental design.

**ENVIRONMENTAL ADMINISTRATION:** The graduate track in Environmental Administration develops knowledge and skills necessary to the effective planning, management, and evaluation of public policies, organizations, inter-organizational networks, and public service delivery systems. The track provides students with an opportunity to develop a specialization in one of the component fields of public administrative practice.

**ENVIRONMENTAL MANAGEMENT:** The Environmental Management track provides students with a broad understanding of issues of planning and management of both natural and manmade environments. Areas of specialization include policy and management systems, environmental problem assessment, quantitative decision-making, environmental planning, environmental health, and waste management/resource recovery.

**ENVIRONMENTAL STRESSORS:** The program in Environmental Stressors concentrates on studying agents which have a deleterious effect on the behavioral, developmental or physiological responses. These agents may be of a chemical (e.g., food additives, PCB's, heavy metals, other organic compounds), physical (e.g., radiation, sound), or social (e.g., crowding) nature.

**GLOBAL ECOLOGY:** Global Ecology provides the students with an opportunity to further develop their abilities in the physical, biological, and mathematical sciences and to apply these skills to issues of environmental quality, ecosystem productivity, and community health. Among the areas of specialization are air quality, water quality, coastal zone management, ecosystem productivity, and material and energy flow in the environment.

In addition to these multidisciplinary tracks, a student may develop a personalized program of study focusing on education, arts or humanities.

**GRADUATE STUDY FOR EDUCATORS:** A variety of education and administration courses are offered which extend expertise in teaching and learning

processes, curriculum development, educational testing, environmental education and the management of educational programs.

**KODALY CONCEPT IN MUSIC EDUCATION:** A cooperative program offered jointly by Silver Lake College (Manitowoc) and UWGB permits students to take courses in the Kodaly Concept of Music Education at Silver Lake College, then complete a Master's Program at UWGB by selecting suitable courses in education, humanities, and the arts.

**THE ARTS IN SOCIETY:** Students with undergraduate training in philosophy, literature, history, or the performing arts or visual arts, have an unusual opportunity for interdisciplinary study in Western cultures and societies in our program. Student programs have been developed to serve teachers and people involved in the arts, whether professionally or in community arts or theatre programs, as well as those in other communication fields, and individuals whose intellectual interests and continuing education center on the arts and humanities.

## Costs and Financial Aids

Tuition and fees for full-time study (9 credits or more) for the 1979/80 academic year are \$493 per semester for residents of Wisconsin and \$1489 per semester for non-residents. Part-time students are assessed a fee of \$55.25 per credit.

### RECIPROCITY

A reciprocity agreement exists between Minnesota and Wisconsin. Minnesota students 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.

### NON-RESIDENT FEE WAIVERS

A limited number of non-resident tuition waivers are available on a competitive basis. International students may also apply for a waiver of non-resident fees.

Graduate Assistantships are available on a competitive basis. The Graduate Assistantships currently carry a stipend of \$3985. Students receiving assistantships are expected to devote approximately 20 hours per week performing assigned duties. Typical duties are: (1) to serve as a teaching assistant in a laboratory or discussion class; (2) tutor students in the Skills Learning Program; (3) assist in a staff office; or (4) serve as a research assistant.

Eligibility requirements for receiving a graduate assistantship are: (1) the student must be admitted to the MEAS degree program; and (2) the student must be enrolled for a minimum of 6 credits of 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. Applications received after this date or at other times of the year will be considered for any unfilled assistantships or assistantships funded from grant monies. Students who wish information on the availability of an assistantship are encouraged to inquire at the Graduate Office (CC 335).

In addition to graduate assistantships, students may apply for several other grant or aid programs, such as a National Direct Student Loan, a Wisconsin Guaranteed Student Loan, or a University work-study award. In addition, minority students may apply for an Advanced Opportunity Grant or a Wisconsin Indian Student Assistance Grant. For further information, contact the Financial Aids Office, (414) 465-2075.

## Campus Life

Three housing possibilities are available for students attending UWGB. Each alternative entails a different style of living. Knowing how you want to live is perhaps the most important element of finding satisfactory housing.

The first alternative is the Bay Apartments. Privately owned and operated by Inland Steel Corporation, the Bay Apartments are adjacent to the campus and provide the most convenient housing. There are a total of nine buildings—each with one single bedroom, one efficiency and 15 two-bedroom apartments—providing living space for 567 students. While most of the apartments are fully furnished, some unfurnished apartments are available at a reduced rental rate. Four students share the two-bedroom apartments and the efficiency apartment accommodates one person. The cost for these accommodations range from about \$65 to \$170 per month, which includes utilities.

For more information about the lease and rental rates, contact the Bay Apartments directly by writing to the Resident Manager, Bay Apartments, 105-Al Wasserman Lane, Green Bay, Wisconsin 54301.

The second alternative is a wide variety of accommodations away from campus. Public bus transportation is available throughout Green Bay and provides access to the campus on a frequent and regular schedule. Students will find new and old apartment complexes, apartments in older homes, rooms, and duplexes. The cost for most of these accommodations ranges from about \$85 to \$185 per month. These figures may or may not include utilities and furnishings.

For assistance in locating off-campus housing call or write the Student Life Office (414) 465-2400, Student Services Building, Room 1908. A general information brochure and monthly housing listings are available from this office. You may receive the listings by mail for a maximum of three months just before and during your housing search for a particular term.

Two daily newspapers, the Green Bay News-Chronicle and the Green Bay Press-Gazette, always have numerous ads for furnished and unfurnished housing which you should also consult.

You should investigate housing possibilities two to four weeks before the start of the term in which you plan to enroll.

The third alternative is to remain living at home and commute if you are from Northeast Wisconsin. Some students drive alone or in car pools as much as 30 or 40 miles each way. For both students and parents, this is by far the least expensive alternative, unless distance makes transportation costs prohibitive.

## Health Services

At UWGB, care and treatment of injury or illness is the job of Health Services. Referrals to doctors and dentists and scheduling of appointments are among its services. Health information and consultation are available to all students at the University Health Services, Student Services 1400, phone (414) 465-2438.

## Opportunities for Study and Support

Graduate students are encouraged to investigate the 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 possibly financial support. Some of the current activities are listed below.

### Sea Grant Program

UWGB faculty 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.

The university owns several boats that are available for research. Two current research projects supported 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 is established to facilitate the utilization of faculty and staff at the University of Wisconsin-Green Bay and in local school districts to satisfy specific educational needs by assisting in:

- \*Identifying resource persons and programs for classroom and other in-school activities.
- \*Developing and conducting inservice programs.

\*Serving as a liaison to UWGB departments which have responsibilities for providing credit courses and non-credit conferences, workshops, seminars and other educational activities.

\*Participating in cooperative study and research activities.

\*Arranging for consultant services.

#### Area Research Center

The Area Research Center is organized as 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 more active units in the network established by the State Historical Society.

#### Brown County Energy Conservation Center

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

#### Resource Recovery Facility

A laboratory in the Laboratory Sciences building has been equipped for research on utilization of waste materials by 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 the recent projects are: (1) evaluating use of sewage sludge on corn crops in clay soils of Brown County; (2) anaerobic digestion of farm and municipal wastes; and (3) evaluation of energy-intensiveness of solid waste collecting alternatives.

Students who are 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 with 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 include:

|                      |  |
|----------------------|--|
| Dr. Paul Abrahams    | Fox Valley Industrial Survey   |
| Dr. Lyle Bruss       | Comprehensive Study for Educational Planning   |
| Dr. H.J. Harris      | Status and Nesting Ecology of the Forester's Tern  |
| Dr. Thomas Hogan     | Evaluation Materials for the Oneida Language Project                                     |
| Dr. Per Johnsen      | Public Awareness of Water Quality  |
| Dr. William Kaufman  | Physical and Psychological Studies of Thermal Characteristics of Sleeping Bag Insulation |
| Dr. V.M.G. Nair      | Chemotherapy of Dutch Elm Disease  |
| Dr. Paul Sager       | Sawyer Harbor Water Quality  |
| Dr. Leander Schwartz | Green Bay Metropolitan Sewerage District Anaerobic Digestion of Heat Treatment Decantate |
| Dr. Michael Troyer   | A Model for Community Involvement in Decision-Making                                     |
| Dr. James Wiersma    | Water Quality Monitoring of the Brown County Landfills                                   |

In addition to the above UWGB activities, two other agencies, the Bay Lakes 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.

# Academic Information

## Admission

### Admission Requirements

While UWGB has a basic admissions policy for the MEAS Degree, a philosophy of personalized admission assures that each applicant will be considered on an individual basis. Entry requirements 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 schools not using a grading system will be evaluated on an individual basis.
3. Specific prerequisites for entrance to particular tracks.

Students not meeting the 3.0 GPA requirement may be admitted on a provisional basis. Provisionally admitted students maintaining 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.

### Application Procedure

Candidates for entry are required to submit to the Admissions Office:

1. A completed application form, including a statement of the student's area of study and educational objectives (Statement of Intentions).
2. Transcripts, including grade records from all previous educational institutions above the secondary level.
3. Three letters of recommendation.

Letters of recommendation should attest to the applicant's ability to engage in academic work at the graduate level. Therefore, letters from former instructors who are able to assess an applicant's academic ability are preferred. However, for those students who may not have had recent academic experience, letters from employers or others who are able to attest to an applicant's potential are acceptable.

A one-time twenty dollar (\$20.00) application fee is required of all students who apply to the Graduate Program of the University of Wisconsin-Green Bay or any other UW-System Graduate Program. Under the requirements of the Buckley Amendment to the Family Educational Rights and Privacy Act of 1974, recommendation letters may or may not be confidential according to the student's preference. The application package for the MEAS Degree Program includes six forms for letters of recommendation: three white, labelled OPEN FILE, and three colored, labelled CONFIDENTIAL FILE. The student chooses which to submit, and should explain to the writer of the letter whether it will be open to inspection by the student. It is not required that writers of letters fill out the prescribed form. They may,

if they wish, simply submit a letter. However, the letter should be attached to the form, so that the Admissions Office knows whether or not it is intended to be confidential.

Graduate Record Examination quantitative and verbal scores, and/or Miller Analogies Test scores are not requirements for admission to the MEAS Degree Program, however, in cases where the student has a marginal or low GPA, the student is encouraged to submit the Graduate Record Examination scores to supplement his record.

### 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:

1. Student Number  
The permanent student number of each student is his/her social security number.
2. Classification and Year  
The status of each student is designated by one of these abbreviations:
  - MAP-5 Master's program student; program plan and thesis proposal not yet approved.
  - MAS-5 Master's program degree candidate; graduate program and thesis proposal approved.
  - GSP Graduate Special Student.  
This classification indicates that coursework is being taken for graduate credit, however, the student is not participating in the MEAS Degree Program. A graduate special student who decides to pursue the MEAS Degree is required to submit an application to enter the degree program. Often the credits earned as a graduate special student can be applied toward the MEAS Degree; however, there is no guarantee of this.

### Application Deadlines

Applications, undergraduate transcripts, and letters of recommendation should be submitted no later than August 1 for entry into the MEAS Degree Program for the fall semester. The application deadline for the spring semester is January 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.

## Degree Requirements

The graduate program offers two basic program design options. The first is an individually designed program of study, designed by the student and his/her committee. If this option is chosen, the student may draw upon resources and course offerings from the complete spectrum of the curriculum with the proviso that the courses contribute to a coherent program of study.



The second option is to enter one of the graduate tracks. Graduate tracks often have slightly different requirements than the general program requirements. Tracks may require additional credits and may specify the courses to be completed.

## Course Requirements

A minimum of 30 credits is required for completion of the degree. Some graduate tracks may require more than 30 credits.

The following distribution of credits will constitute an acceptable program of study for a student not following the program in a graduate track. Tracks may have requirements somewhat different from those listed here. The course requirements are as follows:

1. Graduate Core Courses (12 or more credits) (005-500 to 005-594)
2. Assigned Study (005-595 to 005-598)
3. A maximum of 12 credits of assigned study may be applied toward the 30 credits required for the degree.
3. Thesis Preparation (6 credits) (005-599)

A student is required to register for a minimum of 1 credit of thesis during the semester in which the thesis defense is to occur.

Assigned Study and Internships are available in the following forms:

### 1. Undergraduate/Graduate Courses

Graduate students may register for specific undergraduate courses designated as undergraduate/graduate (U/G) without submitting an Assigned Study card. The U/G courses are identified in the current timetable. These courses are also identified in the Advising Guide section of this catalog (p. 43). Copies of the list of U/G courses are available at the Office of the Registrar or at the Graduate Office.

### 2. Selected Undergraduate Courses (xxx-3xx and/or xxx-4xx)

Approved courses at the 300 and 400 level may be taken under certain circumstances. Such courses cannot be chosen at random, but must fit into the overall program of study developed and approved by a student and his/her committee. The course may not be remedial in nature. Also, the student is expected to exceed the amount of work required of undergraduates. The nature of the extra work required will be decided upon by the instructor of the course. The assigned study course number for undergraduate courses taken must be obtained from the Graduate Office.

Appropriate forms from the Registrar's Office must be filled out and signed by the instructor under whom the student will be studying, and the student's advisor/major professor, (and in some cases, the Director of Graduate Studies).

### 3. Internships (005-597)

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 to be 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 and/or graduate track requirements, where appropriate. The Graduate Program will not award credit for prior experience. An internship, however valid, if undertaken without the supervision of a member of the graduate faculty or undertaken prior to enrollment in the program, cannot carry credit towards the MEAS Degree.

### 4. Independent Study (005-598)

Independent study may be undertaken in the form of reading and research completed under the supervision of a member of the graduate faculty. This type of study should be undertaken only when appropriate for an individual program. Appropriate forms for permission to enroll may be obtained from the Registrar or Graduate Office. To arrange for an independent study, the student must prepare a proposal that includes a statement of objectives, a list of readings, and/or projects that are to be completed, and a statement of how the work is to be evaluated and graded. The proposal is to be filed in the Office of Graduate Studies and will be included in the student's file.

### 5. Transfer Credit

A maximum of 12 semester credits of graduate work at another accredited institution may be accepted in transfer by UWGB. Such credits must be reasonably recent and shown to be an integral part of the student's current program. Evaluation of credits for transfer is the responsibility of the student's graduate committee. Acceptability of transfer credits may be subject to review and approval by the Director of Graduate Studies or graduate track faculty, where appropriate.



## 6. 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 approval card for assigned study, which may be obtained from the Registrar's Office or the Graduate Office, details the nature of the experience to be undertaken. It is the student's responsibility to obtain the appropriate form and have it filled in and signed by the appropriate faculty members and/or Director of Graduate Studies. In addition, a full description of internship activities, as previously explained, should be forwarded to the Office of Graduate Studies to be included in the student's file.

## Grades

All courses and assigned studies are graded on a 4.0 scale. Thesis credits are given an in progress (PR) grade on a per semester basis until the thesis is formally accepted as completed at which time the grade will be changed to pass (P). The grade must be altered to a pass prior to graduation.

Students are expected to maintain a cumulative GPA of at least 3.0 and must achieve this GPA to obtain the master's degree. Students who fail to maintain this GPA in their studies are subject to probation and/or drop as specified in the Graduate Rules and Regulations. A copy of the rules and regulations is available from the Registrar's Office or the Graduate Office.

## 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.

## Transfer Credits

A maximum of 12 semester credits of graduate work at another accredited institution may be accepted in transfer by UWGB. Such credits must be reasonably recent and shown to be an integral part of the student's current program. Evaluation of credits for transfer is the responsibility of the student's graduate committee. Acceptability of transfer credits is to be subject to review and approval by the Director of Graduate

Studies or graduate track faculty, where appropriate. The total number of credits earned prior to matriculation into the degree program at other institutions or at UWGB as a graduate special student (GSP classification) cannot exceed 15.

## Thesis Registration

Only students with a MAS classification are allowed to register for thesis writing credits (599). The MAS classification is assigned to a matriculated graduate student following the acceptance of an approved Graduate Program Plan and a Thesis Proposal. Enrollment for thesis credits (599) 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.

## Degree Completion Limit

Matriculated graduate students have a limit of seven (7) years to complete all requirements for the MEAS degree. This time period shall begin with the first day of the first term of enrollment with a classification of MAP or MAS.

## Progress Toward the Degree

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 graduate committee members who make the final decisions as to the acceptability of course work and as to whether the student's thesis is of acceptable quality to deserve the award of the MEAS Degree. Therefore, it is important that students select their committees as early in the program as possible. For students in any specific graduate track, the track coordinator normally assists in this process.

The committee is comprised of three graduate faculty members; one of whom is requested, by the student, to act as his/her major professor, and one who is from outside the student's area of disciplinary emphasis. Further, students are encouraged to ask a person from outside the University to join their committees. Thus the usual committee consists of the major professor, two additional graduate faculty members, and a community member, who are approved by the major professor.

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

1. Guide the student in an appropriate selection of courses and assigned studies to ensure that the student is made aware of all relevant material necessary to a complete understanding of the chosen field of study.
2. Determine whether the student has accumulated and demonstrated sufficient ability to engage in the analytic process of problem solving.
3. Make certain that the student's thesis project is not narrowly approached within the framework of a conventional discipline, but that the student confronts the interdisciplinary relationships of the subject area and focuses on problem-solving methodology.

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

## MEAS Degree Procedures

The following section explains the MEAS Degree Procedures. The Graduate Office has the necessary forms or any additional instructions.

## Graduate Student Program Plan

The primary responsibility for ensuring that each student's program plan conforms to the requirements and regulations of the MEAS Program rests with the student's graduate committee. However, the program plan is subject to final approval by the Director of Graduate Studies and a graduate track advisor (if pertinent) who may suggest amendments to insure that the plan conforms to the overall philosophy and requirements of the MEAS Program. The Graduate Office will then contact the student as to the corrections necessary for approval of the program plan. If the student and committee disagree with the reasons for rejection of the program plan, appeal may be made to the Graduate Board of Advisors, whose dispensation of the case will be considered final.

It is recommended that the plan be submitted to the Graduate Office prior to the accumulation of fifteen credits to avoid unnecessary time and expense for the student. Changes in the plan may be made but are subject to further review by the Director of Graduate Studies and/or track advisor, where necessary. 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:

1. Documentation of transfer credits accepted by the student's committee.
2. Petition for changes in Graduate Program requirements.

After the Graduate Student Program Plan has been approved, the student is ready to present the Thesis Proposal to his/her graduate committee. The Graduate Office should be consulted at this point for further details.

## The Thesis

The thesis project is a formal scholarly activity that represents the culmination of the program of study. It is the responsibility of the Graduate Committee to supervise and evaluate thesis work. In the case of a written thesis, it is the committee's responsibility to ensure accuracy and completeness. It is the responsibility of the student to prepare and present the thesis in an acceptable format. Several writers' guides or style manuals are commercially available.

General information about the format of the thesis can be obtained from the Office of Graduate Studies.

## Thesis Defense

The thesis defense is an open event which is attended by the candidate's graduate committee, and is 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 is to be completed and submitted to the Graduate Office at least one week in advance of the proposed date for the defense. 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 filled in, 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, and 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 thesis defense only after all difficulties have been resolved and the completed GR-4 has been returned to the Office of Graduate Studies.

## Deposition of the Thesis

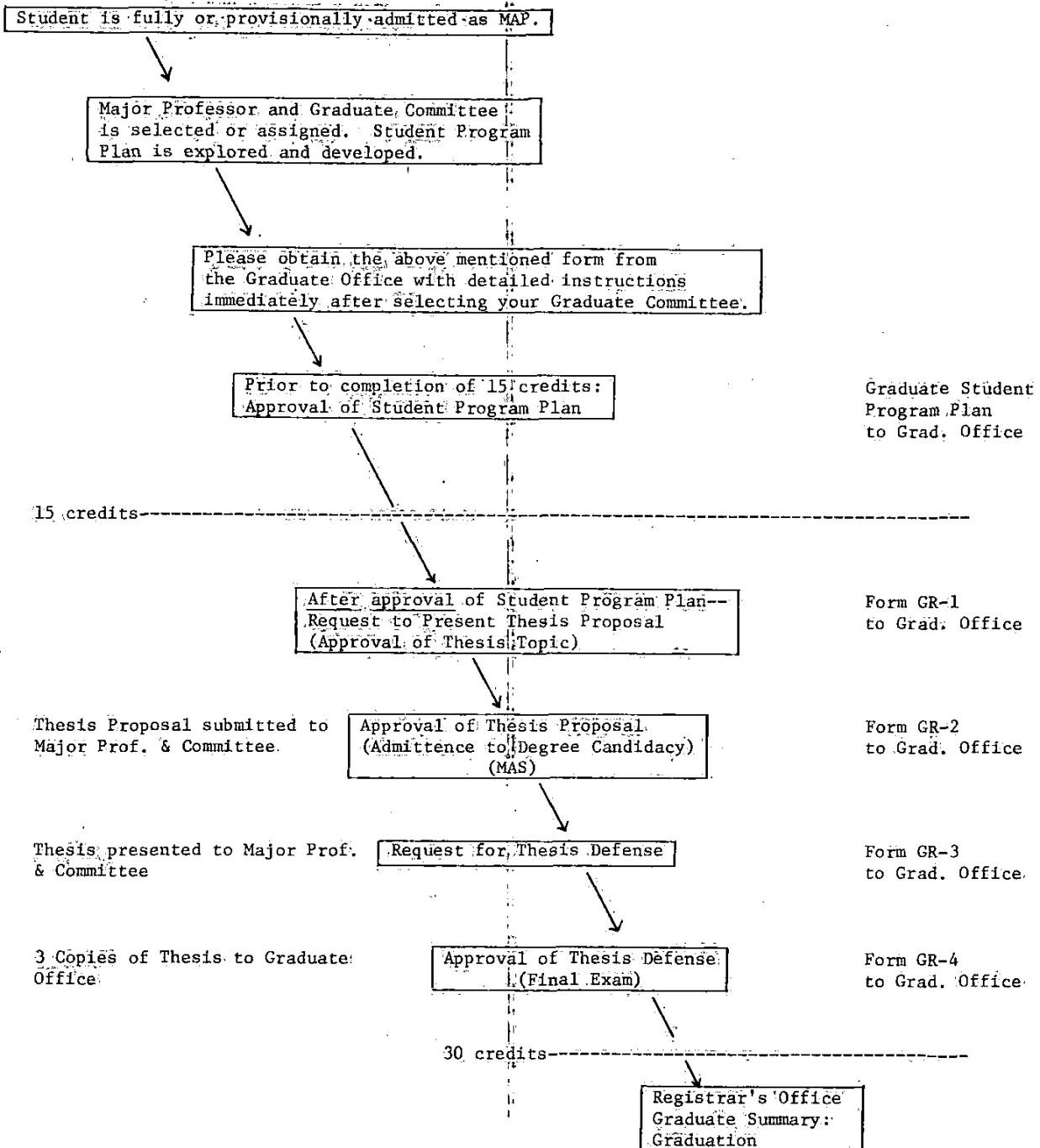
Upon satisfactory conclusion of the thesis defense and an acceptable graduate summary from the Registrar's Office, the candidate is expected to supply two (2) copies of the thesis, including two copies of all audio/visual aids where appropriate, to the Graduate Office. After appropriate signatures have been obtained, two copies will be forwarded with a \$12.00 binding fee, collected from the student, to the UWGB Library as a per-

manent record of the student's scholarly or creative activity. Diplomas are not awarded until all the requirements listed above have been met. If the student desires, additional copies may be bound at a cost of \$6.00 per copy (payable to the Library). Original works of art are deposited with the Curator of Art.

## Commencement Deadlines

UWGB holds two commencements each year, at the end of the fall and spring semesters. For graduation in the fall, all requirements above must be completed prior to December 1. For spring, all requirements must be completed by May 1. A blue REQUEST TO GRADUATE form must be completed and turned into the Registrar's Office prior to December 1 and May 1 respectively.

## MEAS Degree Procedures



# Programs of

STUDY



Several tracks have been defined within the Master's Program. Each track represents an area of study which serves as a focus for students with a variety of undergraduate backgrounds. In addition to the tracks listed below, a wide offering of education courses provide a basis for a Master's Degree for teachers and school administrators. Students who are interested in a particular track are encouraged to discuss the program with the track advisor.

## Community Human Services

Coordinator: Robert A. Mendelsohn, Ph.D.,  
Associate Professor. (414) 465-2395

The Community Human Services Track 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 (e.g., morale) that arise in any organization, profit or nonprofit.

The emphasis is on systems, whether they be formal organizations (such as mental health centers) or informal associations of people. A system is an interacting and coordinated set of people or units that converts resources into a product. A system can be a single organization or a group of organizations. Our conceptual approach to these systems is interdisciplinary: psychological, social, political, and economic. Organizations are complex and no one discipline can adequately unravel that complexity.

The focus on systems reflects the thesis that acting on and through systems provides the most efficient and effective way of helping persons. Further, human beings are social creatures. We most fully understand people when we recognize the ways in which their environments and organizations help to shape their behaviors.

Human service systems need people 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:

1. Planning and problem solving;
2. research and evaluation;
3. education of others (such as para-professionals);
4. analysis of social systems, organizations, and delivery systems;
5. consultation, helping, and communication;
6. intervention, change, and community organization;
7. administration; and,
8. self-awareness.

The track 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. The track emphasizes interaction with community persons. Community professionals are actively involved in the track as faculty, supervisors, committee members, and advisors.

The faculty bring a rich variety of experiences and backgrounds that contribute to these skill requirements. They have been trained in one or more of the following fields: social work, economics, political science, sociology, community and social psychology, civil engineering and urban planning. All faculty have had many active and responsible community involvements, here and elsewhere, including responsibility for program review and administration, therapy and counseling, research, planning and consulting.

### Career Possibilities

The skills achieved by Community Human Service students prepare them for positions in both traditional and innovative agencies. Many new positions reflect a growing response to the need for innovation in human service delivery and are either components of new experimental programs or represent attempts by traditional organizations to examine new possibilities. Employment opportunities of this nature have grown in recent years. The educational combination of system theory, interdisciplinary training, field experience and intervention training offers an attractive combination for human service organizations. Those employed students who intend to remain with their present organizations can use the track program to improve the quality of their work, increase their organization's efficiency and effectiveness, move to new positions in their organization, or attain the credentialing increasingly required.

A graduate might work:

1. in a planning agency, seeking to evaluate, coordinate, and plan new human services;
2. in an industrial organization, improving morale, person-system matches, or helping to set up programs for troubled and troublesome persons (alcoholics, etc.);
3. 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;
4. in an agency or university, investigating communities to discover stress points, such as retirement, and planning to help persons to deal with these problems;
5. in schools, collaborating with personnel in early identification of troubled children or in setting up classrooms which improve the learning environment;
6. in neighborhoods, organizing residents and increasing their sense of control and feelings of community;
7. in traditional settings, as administrators and/or consultants, with community groups and other agencies; and,
8. in private consulting practice.

### Track Students

Most students have had considerable 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, community mental health centers, mental health boards of directors, planning agencies, neighborhood organizations, counseling centers, school systems, clergy counseling programs and others. Many intend to stay in their present work settings. Many attend graduate school parttime. Students enter the track with a wide variety of educational backgrounds. The resulting diversity of the student body increases the track's resources and the sophistication of both students and faculty.

Community Human Services students play a significant role in improving existing courses, identifying learning needs, and suggesting learning experiences to meet the needs. This is important in maintaining the quality of the track program. We make efforts to develop a sense of community among all students and faculty.

#### Program Requirements

Studies in Community Human Services include core courses, independent study, an intensive internship and a thesis involving original research or integration and interpretation of an existing body of literature. Part-time and full-time students follow the same program. Students need not take a given number of credits per semester. Employed students may use their work setting as their internship site under certain conditions and if approved by the student's graduate committee.

Students choose a major professor upon admission to the track. They then form a graduate committee comprised of three graduate faculty members, and it is strongly recommended, a community person. The major professor must be one of the track faculty. The committee and student will design the student's personal program of study and approve all major personal program decisions.

All students must complete at least 30 credit hours. Thirteen hours are required core courses. In addition, the internship and the thesis may be taken for up to six hours each. Up to 17 elective credits may be completed in many ways but should form a coherent focus in the student's area of interest. Students are strongly encouraged to use the opportunities available in the Community Human Services and other programs.

The core courses are: Community Human Services (005-537), Behavioral Research Strategies (005-539), Administration of Public Systems (005-557), or Human Ecology and Public Policy (005-554), and the Community Human Services Seminar (005-569).

Upon completion of the core courses, students are encouraged to specialize by taking courses, graduate or undergraduate, in their area of interest. For example, a student interested in administration can take additional course work in Environmental Administration or Manager-

ial Systems. A student interested in program or evaluation research can take Evaluating Social Programs (005-565), Multivariate Statistical Analysis (005-568), and others. Besides these specializations, additional training is presently available in planning, personnel work, neighborhood organization, counseling, child development, and gerontology. A student interested in a specialization should consider doing his/her internship in a setting relevant to the specialization.

We prefer that students begin in the Fall Semester but we accept students at any time. Normally, the core courses precede the internships. A full-time student can finish within a calendar year but a longer time is more likely. Part-time students usually take upwards of two years.

#### Track Courses

Community Human Service courses have been designed to meet the skill and knowledge requirements listed earlier. The sequence begins with courses that survey the human services field; foster the sharing of experiences; introduce basic skills in planning, analysis, and research; and provide a substantial data base. Courses which focus more intensely on specific topic areas known to be valuable to workers in the field, e.g., consulting, follow. As the program proceeds, students engage in ever more activity in the community to learn the realities of human service delivery firsthand. The seminar (005-569) is one of the major integrations of the academic and field aspects of the program.

The present array of courses provides a stable base for the program. Courses are modified and new courses may be added at student suggestion, reactions from the community, or recognized program gaps.

In the following listing, the number of credit hours appear in parentheses. Asterisks denote required core courses:

#### Fall Semester

- 005-537 Community Human Services (3)\*
- 005-539 Behavioral Research Strategies (4)\*
- 005-554 Human Ecology and Public Policy (3)\*

#### Spring Semester

- 005-503 Community Organization and Planning (3)
- 005-536 The Concept of Change and Social Intervention (3)
- 005-557 Administration of Public Systems (3)\*
- 005-565 Evaluating Social Programs (3)
- 005-569 Seminar in Community Human Services (3)\*

#### Summer Session

- 005-502 Principles and Practices of Consultation (3)  
or
- 005-XXX Interpersonal and Self-Awareness Skills Training



## The Internship

The internship is a variable credit, supervised placement in a community setting linked to the delivery of human services. Internship sites have included mental health centers, counseling agencies, planning organizations, health agencies, police departments, centers for the developmentally disabled, and others. 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/her abilities.

### Time Requirements

Students must spend sufficient time in their internship system to carry out a complete analysis of it. The time spent in the system depends on the student's prior experience and the nature of the system itself. In addition, systems will have their own requirements for the intern (e.g., research expectations, working with clients) and the intern and system may work out special opportunities for the intern to learn particular skills (e.g., counseling, administration).

The internship must be of sufficient calendar duration for the student to have extensive interaction and consultation with a variety of persons in the organization and with persons from other systems who interact with that organization. This will permit the development of a network of expanding contacts and the perception of the development and flow of activities.

Taking all these factors into consideration, therefore, the internship usually lasts between six months and one year on a part-time basis.

### Knowledge Requirements

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

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

### Internships in One's Place of Work

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 intern-

ship possibilities. For example, a police officer might design referral and collaborative procedures between the police department and counseling agencies, monitor their effectiveness, and evaluate the results.

## The Thesis Project

All track students complete and defend a thesis project. In general, 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 the collection of new information and its subsequent analysis in the form of a research report with a prior problem statement and literature review. Track theses have included 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 the development of a theory of crisis intervention.

### Faculty Members

Community Human Services faculty members are:

Robert A. Mendelsohn, Ph.D.; Community Human Services Coordinator; Urban Studies, Psychology, Social Services

Ronald K. Baba, Ph.D.; Urban Studies, Environmental Design

Bela O. Baker, Ph.D.; Social Change and Development, Psychology

Winston Chao, Ed.D.; Social Services, Social Work

H. Jack Day, Ph.D.; Science and Environmental Change

Eric S. Knowles, Ph.D.; Urban Studies, Psychology

David Littig, Ph.D.; Urban Studies, Political Science

Judith S. McIlwee, Ph.D.; Urban Studies, Sociology

Weldon J. Mikulik, M.S.W.; Planning and Allocations Director, United Way of Brown County

Daniel Nerad, M.S.W.; Social Worker, Green Bay Public Schools

Nicholas P. Pollis, Ph.D.; Urban Studies, Psychology

Michael Troyer, Ph.D.; Managerial Systems, Economics

## Environmental Administration

Coordinator: Arthur A. Atkisson, Jr., Ph.D., Professor. (414) 465-2557

The graduate track in Environmental Administration develops knowledge and skills necessary for effective planning, management and evaluation of public policies, organizations, inter-organizational networks, and public service delivery systems. The graduate curriculum in Environmental Administration accomplishes these purposes through a particular focus on those systems relevant to management of the human environment; and provides students with the additional opportunity to develop a specialization in one of the component fields of professional public administrative practice.

#### Program Requirements

##### Program Prerequisites

At time of application and/or entry into the program, each student's prior academic and work experience will be evaluated. Those who lack knowledge and skills equivalent to those expected of a student 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 through completion of appropriate courses:

- 350-101 The American Governmental System (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.)

##### Tool Subject Courses (6 credits)

Each degree candidate must complete two courses (6 credits) from the following list, at least one of which must be at the graduate (005) level. Selection of courses from the list should be guided by the objective of extending the tool subject competencies exhibited by the student at time of entry into the program:

- 005-545 Economic Analysis of Environmental Problems (3 cr.)
- 005-564 Survey of Systems Analysis
- 005-565 Evaluating Social Programs (3 cr.)
- 005-567 Statistical Design and Analysis of Experiments (4 cr.)
- 005-568 Multivariate Statistical Analysis (4 cr.)
- 350-460 Public Policy Analysis (3 cr.)
- 575-312 Cost Accounting (3 cr.)
- 600-251 Computer Science (3 cr.)\*
- 862-355 Applied Mathematical Optimization (3 cr.)

##### Core Program Courses (12 credits)

Complete one (1) problem-focused course from Group #1 and all courses in Group #2.

##### Group #1

- 005-552 Environmental Policy and Administration (3 cr.)
- 005-554 Human Ecology and Public Policy (3 cr.)

##### Group #2

- 005-557 Administration of Public Systems (3 cr.)
- 005-553 Administrative Theory and Behavior (3 cr.)
- 005-550 Executive Decision-Making (3 cr.)

##### Field Specialization Courses (12 credits)

This segment of each student's program of study is intended both to develop student competency in a defined area of professional public administration practice and to provide each degree candidate with the opportunity to engage in rigorous examination of the policies, strategies, administrative methods, and institutions appropriate for solving public problems.

Among the fields in which professional competency may be acquired are the following, but others may be arranged:

- Urban Management
- Health Programs Management
- Public Organization Analysis, Planning and Development
- Public Personnel Management
- Public Programs Planning And Evaluation
- Environmental Program Management
- Public Policy Analysis
- Public Budget Planning and Analysis
- Quantitative Public Management Methods

Development of appropriate competency in these areas is achieved through several methods, including:

- (a) completion of four field-relevant courses;
- (b) supplementary independent study by the degree candidate;
- (c) participation in non-credit colloquia;
- (d) internships and/or work experiences.

Candidates demonstrate their achievement of an appropriate level of competency through completion of the required four (4) courses and through successful completion of the comprehensive field examination. Student selection of appropriate field specialization courses is guided by a field advisor who also directs the student's field-relevant independent study.

##### Comprehensive Field Examination

Each candidate will be expected to complete a comprehensive field examination which will be designed and administered by the appropriate field specialization advisor in cooperation with the candidate's graduate advisory committee. The examination may be conducted orally or in writing; 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, study,

\*These credits cannot be counted toward the MEAS degree requirements.



and in-the-field inquiry in preparation for the examination. Such study is viewed as a major and essential part of each candidate's graduate program of study.

Master's Project (6 credits)

Each degree candidate must complete a master's project which integrates and focuses his or her graduate studies and which further demonstrates the candidate's mastery of the knowledge and skills expected of those who successfully complete the program. The project must further demonstrate the candidate's professional-level knowledge of one or more public problems, the etiology of such problems, and the relationship of public administration practice to the resolution of such problems. At the option of the candidate, any of the following methods may be used to satisfy this requirement:

- 005-558 Problems in Environmental Administration (6 cr.)  
Utilizing this course as a focus, the candidate will complete an array of professional-level assignments resulting in products typical of those expected of mature practitioners in the field.
- 005-597 Internship in Environmental Administration (6 cr.)  
This option requires that the student successfully complete a supervised internship in an appropriate program or agency. In completing the internship, the candidate will be expected to produce appropriate, reviewable products of professional-level quality.
- 005-599 Thesis (6 cr.)
- 005-598 Independent Study (6 cr.)  
As a final alternative to the above, a candidate may complete any other project which exhibits a scope, quality, and relevance to the above.

Graduate Course List

Graduate programs of study in Environmental Administration are constructed from the following partial list of courses:

Organization and Management Group

- 005-550 Executive Decision-Making
- 005-553 Administrative Theory and Behavior
- 005-557 Administration of Public Systems
- 005-536 The Concept of Change and Social Intervention
- 005-565 Evaluating Social Programs
- 005-589 Organizational and Occupational Systems
- 350-410 Administration of Local Government I
- 350-411 Administration of Local Government II
- 350-415 Administrative Planning, Programming, and Budgeting Systems
- 575-336 Collective Bargaining
- 575-362 Principles of Personnel Management
- 575-385 Management of the Non-Profit Organization
- 575-463 Labor Legislation and Administration

- 575-464 Cases in Collective Bargaining
- 778-400 Intergovernmental Relations
- 820-415 Organization Psychology

Quantitative Analysis and Decision-Making Group

- 005-545 Economic Analysis of Environmental Problems
- 005-558 Problems in Environmental Administration
- 005-564 Survey of Systems Analysis
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis
- 298-402 Resource Economics Analysis
- 575-312 Cost Accounting
- 575-316 Governmental and Institutional Accounting
- 575-411 Financial Information Systems
- 600-251 Computer Science\*
- 600-260 Elementary Statistics\*
- 862-355 Applied Mathematical Optimization
- 862-460 Resource Management Strategy

Public Policy and Program Planning Group

- 005-537 Community Human Services
- 005-542 Human Population Dynamics and Policy
- 005-552 Environmental Policy and Administration
- 005-554 Human Ecology and Public Policy
- 005-558 Problems in Environmental Administration
- 005-559 Coastal Zone Management
- 298-306 Public Finance and Fiscal Policy
- 298-402 Resource Economics Analysis
- 350-305 Public Regulatory Process
- 350-421 Planning Processes and Methods I
- 350-422 Planning Processes and Methods II
- 350-460 Public Policy Analysis
- 350-470 Capital Projects Planning and Programming
- 532-403 Recreation Supply and Demand Analysis
- 532-412 Regional Outdoor Recreation Planning
- 532-415 Outdoor Recreation Planning Practicum
- 662-400 Environmental Law
- 778-426 American Legislative Process
- 834-356 Environmental Impact Analysis
- 862-460 Resource Management Strategy

Environmental and Health Sciences Group

- 005-524 Hazardous and Toxic Materials
- 005-551 Bases of Community Health
- 005-561 Global Environmental Monitoring
- 005-566 Waste Management/Resource Recovery Seminar
- 005-577 Hydrobiology
- 005-578 Epidemiology
- 005-5XX Behavioral Toxicology
- 204-402 Advanced Microbiology
- 600-364 Biometrics
- 694-404 Food Science
- 694-421 Community Nutrition I
- 694-422 Community Nutrition II
- 779-412 Principles of Parasitology
- 779-456 Demographic Methods
- 862-312 Mycology
- 862-342 Environmental Geology
- 862-420 Soil Classification and Geography
- 862-422 Environmental Biogeochemistry
- 862-434 Water Chemistry

862-450 Air Pollution Chemistry and Meteorology  
938-353 Community Noise

## Environmental Management

Coordinator: Hallett Harris, Jr., Associate Professor. (414) 465-2796

The Graduate Program in Environmental Management provides students with a broad understanding of issues of planning and administration of both natural and built environments. Students in the program investigate human activities as they impact on those environments. Each student is exposed to a problem orientation, analysis of important issues, formulation of solutions, and decision-making as they relate to environmental management. This training is provided in tool subjects and core courses in the program. In addition, each student selects an area of specialization on which to focus his or her attention. This enables the student to deal in detail with a specific aspect of environmental management. The program culminates in a thesis.

### Program Requirements

Students in the Environmental Management track are required to complete 36 credits of work which include:

|                |            |
|----------------|------------|
| Tool Subjects  | 6 credits  |
| Track Core     | 9 credits  |
| Specialization | 15 credits |
| Thesis         | 6 credits  |

The courses must be selected so that at least 12 credits of course work must be from the graduate course list. The courses which satisfy each of the categories are listed below:

### Tool Subjects

It is expected that all students have a fundamental knowledge of statistics. In addition, all students will take two courses from the following list.

- 005-561 Global Environmental Monitoring
- 005-564 Survey of Systems Analysis
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis
- 350-460 Public Policy Analysis
- 416-353 Air Photo Interpretation
- 600-251 Computer Science\*
- 600-355 Applied Mathematical Optimization
- 600-364 Biometrics
- 834-356 Environmental Impact Analysis

### Track Core Courses

The core courses represent the comparable base of knowledge to be shared among all students in the program. Each student will take three of the following courses.

#### 005-545 Economic Analysis of Environmental Problems

This course deals with economic issues vital to the evaluation of alternative

\*Credits for this computer science course cannot be counted toward the MEAS degree.

designs for improving environmental quality. Cost-benefit analysis and other analytic techniques are applied to problems of allocating scarce resources and limiting or reducing environmental damage.

#### 005-550 Executive Decision-Making

Examines the theory of individual and group decision-making, the processes and consequences associated with alternative decision-making styles and systems, and develops skill in use of the major decision-assisting tools. Utilizes case studies and examples from the fields of environmental management, public administration, and business or industrial management.

#### 005-554 Human Ecology and Public Policy

A cross-sectional and longitudinal examination of interactions between the human beings and the environments as mediated by public policies, with a particular focus on the impact of these processes on the health, longevity, productivity, and life quality of the human animal; interrelationships between socially significant macro problem sets through a homocentric perspective; application of general systems theory and of epidemiologic, demographic, and statistical tools to identification and analysis of problems impacting the human animal; principal stressors and substances comprising environmental threats to the human animal; data sources and information systems.

#### 862-460 Resource Management Strategy

Applications of the principles of systems analysis to the design of resource management strategies for maintaining optimum environmental qualities. Decision models and the role of economic systems and resource management.

### Specialization

In order to develop an area of special competence and to prepare for a career in Environmental Management, each student will include a specialization or focus to their program. A specialization consists of five courses chosen from among the elective offerings in the program. The following have been identified as areas of specializations.

#### (a) Policy and Management Systems

This specialization assists students in preparing for professional level participation in those roles, functions, and processes which are concerned with:

1. the analysis of environmental problems, policies, and service delivery systems;
2. the development of alternative policies, programs, and organizational schemes for resolving such problems;

3. the rational evaluation of environmentally related programs, services, and policies;
  4. the development, supervision, and management of work groups and project teams;
  5. development of appropriate interfaces between environmental management services and governmental policy, budgetary, and administrative management systems.
- (b) Environmental Problems Assessment  
Students who have strong undergraduate backgrounds in science and whose interest centers on biological or physical aspects of environmental problems can specialize in Environmental Problems Assessment. Courses in the specialty area should be carefully selected by the student and his/her committee to strengthen knowledge of ecosystems and to gain additional analytical skills which may be necessary to address a particular thesis research problem.
- (c) Quantitative Decision-Making  
In the past several years a new interest has developed in the use of mathematical models for solving environmental management problems and other public sector problems. These quantitative approaches generally are incorporated into operation research or management science courses. The student who selects quantitative decision-making as an area of study will be exposed to the theory of mathematical models, applications of the models to public sector problems, and the limitations of the models.
- (d) Environmental Health  
Environmental health relates to the impact of man's activities on his biophysical surroundings and the effects of the resulting environmental changes on mankind. These effects stemming from physical, chemical or biological factors may impact on health, safety, comfort and well-being. Environmental health practitioners are prepared in a number of scientific disciplines which are integrated or coordinated for solution of these problems through problem assessment, and through monitoring and controlling environmental factors so as to approach optimum conditions. A combination of science and social science based course work, and a health factor related thesis or project form the basis of a student's program.
- (e) Environmental Planning  
This area of specialization is aimed at the development of competencies required of the professionals in the field of planning. Environmental planning encompasses the definition of environmental problems, the design and conduct of analytical investigations leading to appropriate interventive measures, the design and management of complex information systems, and the employment of various problem solving and decision-making techniques capable of predicting and insuring future environmental end states. Because this area focuses on the human environment, broadly defined, students with undergraduate preparation in a wide range of areas and disciplines including urban studies, environmental sciences, policy sciences, human health, etc., may select this specialization.
- (f) Waste Management/Resource Recovery  
There is a strongly recognized need for modern society to manage wastes in ways that minimize environmental deterioration and use resources more effectively. The significance of such management is especially evident in the Northeast Wisconsin region which has a great concentration of paper and food processing industries. Thus students in this specialization are afforded opportunities to study these problems in the context of both the classroom and laboratory and in the industrial, agricultural, and municipal settings where it is evident.
- Typical student projects might involve basic investigations such as alternatives for processing and disposal of sewage sludge and solid wastes; anaerobic digestion; composting; crop productivity on sludge treated land; energy considerations in waste processing; evaluation of waste separation techniques; economic feasibility analyses of processing and disposal systems; and development and evaluation of financial and managerial arrangements in waste handling.
- (g) Elective Specializations  
It is possible for students in the program to devise their own areas of specialization by choosing from the elective offerings. Design of personal specialization will occur in cooperation with the student's faculty advisor.
- (h) Elective Courses  
The five courses in the specialty area will be chosen from the elective courses listed below.
- |         |   |
|---------|---|
| 005-524 | Hazardous and Toxic Materials                                   |
| 005-538 | Global Ecology: International Conservation of Natural Resources |
| 005-541 | Land Use Institutions and Policies                              |
| 005-547 | Trends and Issues in Regional Planning                          |
| 005-551 | Bases of Community Health                                       |
| 005-552 | Environmental Policy and Administration                         |
| 005-553 | Administration Theory and Behavior                              |
| 005-557 | Administration of Public Systems                                |
| 005-558 | Problems in Environmental Administration                        |
| 005-559 | Coastal Zone Management   |
| 005-565 | Evaluating Social Programs                                      |

|             |   |
|-------------|---|
| 005-566     | Waste Management and Resource Recovery Seminar              |
| 005-570     | Scientific and Technical Communicatig                       |
| 005-574     | Ecology of Food Production                                  |
| 005-577     | Hydrobiology  |
| 005-578     | Epidemiology  |
| 204-402     | Advanced Microbiology                                       |
| 350-415     | Administrative Planning, Programming, and Budgetary Systems |
| 350-470     | Capital Project Planning and Programming                    |
| 600-350     | Numerical Analysis  |
| 779-412     | Principles of Parasitology                                  |
| 820-415     | Organizational Psychology                                   |
| 834-420     | Regional Planning   |
| 834-421     | Methods and Techniques in Regional Planning                 |
| 862-312     | Mycology  |
| 862-342     | Environmental Geology                                       |
| 862-355     | Applied Mathematical Optimization                           |
| 862-403     | General Limnology   |
| 862-420     | Soil Classification and Geography                           |
| 862-434     | Water Chemistry   |
| 862-450     | Air Pollution Chemistry and Meteorology                     |
| 862-483     | Vegetation Management                                       |
| 938/350-421 | Urban Planning I  |
| 938/350-422 | Urban Planning II   |

## Environmental Stressors

Coordinator: Dennis A. Girard, Ph.D., Associate Professor. (414) 465-2285

This program focuses specifically on the identification and evaluation of environmental stressors.

In the context of this program an environmental stressor is an agent which has a deleterious effect on behavioral, developmental or physiological responses of an exposed organism, and may be of a chemical (e.g., food additives, PCB's, heavy metals, other organic compounds), physical (e.g., radiation, sound), or social (e.g., crowding) nature.

The aims of the program 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 in the area has led to projections of substantial growth in the professional opportunities available to graduates.

## Entrance Requirements

A student should submit his/her score on the Graduate Record Examination. In addition, the best preparation for this program would include the following courses although all of them need not be taken before entrance to the program:

### Biology

9 to 12 credits, preferably including basic zoology and physiology.

### Chemistry

General Chemistry  
Quantitative Analysis  
Organic Chemistry

### Mathematics

9 to 12 credits including at least one course in statistics. A background in calculus is desirable but not necessary.

### Physics

One year of general physics.

### Psychology

General Psychology

## Degree Requirements

The program elements are:

1. A core of courses designed to give the student a broad overview of the field (19 credits).
2. Specialization in one of the areas of monitoring or evaluation (9-11 credits). Monitoring includes such things as the identification of environmental problems, measurement of environmental stressors and consideration of environmental regulation of the results obtained through monitoring and the analysis of experiments designed to measure the impact of known or potential environmental stressors on the organism.
3. Participation in program seminars (2 cr.).
4. Completion of a thesis (6 cr.). Some potential areas for thesis work might 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 chronic, low-level doses of contaminants, some aspects of the consequences of exposure to noise or crowding.

## Courses Available

### Required Courses

- |         |  |
|---------|--|
| 005-524 | Hazardous and Toxic Materials (3 cr.)                  |
| 005-567 | Statistical Design and Analysis of Experiments (4 cr.) |
| 005-568 | Multivariate Statistical Analysis (4 cr.)              |
| 005-5XX | Behavioral Toxicology                                  |

### Courses in the Specialization of Monitoring

- |         |                       |
|---------|-----------------------|
| 005-578 | Epidemiology          |
| 204-402 | Advanced Microbiology |

- 779-412 Parasitology
- 862-434 Water Chemistry
- 862-450 Air Pollution Chemistry and Meteorology
- 226-418 Nuclear Physics and Radiochemistry
- 862-380 Radiobiology
- 938-353 Community Noise

#### Courses in the Specialization of Evaluation

- 005-518 Epidemiology
- 005-539 Behavioral Research
- 204-347 Developmental Biology
- 418-413 Neurophysiology
- 478-402 Human Physiology
- 779-412 Parasitology
- 820-300 Experimental Psychology
- 938-353 Community Noise

Students may take other courses at the advanced level that apply to their program.

#### Faculty

- Dennis M. Girard, Ph.D., (Coordinator), Mathematics/Statistics (experimental design, multivariate analysis, application of statistical and mathematical techniques to threshold problems).
- Charles Matter, Ph.D., Physiological Psychology (behavioral impact of chemical stressors and community noise).
- Jack C. Norman, Ph.D., Chemistry (radiochemistry, nuclear physics).
- Dorothea B. Sager, Ph.D., Zoology, Reproductive Physiology, Developmental Biology (effect of chemical stressors on reproduction and development).
- Fritz A. Fischbach, Ph.D., Biophysics (allergy control, ragweed pollen).
- Alice I. Goldsby, Ph.D., Veterinary Science (microbiology).
- Charles R. Rhyner, Ph.D., Physics (solid waste management).
- Ronald H. Starkey, Ph.D., Organic Chemistry (air pollution chemistry).
- James H. Wiersma, Ph.D., Analytic Chemistry (water pollution chemistry).

## **Global Ecology**

Coordinator: Robert B. Wenger, Ph.D., Associate Professor. (414) 465-2369

The Global Ecology component of the MEAS program is designed for students with a strong background and an orientation to ecology who are interested in studying critical environmental problems from a global perspective. The program embraces three theme areas: Ecosystem Productivity, Community Health, and Environmental Quality. Each theme has a distinctive complement of courses, but each theme is designed to be supplemented with pertinent courses from:

- a) other theme areas;
- b) related components of the MEAS program, especially in the social sciences;
- c) independent study courses; and
- d) advanced undergraduate courses.

The integrity of the program is achieved by a common seminar in global ecology and by graduate

courses on environmental management and administration that apply to all three themes. While theme area course work provides the breadth expected in the MEAS program, specific thesis projects provide an opportunity for specialized training consonant with individual interests and occupational goals.

#### Ecosystem Productivity

The theme in Ecosystem Productivity deals with primary and secondary productivity of both natural and agricultural ecosystems. Agricultural productivity is emphasized because of the urgent need for increasing world food production without causing deterioration of agricultural ecosystems. Areas of study include ecology of food production, bioclimatology, and soil properties related to primary productivity. Skills for quantifying ecosystem productivity are also covered. These include statistical methods, systems analysis, and environmental monitoring. Some possible areas of specialization within the theme are soil management, organic waste recycling, ecology of pesticides, and weed control.

#### Environmental Quality

The theme in Environmental Quality provides a framework for dealing with issues related to water and air quality. Areas of study include the properties of unpolluted aquatic ecosystems, types and sources of pollutants, effects of air and water pollution, and monitoring techniques. Methods of pollution abatement and the social, political, and economic aspects of environmental quality are also considered. A special emphasis is given to water quality, taking advantage of the University's location on Green Bay, near the mouth of the Fox River. Some possible areas of specialization within the theme are coastal zone management, water pollution abatement, and air quality monitoring.

#### Community Health

The theme in Community Health offers training for those individuals entering the public health field. Such training includes advanced skills in the analysis and interpretation of data, an appreciation of management problems and methods, knowledge of epidemiological principles, skills required for the identification of target populations, and an understanding of broad community health concepts. The MEAS in Community Health is similar to a degree in public health, but is broader and more environmentally oriented. In addition to the general skills outlined above, students may, through directed study, internships, and the thesis project, receive more specialized training and experience in a health-related area. Possible areas of specialization within the theme include community nutrition, epidemiological analysis, and health needs of subgroups such as the elderly or the indigent.

#### Degree Requirements

Each student, in association with a graduate committee of three faculty members, devises an



individual program of study consisting of a minimum of 30 semester credits, usually divided among course work (12-15 credits), assigned study (9-12 credits), and thesis (6 credits). Courses are offered in both sociocultural and biophysical aspects of the environment and in the skills needed to effect solutions to problems. Assigned study may take the form of tutorials, seminars, internships in agencies, or additional formal course work.

#### Courses Pertinent to Global Ecology

- 005-538 Global Ecology: International Conservation of Natural Resources
- 005-542 Human Population Dynamics and Policy
- 005-551 Bases of Community Health
- 005-552 Environmental Policy and Administration
- 005-559 Coastal Zone Management
- 005-560 Topics in Global Ecology
- 005-561 Global Environmental Monitoring
- 005-564 Survey of Systems Analysis
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis
- 005-573 Soil-Plant Relationships
- 005-574 Ecology of Food Production
- 005-576 Bioclimatology
- 005-577 Hydrobiology
- 005-578 Epidemiology

## Other Areas of Study

In addition to the tracks described above, students may pursue individually designed programs of study in education, the humanities, and the arts.

## Graduate Study for Educators

Chairperson: James W. Busch, Ph.D., Associate Professor. (414) 465-2149

The Graduate Program at UWGB provides teachers and others concerned with education an opportunity to focus their graduate studies on teaching, learning, and the communication processes which affect learning. Students can develop a personalized program of study tailor-made to their own disciplinary area and level of teaching responsibility. The program provides the opportunity to combine advanced level course work in a teaching field with courses which examine curriculum developments and the changing value structures in American education. Graduate courses are scheduled mainly in the evening during the academic year but during the day in summer.

Specifically, the UWGB Graduate Program offers the opportunity to:

1. Extend expertise in teaching and learning processes, curriculum development, future educational needs of society and interdisciplinary approaches to learning and problem-solving.
2. Use the resources of the university to identify important teaching-learning

problems and to design and carry out studies in an effort to solve these problems.

3. Open up new employment alternatives in the areas such as environmental education. Qualify for salary advancement that goes with graduate credits and a Master's Degree.
4. Develop a graduate program of study which integrates other graduate work already completed with advanced study at UWGB into a Master's Degree program which is responsive to professional and personal needs.

Educators today are confronted by a host of problems which are not a common concern in the traditional teacher training or graduate education programs. Teachers need competency to integrate knowledge in various subject teaching areas with an understanding of the changing social and value structures within our society and with the place of schools and schooling in this rapidly evolving society. The UWGB Graduate Program provides the opportunity for a student to achieve a balance between historical, sociological, psychological and philosophical foundations of education on the one hand, and school practice on the other.

To deal more effectively with educational problems, the program provides graduate students with the opportunity to develop needed skills in problem-solving in the form of historical, descriptive and experimental research. These processes are likely to have more long-range importance than conclusions drawn within the current scene. Examples of the kind of research studies which students in the UWGB Graduate Program have undertaken are these:

1. the development and evaluation of a program for promoting creative thinking by gifted children in a primary unit;
2. the evaluation of alternative strategies for teaching mathematics at the elementary school level;
3. the development of a nature laboratory for a school district;
4. the development and application of an energy audit of school buildings; and
5. the reinterpretation of history toward a more environmental point of view for eighth grade social studies classes.

#### Recommended Program Structure

The Master's Degree program at UWGB requires a minimum of 30 credits, 12 of which must be selected from regular graduate courses (courses numbered between 005-500 and 005-594). A maximum of 12 credits may be comprised of credits accepted for transfer from other institutions, special topics courses (005-595), independent study (005-598), internships (005-597), or undergraduate courses which have been approved for graduate credit. Special approval is required to take more than six credits of undergraduate courses for graduate credit within these 12 credits. The program also includes a six-credit thesis requirement. Each student will work with

a major professor and a graduate committee which will be responsible for approving his/her program. To provide the breadth and depth of study appropriate to the Master's Degree and to meet the student's educational/professional needs, courses from each of five categories are recommended for inclusion in these 24 credits. The five categories with examples of courses which may be taken under each category are as follows:

Historical, Sociological, Psychological and Philosophical Foundations

- 005-505 Education: Mindstyles and Lifestyles
- 005-572 Contemporary Educational Thought
- 005-583x Educational Anthropology
- 005-585 Advanced Educational Psychology
- 005-588 International Comparative Education

Problem-Solving and Research Methodology Processes

- 005-532 Qualitative Research Methods
- 005-539 Behavioral Research Strategies
- 005-567 Statistical Design and Analysis of Experiments
- 005-582 Educational Research Design and Thesis Problems

Strategies for Curriculum Development and Change

- 005-584 Development of Contemporary Problem-Focused Curriculum
- 005-586 Contemporary Innovations in Education
- 005-595 Special Topics in the Educational Environment
  - Analysis and Improvement of Teacher Effectiveness
  - Leadership Style and Educating Toward Human Resources

Courses to Extend the Subject Matter Competence of the Candidate, and/or to Apply his/her Subject Field to Interdisciplinary, Problem-Centered Study

- 005-518 Introduction to Musicology and Research Methods
- 005-520 Analysis of Contemporary Literature
- 005-527 The Social Functions of the Arts I: Classic to Modern
- 005-528 The Social Functions of the Arts, II: Contemporary Issues
- 005-531 The Psychology of Work
- 005-554 Human Ecology and Public Policy
- 005-561 Global Environmental Monitoring

Specialized Studies in Education

- 005-506 Mainstreaming of Exceptional Children
- 005-507 Outdoor Environmental Education: Philosophy and Practice
- 005-526 The Cognitive Developmental Approach to Educational Environment
- 005-581 Environmental Education: Processes and Materials
- 005-595 Special Topics in the Educational Environment
  - Values and Morality in the Schools

-Simple Gifts: Teaching the Gifted and Talented

-Improving Teacher and Student Morale

-The Teacher and the Law

302-308 Children's Literature: Contemporary Practices in the Elementary School

The culmination of this degree is a thesis or comparable problem-solving project. Most educators choose a thesis project which relates to some aspect of the improvement of teaching and/or education. There are different types of projects which may appropriately meet this objective. Such improvement may involve controlled research studies on aspects of educational practice or programs; analysis of problems linked to curricular or staff development; etc. Also, the format and nature of the reporting which would be appropriate will vary depending upon the nature of the project. The possibilities for an appropriate thesis topic related to specific interests and the responsibilities may be discussed with a graduate faculty member of the student's choice. Also, a course (005-582, Educational Research Design and Thesis Problems) is offered that defines the appropriate dimensions of a thesis and launches the student into the research.

Cooperation with Local Schools

Within the category of assigned study there are plans to offer special courses which will be a cooperative effort between UWGB and the faculties of local school districts. Proposals will be welcomed from any group which wants to work on a local curriculum problem within the mechanism of a university graduate course and planned jointly by local representatives and the UWGB faculty. For further information on this possibility contact one of the UWGB faculty members in education.

In summary, the general structure of the MEAS degree is flexible and offers the opportunity to tailor a program suited to the needs of the student regardless of his/her level and type of professional responsibility in the field of education. However, we do believe that a graduate degree should be more than simply 30 more credits of the same type and challenge as in the undergraduate program. We are looking for candidates who are true professionals and excited about the possibilities of teaching. After completing the program students are better prepared for life and professional responsibilities in the field of education.

Faculty Members

- James W. Busch, Ph.D., Chairperson of Education.
- Lyle R. Bruss, Ph.D.; Director, School Services Bureau; Director, Facilities Planning and Management.
- Dennis L. Bryan, Ph.D.
- Thomas P. Hogan, Ph.D.; Director, Educational Testing Center, Co-Director, Wisconsin Assessment Center.
- Eleanor G. Hall, Ph.D.; Specialist, School Services Bureau.

George T. O'Hearn, Ph.D.; Director of Educational Research and Development; Co-Director of State Assessment Center.  
 Egbert L. Pfeiffer, Ph.D.  
 Richard W. Presnell, Ph.D.  
 Phillip E. Thompson, Ph.D.  
 Thomas E. Van Koevering, Ph.D.

- 005-595 Mainstreaming the Exceptional Child
- 005-595 Futuristic Alternatives in Education
- 005-595 Reading and Study Skills in the Secondary Schools
- 005-595 Reading Disability: Reading Problems & the Problem Reader
- 005-595 New Approaches to School Learning and Discipline

## The Kodaly Concept in Music Education

Advisor: Robert J. Bauer, Professor (music) at UWGB  
 Advisor: Sister Lorna Zenke, Chairperson, Department of Music, Silver Lake College, Manitowoc, Wisconsin 54220.

A cooperative program in music education enables graduate-level participants in the Kodaly program at Silver Lake College (Manitowoc, Wis.) to complete a graduate degree at UWGB.

### Program Requirements

#### Musicianship and Performance

- 1) Musicianship competency requirement is fulfilled by demonstrating equivalency to Solfege I-II at Silver Lake College (determined by examination or by successful completion of Solfege I-II).
- 2) Performance competency requirement is fulfilled by examination. Some students may be required to continue applied study and enable performance to meet this requirement.

#### Core Courses

The program of study consists of 12 credits of coursework in musicology, education, aesthetics, and expressive traditions at UWGB, chosen from the following list of courses:

- 005-514 Aesthetic and Perceptual Awareness 3 cr.
- 005-518 Introduction to Musicology and Research Methods 3 cr.
- 005-525 Opera as Drama: An Interdisciplinary Approach 3 cr.
- 005-527 The Social Functions of the Arts I: Classic to Modern 3 cr.
- 005-528 The Social Functions of the Arts II: Contemporary Issues 3 cr.
- 005-582 Educational Research Design and Thesis Problems 3 cr.
- 005-584 Development of Contemporary Problem-Focused Curricula 3 cr.

#### Assigned Study

Coursework (9 credits) in the Kodaly concept of music education is completed at Silver Lake College. The courses are:

- Kodaly Concept I (3 cr.)
- Kodaly Concept II (3 cr.)
- Kodaly Concept III (3 cr.)

An additional elective course (3 credits) may be selected from the following list:

- Folk Music Research (at Silver Lake)
- 005-595 Individualizing Learning

#### Thesis Project

The thesis project (6 credits) is supervised by a graduate committee comprised of three faculty members from UWGB and one from Silver Lake College. Thesis projects are defended in oral examinations.

#### Enrollment at Silver Lake College

Students enroll in the Kodaly courses at Silver Lake College and pay tuition and fees there. These courses are then transferred to UWGB's graduate program, either a priori or a posteriori. The same is true for Folk Music Research. Students who enroll in Solfege I-II to meet musicianship competency requirements pay Silver Lake College's tuition and fees. There is no fee for demonstration of competency by examination.

#### Enrollment at UWGB

Students enroll for the core courses and thesis credits at UWGB and pay UWGB tuition. Students enrolling in Assigned Study courses at UWGB pay UWGB tuition. Thesis supervision is the responsibility of the student's graduate committee. The committee typically consists of three UWGB faculty members and one faculty member from Silver Lake College (or other suitable community representatives).

## The Arts in Society

Coordinator: Richard E. Sherrell, Ph.D., Professor. (414) 465-2463

This track is designed especially to serve the continuing intellectual interests of students with undergraduate backgrounds in the visual and performing arts, social sciences, literature, philosophy, and history. The track centers on the interrelationships among the arts as they function within society. The arts are taken here to mean both the doing of art and the historical/critical understanding of art. Society here means primarily modern Western society, its patterns and structures, together with its cultural and historical antecedents. Thus, the arts and society become both content and context for investigation.

Educational and vocational interests served by the track include artists wishing to broaden their intellectual horizons prior to or following upon MFA work, teachers of art and music in the schools, teachers of English and history, and persons interested in careers in arts manage-



ment in museum and theatre contexts. In addition, the track is designed to serve students on the way to doctoral level graduate work whose broad interests in the arts and society will come to more traditional and intensified focus eventually in that context.

#### Entrance Requirements

There are no specific requirements beyond those of the UWGB Graduate Program. In certain cases, a student's committee will require that needed background work be completed before admission to candidacy status.

#### Degree Requirements

Each student in association with an advisor devises an individual program of study consisting of a minimum of 30 semester credits. Of these credits, at least 12 must be earned in graduate-only courses (i.e., core courses).

All track students are required to complete the following two courses:

- 005-527 Social Functions of the Arts I: Classic to Modern
- 005-528 Social Functions of the Arts II: Contemporary Issues

In addition, students are required to complete at least 1 course selected from two of the following three groupings:

#### Aesthetic Perception

- 005-511 Perception: Models of Reality
- 005-512 Foundations of Knowledge in Cultural and Natural Science
- 005-514 Aesthetic and Perceptual Awareness

#### Arts and Social Sciences

- 005-513 Historical Dimensions of the Arts (currently under development to be offered Spring, 1981)
- 005-515 Social Science Perspectives on the Arts (currently under development to be offered Fall, 1980)
- 005-517 Culture, the Arts, and Democracy

#### Research Methods

- 005-518 Introduction to Musicology and Research Methods
- 005-521 Literary Research and Criticism
- 005-532 Qualitative Research Methods

The remainder of credits may be selected from the following groupings or from approved upper level courses from related undergraduate programs of study.

#### Humanities - Special Topics

- 005-510 Politics Through Literature
- 005-520 Analysis of Contemporary Literature
- 005-522 General Theory of Values
- 005-529 The Author and Society
- 005-546 Alternative Social and Political Futures

#### Visual and Performing Arts - Special Topics

- 005-516 The Artist in the Community
- 005-525 Opera as Drama
- 005-583 Creative Drama in the Classroom

#### Faculty

Paul P. Abrahams, Ph.D.; Humanistic Studies, history.

Julie R. Brickley, Ph.D.; Social Change and Development, myth and literature.

William G. Burnett, M.F.A.; Communication and the Arts, acting and directing.

Thomas P. Churchill, Ph.D.; Humanistic Studies, English.

Thomas E. Daniels, Ph.D.; Humanistic Studies, English.

Martin H. Greenberg, Ph.D.; Regional Analysis, political science.

Harvey J. Kaye, Ph.D.; Social Change and Development, sociology.

Frederick I. Kersten, Ph.D.; Humanistic Studies, philosophy.

Terence J. O'Grady, Ph.D.; Communication and the Arts, musicology.

Carol A. Pollis, Ph.D.; Social Change and Development, sociology.

Robert J. Pum, Ed.D.; Communication and the Arts, art education.

Jerrold C. Rodesch, Ph.D.; Humanistic Studies, history.

Richard E. Sherrell, Ph.D.; Communication and the Arts, aesthetic awareness and theatre.

Irwin C. Sonenfield, Ph.D.; Humanistic Studies, music.

E. Michael Thron, Ph.D.; Humanistic Studies, English.

# Course Descriptions

## Graduate Course Descriptions

The following course descriptions are of graduate courses approved by the Graduate Faculty Board of Advisors. Courses carrying numbers in the 005-500 series can be utilized for the 12-15 credits required in the core curriculum or for assigned study.

005-502 Principles and Practices of Consultation 3 cr.

This course is designed to provide students with an understanding of the theoretical issues, applications process. The first part of the seminar focuses upon the relevant literature in the field. Guest lecturers from the University and the community are invited to relate the practical issues in varying the consultative settings. Throughout the seminar students are given the opportunity to role-play as consultants, with the latter portion of the course emphasizing practical experience.

005-503 Community Organization and Planning 3 cr.

This course 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 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.

005-504 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 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 will discuss techniques for the analysis and interpretation of such complex situations.

005-505 Education: Mind Styles and Life Styles 3 cr.

This course is designed for the exploration of 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 will be considered through readings and experiences.

005-506 Mainstreaming of Exceptional Children 3 cr.

This course is designed to acquaint active educators with the types and/or kinds of exceptional children that are to be mainstreamed (including orthopedically handicapped). Content will include (1) identification, (2) appropriate evaluation techniques, and (3) consideration of learning environments and procedures that will satisfy the student's exceptional education needs in the least restrictive alternative method.

005-507 Outdoor Environmental Education: Philosophy and Practice 3 cr.

This course is for teachers and other people 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 will be included, as well as outdoor recreation skills and philosophies. Sensitizing processes such as acclimatization will also be considered. The course is intended for those in the humanities and social sciences as well as people in the natural sciences. Projects will focus on developing outdoor environmental education leadership skills and resources. A minimum of four class hours each week will be spent outdoors.

005-508 Educational Programs for the Gifted/Talented 3 cr.

Designed to acquaint educators with psychological characteristics and identification of gifted/talented students. Examines various adminis-

trative plans and teaching techniques for developing talent and improving adjustment. Includes steps in program planning, evaluation, and content modifications designed for gifted/talented.

005-509 Language, Communication, and Public Policy 3 cr.

Interaction between language and public policy, with emphasis upon the role of language as an expression of nationalism, government policy regarding immigrant, minority, and indigenous languages and their maintenance through education, print and broadcast journalism, and government recognition. P: at least one previous course in linguistics or mass communication at 300 level or above.

005-510 Politics Through Literature 3 cr.

This course will examine the relationships between the political sphere of activity and the literary. It will stress the interrelatedness of the two spheres and the possibility of each giving insight and having influence on the other. A major concern will be to analyze the ways in which literature molds our values, and then to consider evidence of how those values have been incorporated into political action.

005-511 Perception: Models of Reality 3 cr.

A careful study of selected different perceptions of reality. Writers, painters, composers, psychologists, scientists, and all other creators have endeavored to impose different, and usually conflicting, models upon the world they have seen. Essential to significant understanding of the work in any area is an awareness of those different structures and a careful understanding of the effects of the assumptions implicit in the acceptance of a model. Significant assumed models not only provide means by which people obtain degrees of "perception" into their worlds; they can often impose a particular set of blinders which may actually be more restrictive than incisive. If a particular model ceases to be useful in helping people understand and deal with important parts of the world in which they live, then the major approaches by which they view their world must be questioned. A careful evaluation of the entire idea of progress as it applies to intellectual areas selected for study therefore is extremely important. Of major concern is a thorough understanding of the problems inherent in model acceptance.

005-512 Foundations of Knowledge in the Cultural and Natural Sciences 3 cr.

Since the turn of this century problems related to the philosophical foundations of the cultural and natural sciences have been widely discussed. It was realized by many thinkers, even ones as diverse as Dilthey, Whitehead, and Russell, that for the advancement of these problems specific concepts were required which related to the systematic in the sense of developing a critical examination of claims to valid knowledge by the cultural and natural sciences. Here similarities, differences, possible transformation formulas of logics, patterns of explanation and description, the nature of problems and objectivity, the roles of imagination and perception, the goals and ideals of knowledge, various assumptions about the nature of facts and symbols are studied in their bearing on claims to valid knowledge. To define the parameters of the systematic approach and to provide a setting for critical examination, a common set of phenomena is developed in terms of both cultural and natural sciences. These phenomena are those of laughing and crying, and serve not only to integrate the discussion of knowledge-claims but also to test them. The course draws from the works of philosophers, biologists, physicists, historians, logicians, philosophical anthropologists, all of whom purport to develop multidisciplinary approaches. P: 6 credits in philosophy and 1 or more credits in natural sciences.

005-514 Aesthetic and Perceptual Awareness 3 cr.

Although there is emphasis upon music, various approaches to the nature of art, artistic creativity, and the aesthetic experience are investigated. The particular social and aesthetic problems posed by contemporary and avant garde movements also are considered. The course is suitable not only for advanced students in music, but also for those with a critical and philosophic interest in the arts.

005-516 The Artist in His Community 3 cr.

The Social Role of the Artist: The relationship between the artist and his community, both in a historical and contemporary setting. Is there an ideal of working that allows him to better fulfill his artistic function?

005-517 Culture, the Arts and Democracy 3 cr.

This seminar will survey and critically examine, in historical perspective, the

writings of cultural and social theorists on the development of culture, the arts, and democracy, the possible relations amongst them, and the "policy" implications of their respective arguments. The focus will be the modern period, i.e. the nineteenth and twentieth centuries.

005-518 Introduction to Musicology and Research Methods 3 cr.

This course introduces students to the basic areas of music research, the principal concerns of each area, and the standard scholarly works and research methods in each field. Each research area is also viewed from the perspective of application to musical performance. Areas include: historical musicology, theory, aesthetics, pedagogy, physiology and psychology of music, ethnomusicology, and acoustics. A substantial background in music, particularly a basic undergraduate background in theory and history is required.

005-520 Analysis of Contemporary Literature 3 cr.

A course in the study and evaluation of contemporary British and American fiction designed partly as a comprehensive summary for writing students. The course is also open to any graduate student interested in reading and working to assess the impact of contemporary literature on today's values.

005-521 Literary Research and Criticism 3 cr.

This course will state and question the principles of literary studies by exploring the methodology and purposes of bibliography, scholarship and criticism. It will emphasize the student's participation in literary study and the critical values he forms from such a participation.

005-522 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 and spurious, private and intersubjective, intrinsic and extrinsic value; relation of general theory of value to other disciplines in the humanities and the sciences.

005-524 Hazardous and Toxic Materials 3 cr.

The handling, processing, and disposal of materials which have physical, chemical, and biological properties

that present hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. The metals and nonmetals, carcinogens radioactive materials, and pathogenic human, animal, and plant wastes. Required field trip.

005-525 Opera as Drama: An Interdisciplinary Approach 3 cr.

This course will examine the musical, literary, and theatrical aspects of selected operas composed between 1600 and 1950. Emphasis will be placed on the original, social and cultural environment of each opera as well as its aesthetic qualities.

Students with a musical background will be involved in a detailed analysis and evaluation of each work from the specifically musical point of view. Students with literary backgrounds will engage in analysis of the opera libretto as literature, both in its historical context (including an examination of its sources and antecedents) and in regard to its aesthetic value in a modern context. Students with background in theatre will focus on production values in the various styles of opera and will propose concepts and techniques of staging for specific operas. All students will become involved with the philosophies and theories of opera as well as the social and cultural implications of opera as an art form.

005-527 The Social Functions of the Arts I: Classic to Modern 3 cr.

This graduate seminar course will deal with those functions and activities of the artist and the arts which may be considered more social than aesthetic in nature. The first part of the course will involve an investigation of the social functions of the arts in a historical context while the second part will focus on specific issues which pertain primarily to the twentieth century. Members will be evaluated on the basis of participation in group discussions, seminar presentations, and one large-scale paper investigating a specified aspect of the topic.

005-528 The Social Functions of the Arts II: Contemporary Issues 3 cr.

This course is a sequel to the graduate-undergraduate course, The Social Functions of the Arts I. Discussion, research and a major project will be expected involving the questions raised by considering the social functions of the arts. Students interested in the social aspects of

the verbal, visual and performing arts should find the course essential for their graduate study.

005-529 The Author and Society: Censorship 3 cr.

Censorship is a subject that never seems to leave the pages of our newspapers and magazines. The very first amendment to our constitution recognized the importance of freedom of expression to the development of our society, yet we continue the real struggle with the facts of censorship. This course should provide the historical and theoretical background for a discussion of censorship in our local, state and national communities with particular emphasis on an author's relationship to the facts of freedom and censorship.

005-531 The Psychology of Work 3 cr.

Work as a cornerstone of contemporary living will be examined from a variety of points of view. Work as a social problem, i.e., work as a social role, work alienation, woman and work, leisure time, work and the minority issue will be presented. Subsequently a brief review of work and its relationship to history will be offered. This in turn will lead to a discussion of some of the ways in which pertinent psychological theories deal with work and its impact and relationship to personality and behavior.

Work poses acute contemporary social problems. Foremost is the issue of social, technological and economic changes and their impact upon the individual relationships to work. Automation, poverty, the expectation of unemployment will be used to highlight the above.

005-532 Qualitative Research Methods 3 cr.

The course offers the student the opportunity to explore thesis topic responsibilities, to engage in thesis-related pilot projects and to develop appropriate research skills leading to success in the thesis project. The student develops techniques and standards in research design, analysis and synthesis, and presentation. Seminar method.

005-534 Public Values and Science Policy 3 cr.

The course focuses on planning in an American context. Special attention is paid to the institutionalized influence of natural and social science on the environment. Private investment, government regulation and the public interest in the decision-making process are considered. Problem areas may

include energy, communications, land use, water, transportation, landscape, recreation, education, and others. Seminar method.

005-535 Innovation and Diffusion: Theory and Practice 4 cr.

This seminar will systematically examine the psycho-cultural processes involved in the formation and subsequent communication of new ideas, new things, and new practices--innovations. The emphasis will be upon generating sharp understanding of what is known (the theoretical aspect) with the aim of improving the quality of applied work in various fields, from women's rights to environmental protection. Early in the seminar students will elect to engage in either individual or a collective project involving original research on a particular innovation and its diffusion.

005-536 The Concept of Change and Social Intervention 3 cr.

This course focuses on the general concepts of planned change as they apply to our various efforts as change agents. This course, which will use general systems theory as the theoretical background, will concern 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.

005-537 Community Human Services 3 cr.

This course utilizes the insights and methods of many fields of study 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 Track.

005-538 Global Ecology: International Conservation of Natural Resources 3 cr.

This course would cover the basic principles of "conservation of natural resources" renewable and non-renewable, with specific emphasis on "International Programs" connected with conservation of soil, water resources, mineral resources, grassland resources, wild life resources, forest types as resources, fishery resources, recreational resources, etc. Special emphasis also will be put to the preservation of environment pollution problems and food-population problems.

005-539 Behavioral Research Strategies 4 cr.

The focus of this course is on the conceptual and procedural issues in research. It is a laboratory course in research methods and design. Its aim is to provide the knowledge and skills needed to collect adequate, accurate, and useful information about behavioral science questions. Although issues of control and experimental design will be a central concern, the concepts, techniques, and skills learned in this course should be and will be applied to a variety of research situations.

Statistical techniques will be discussed, but not stressed. This is a course that necessarily deals with data and numbers, but is not a course in statistical analysis.

005-540 The Geography of Settlement 3 cr.

This course will focus on the morphology of the rural countryside. Within this broad purview the emphasis will be 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, the students will be exposed to these aspects of settlement geography as well as to the geographer's craft. Students will be encouraged to do a major portion of their research in northeastern Wisconsin.

005-541. Land Use Institutions and Policy 3 cr.

The institutional arrangements which determine the control and use of land resources. Initially attention is directed to the evaluation of contemporary land use institutions in this

country, as well as selected other countries and to the role of these institutions in the developmental process. These institutions will be further examined from the standpoint of how they might be altered to promote a more rational developmental process 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, physical science, or the equivalent, or consent of instructor.

005-542 Human Population Dynamics and Policy 3 cr.

Readings, lectures, and student research focus upon the causes and consequences of human population growth and composition. The three basic mechanisms of population dynamics (birth, death, and migration) are examined from a global perspective. Case studies are used to analyze the association factors as food production, economic development, community health, and social organization. Special emphasis is given to the interrelationships between governmental policy and human population dynamics. P: A course in human population studies or consent of instructor.

005-545 Economic Analysis of Environmental Problems 3 cr.

Economics is the study of the system through which a society allocates its scarce resources to the production of a limited set of goods and services and how the elements and participants in that system interrelate and react with one another--how society chooses those goods and services that represent the best use of the limited resources available to it.

Economics is an important tool in the study of environmental issues. It has value as an analytical device and as a means of understanding how society has chosen and will continue to choose among alternative means and ends that at times improve and at times diminish the quality of life.

An understanding of the usefulness of economics is achieved by applying the concepts and underlying theory to the broad issues of our need for energy, food, and other scarce resources, to our use and abuse of air, water, and land, to the pressures that have arisen out of urbanization and the growing demands it places on transportation and recreation facilities, and to the difficult and complex choice between an expanding population and economic system and the development of an environment capable of sustaining life at an acceptable level of quality.



005-546 Alternative Social and Political Futures  
3 cr.

An examination of mankind's interdependent future, with an emphasis upon the extrapolation of present trends to their logical and illogical conclusions. The relationships between science, technology, and human values will be stressed, as will such topics as man versus machine, the social impact of overpopulation, the control of behavior and others.

005-547 Trends and Issues in Regional Planning  
3 cr.

The course would broadly be divided in three parts: Part One would be comprised of a critical review of trends and salient issues in regional planning in North American situations in general and in Wisconsin, in particular. Part Two would deal with some of the concepts and strategies which have been countered to tackle these issues. Based on the deliberation of concepts and strategies, each student will be expected to select a manageable research topic dealing with one of the issues in the context of a geographic region, preferably in Wisconsin.

The basic textbook for the course would be as given below:

Friedmann, J. & Alonso, W., Regional Policy: Reading in Theory and Applications; Cambridge: The MIT Press, 1975.

In addition to the textbook, pertinent articles appearing in the social science journals and professional reports will be assigned from time to time.

005-548 Land and Society in the Third World 3 cr.

This course examines historical and contemporary land use problems and institutions in underdeveloped areas of the world. Particular attention will be given to contrasting systems of land tenure and their relationship to agricultural and societal development. Other topics to be studied include the socio-cultural impact of new high-yield agricultural technology, the role of land reform in development, and alternative post land-reform models.

005-550 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. Utilizes case studies and examples from the fields of environmental management,

public administration, and business or industrial management.

005-551 Bases of Community Health 2 cr.

An overview of community health is presented, including concepts of health and disease. Indices of health status are discussed, as well as patterns of morbidity and mortality. The student is introduced to the process of perception, identification, and delineation of health problems, along with strategies for intervention. Such strategies include provision of a 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 the diagnosis and treatment of disease is explored. The American health care system is discussed, along with basic principles of health care organization.

005-552 Environmental Policy and Administration  
3 cr.

A survey of environmental policy, politics, and administration, with emphasis on American politics and public policy makers. The political context of environmental problems, the role of the public and policy makers in setting the political agenda; policy-making processes, with emphasis on national politics; policy implementation at federal, state, and local levels; organizational decision making for environmental planning and management; policy evaluation; selected problems and issues in environmental policy and administration.

005-553 Administrative Theory and Behavior  
3 cr.

Focuses on 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 will be examined. Attention will be given to the major factors which influence the success of organizational activity and administrative behavior, and to the effects associated with a range of organizational and administrative practices and behavior.



005-554 Human Ecology and Public Policy 3 cr.

A cross-sectional and longitudinal examination of interactions between the human animal and its environments as mediated by public policies, with a particular focus on the impact of these processes on the health, longevity, productivity, and life quality of the human animal; interrelationships between socially significant macro problem sets through a homocentric perspective; application of general systems theory and of epidemiologic, demographic, and statistical tools to identification and analysis of problems affecting the human animal; principal stressors and substances comprising environmental threats to the human animal; data sources and information systems.

005-557 Administration of Public Systems 3 cr.

Advanced concepts of planning, organizing, leading, and evaluating as essential functions in the administration of public systems. Major topics include but are not limited to the systems approach and management science techniques and tools; management by objectives; strategy management; operational auditing; and operational effectiveness.

005-558 Problems in Environmental Administration 3 cr.

Guided student study and supervised student exercises and problem-solving conducted 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.

005-559 Coastal Zone Management 3 cr.

The coastal zone as a distinct and limited resource provides, within our own geographical setting, a unique opportunity to explore the complex interaction of socio-economic and bio-physical factors associated with the growing problem of scarce natural resources. Within this context the Bay of Green Bay and Lake Michigan will serve as focal study points. The course provides a lecture format but also requires participation by students in individual or group projects centered on the coastal zone of the regional area. A broader geographical perspective of coastal environments will be developed through lectures and the use of material (films & readings) acquired from other coastal states. Basic ecological concepts necessary for under-

standing the bio-physical limitations of the coastal zone will be presented; demands for resource development in coastal regions and attitudinal differences toward meeting these demands will be considered; and legal and institutional frameworks will be explored within the context of developing processes in the management of the coastal zone.

005-560 Topics in Global Ecology 1 cr.

A seminar in which a variety of speakers address issues of concern in the areas of ecosystem productivity, community health, and environmental quality. Speakers are drawn from the UWGB staff and from professionals outside the University. Students in global ecology are expected to take this seminar for credit at least once. The seminar is open to all faculty and students; however, students registered for credit will contribute one seminar during the semester.

005-561 Global Environmental Monitoring 2 cr.

The gross aspects of human food supply, certain diseases, natural disaster, 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 sector, 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).

005-564 Survey of Systems Analysis 3 cr.

Most environmental problems are very complex. Analyses which focus on a narrow aspect or one component of a problem are frequently misleading. It is necessary to imbed the problem in a system which is large enough so that significant interrelationships can be assessed. In the last 20 or 30 years a number of quantitative techniques have been developed under the heading of systems analysis which provide tools for conducting such analyses.

Systems analysis techniques are stressed, with these main topics: problem formulation, construction of mathematical models, definition of a criterion function or a measure of merit, derivation of optimal solutions, testing of solutions and sensitivity of parameters, and implementation of solutions. Emphasis is placed upon applications of

systems analysis; theoretical background is discussed, not for its own sake, but as a means of deepening understanding of practical problems; case studies of applications of systems analysis are studied and computer tools are introduced.

P: An undergraduate course in calculus and an introduction to matrix algebra.

005-565 Evaluating Social Programs 3 cr.

Progress providing social or educational services are more and more often expected to provide tangible evidence that they are effective. As a result, a new field-evaluation research has developed in recent years by adapting the methods of social research to the problem of assessing program quality. This course will provide an introduction to the principles and practices of evaluative research and will emphasize such issues as identifying program goals, choosing appropriate outcome measures, defining appropriate samples, developing and disseminating results. Political, administrative, and ethical problems of evaluation will be considered throughout. The course procedure will be relatively informal with much of the class time spent in the development and discussion of model evaluation studies.

005-566 Waste Management/Resource Recovery Seminar 3 cr.

Topics include the generation, processing, and disposal of municipal, industrial, and agricultural waste materials with an emphasis on the technical and economic feasibility of various recycling processes.

005-567 Statistical Design and Analysis of Experiments 4 cr.

A complete review of the common principles underlying the design of experiments and the methods of analysis for such experiments. The purpose of the course 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. The principles of replication, randomization, error, linear models and least squares are introduced with reference to the completely randomized design. The principles are then extended to completely hierarchical models. Blocking is introduced, followed by factorial designs, and these are used to demonstrate single degree of freedom comparisons and range tests. Subsequently, more complex designs such as Latin squares, incomplete blocks, split plots, and the concepts of expect-

tation of mean squares are developed as justification for the statistical tests applied. The final third of the course is devoted to non-parametric statistical methods, particularly as applied to designed experiments. The concepts of ordinal and nominal data are explained, and techniques for the analysis of experiments for two treatments, several treatments and blocked designs developed, and their advantages and limitations, relative to the analysis of variance described. Chi-squared contingency analysis for two-way layouts in principle. The principles are motivated throughout by reference to the theory and practice of scientific experimentation, and illustrated by judiciously chosen examples. Laboratory analyses are performed on actual experimental data.

005-568 Multivariate Statistical Analysis 4 cr.

Multivariate statistical analysis deals with the statistical analyses of data matrices where several variables are measured on each of N subjects. The variables may be continuous or discrete. Techniques of analysis covered in this course include:

- (1) Regression analysis, where one or more of the variables may be designated as dependent, including curvilinear regression and transformation of nonlinear models to linear form;
- (2) Correlation analysis, both simple and partial;
- (3) Discriminant functions;
- (4) Principle components analysis;
- (5) Factor analysis;
- (6) Path analysis.

Other techniques of multivariate analysis are presented but not described. The course is intended for research workers who use statistical analysis as a primary research tool, and the method of presentation is descriptive. Mathematical explanations are presented graphically, and kept to the minimum necessary to understand adequately the techniques used. The course is illustrated by the analysis and interpretation of real data sets using the computer, but no prior computer experience is required. The use of computer statistical packages is taught as an integral part of the course. The course is likely to interest students of biology, sociology, economics, psychology and related fields, and illustrative data sets are chosen from all these areas. Others who may find the course valuable are computer scientists, mathematicians and systems analysts.

- 005-569 Seminar in Community Human Services  
 For students enrolled in the Community Psychology Program. Seminar will be particularly vital to students in internship settings. Seminar participants will review and discuss the field principles of, and theories relevant to, community psychology. Seminar includes a variety of faculty and community experts from relevant fields. A broad range of topics can be expected. Students and faculty will present their research and fieldwork. All participants are free to suggest topics. Agenda is flexible and, indeed, some meetings will not have agendas so that topics of interest or concern may be brought up spontaneously.
- 005-570 Scientific and Technical Communications 3 cr.  
 A course designed for students interested in the scientific and technical aspects of their chosen majors. Instruction and experience will be combined in preparing and presenting representative reports and statements appropriate to the student's participation in the public and professional role for which his graduate program fits him.
- 005-572 Contemporary Educational Thought 3 cr.  
 A course seeking to determine causes and controls over changing fashions in teaching methods and curriculum. A crucial issue is to determine conditions in which schools make a difference both in lives of students and in society as a whole.
- 005-573 Soil-Plant Relationships 3 cr.  
 Examines the biological, chemical, and physical factors in soils and plants and their interactive effect on plant growth.
- 005-575 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;
- and prospects for future food production.
- 005-576 Bioclimatology 3 cr.  
 The influence of the atmosphere on plants and animals including humans, the adaptations of organisms to the atmosphere, and the effects of organisms on the atmosphere. Emphasis is placed on subjects related to productivity and the well-being of organisms.  
 P: One undergraduate course in ecology.
- 005-577 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 ecology or limnology.
- 005-578 Epidemiology 3 cr.  
 Basic concepts and methods of epidemiology are presented in lectures and in weekly problems. The problems are involved with the establishment of the criteria for research problem-designing and investigating epidemiological problems both in the community and on a global basis. The problems will include examples of both the infectious and non-infectious diseases. Examples of the non-infectious diseases will be environment in nature (for example the effect of noise, or color on work performance). A team-orientated field project will be a requirement for the course. Each student is expected to contribute to the project and to the preparation of a paper. The functioning of epidemiology in community health will be emphasized.
- 005-579 Evaluation of Environmental Stressors 2 cr.  
 This course is designed to acquaint 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 specific toxicants and, as well as those agents that induce behavioral dysfunction. Statistical techniques

appropriate to the data collected will be discussed and used.

P: 478-402 Human Physiology, 600-364 Biometrics (or equivalent courses), and 005-524 Hazardous and Toxic Materials.

005-581 Environmental Education, Processes and Materials 3 cr.

Students are involved in experiences designed to more adequately prepare them to:

- (1) communicate environmental concepts;
- (2) develop an increased awareness of their local environment;
- (3) initiate positive environmental action programs.

Environmental education processes and materials that are appropriate at different age levels and relate to different areas of interest are examined. Class activities include an examination of several philosophical approaches to environmental education, utilizing local environmental resources in implementing environmental education on a day-to-day basis, and evaluating different kinds of environmental education materials. Students participate in value clarification exercises and acclimatization activities. Field trips are taken to local natural areas and to areas where people are having a particularly important impact on the environment. Resource people who are involved in significant environmental education efforts are utilized. Activities and evaluation criteria will be adapted to the needs of students with varied backgrounds, experiences, and professional interests in environmental education.

005-582 Educational Research Design and Thesis Problems 3 cr.

This course deals with the choosing and delimiting of a MEAS thesis topic in the field of education, the process of reviewing literature from a variety of sources, the writing of the thesis proposal, the understanding of basic concepts and processes in historical, descriptive and experimental research, the use of the logic of definition, assumptions, measurements, causation, proof, inference and induction, and the use of proper format and style in thesis writing.

A major emphasis will be on having each student begin or continue work on their own thesis using ideas developed in class.

005-583X Selected Topics Courses 1-4 cr.

The 583 course number is used to designate courses and seminars offered by graduate faculty on an experimental basis or in response to a special demand. Topics may be chosen to represent current issues of general concern, special interests of student groups or faculty members, or special resources of visiting faculty. A particular topic will be offered only once under the selected topics course number.

The title of the course as announced in the timetable will appear on the transcripts of students who enroll.

005-584 Development of Contemporary Problem-Focused Curricula 3 cr.

The opportunity to develop problem-focused curricula is provided. Development efforts can result in new courses or the redesign of portions of existing courses. One of the major problems facing educators is that of finding the time and resources needed to develop new curricula. Consequently, a major portion of the course operates in a workshop format. Topics for study include the nature of problem-focused learning, its purpose and associated problems, existing problem-focused curriculum efforts, and the role of contemporary and future orientation in problem-focused learning. A number of important problem areas are introduced by invited speakers. The State Environmental Education Plan is examined as well as a suggested curriculum design format, useful in problem-focused curriculum development. This class is appropriate for potential as well as practicing educators and is designed to include all subject areas, including the arts. All participants must complete the development of a problem-centered learning program appropriate to their teaching responsibility.

005-585 Advanced Educational Psychology 3 cr.

Aimed primarily toward examination of learning theories in the psychomotor, affective and cognitive domains: in the psychomotor domain, analysis of the theories and research that point toward a sound motor base being essential for academic readiness; in the affective domain, analysis of theories and research that deal with social and academic adjustment; in the cognitive domain, an examination of cognitive organization and functioning, concept formation and

problem solving abilities related to educational programs and learning in both formal and informal contexts.

005-586 Contemporary Innovations in Education 3 cr.

This course will examine recent innovations in education including local, regional, and nationally disseminated programs. It is for students to gain an understanding of processes of curriculum development and implementation in elementary, secondary, nursing, or technical schools. In addition to being able to describe and evaluate each of the innovations in the suggested list, students will make an in-depth examination of a topic of individual interest.

005-587 Analysis and Improvement of Teaching Effectiveness 3 cr.

This course provides teachers with knowledge and background information on the appraisal of teaching effectiveness. Students develop and implement their own appraisal system, summarize the results, and then plan maintenance and improvement procedures for their own teaching.

005-590 Process Dynamics, Learning and Leadership Functions 3 cr.

Styles of leadership in the family, classroom, work place and social organization are examined in this course. Distinction is made between what is done in a group and the way it is done, between task and maintenance functions, between work concerns and people concerns. A second major course component leads students to explore their management style in their leadership group. The impact of their style on group goals is assessed.

005-595 Special Topics in the Educational Environment

Among the subjects that have recently been the focus of these special topics courses are:

Supervision of Student Teachers  
Special Topics in Science and Mathematics for Secondary Teachers  
Collective Bargaining in Education  
Contemporary-Based Educational Programs--Practical Problems and Possible Solutions  
Classroom Learning Centers  
Individualized Learning  
History of Education  
Developing an Urban Field Trip Program  
Utilizing Natural Areas in Elementary and Secondary Schools  
Teaching the Exceptional Child  
The Character of Learning Disabilities  
Values and Morality in the Schools  
Strategies in Reading  
The William Glasser Approach  
Supervision and Improvement of Instruction  
Affective Education

005-596 Undergraduate Courses for Graduate Credit

005-597 Internship

005-598 Independent Study

005-599 Thesis (1-6 credits)

# Projected Schedule of Offerings



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

Fall 1979

- 005-506\* Mainstreaming of Exceptional Children
- 005-516\* The Artist in His Community
- 005-520\* Social Functions of the Arts I: Classic to Modern
- 005-532\* Qualitative Research Methods
- 005-537\* Community Human Services
- 005-539 Behavioral Research Strategies
- 005-550\* Executive Decision-Making
- 005-551 Bases of Community Health
- 005-553\* Administrative Theory and Behavior
- 005-554\* Human Ecology and Public Policy
- 005-559 Coastal Zone Management
- 005-566\* Waste Management/Resource Recovery Seminar
- 005-567\* Statistical Design and Analysis of Experiments
- 005-572\* Contemporary Educational Thought
- 005-576 Bioclimatology
- 005-583X\* Analysis and Improvement of Teaching Effectiveness
- 005-583X\* American Government and Public Policy
- 005-595\* Special Topics in the Educational Environment

January 1979

- 005-583X Language, Communication, and Public Policy

Spring 1980

- 005-503\* Community Organization and Planning
- 005-508\* Educational Programs for the Gifted/Talented
- 005-511\* Perception: Models of Reality
- 005-517\* Culture, the Arts, and Democracy
- 005-522\* General Theory of Values
- 005-524\* Hazardous and Toxic Materials
- 005-528\* The Social Functions of the Arts II: Contemporary Issues
- 005-536\* The Concept of Change and Social Intervention
- 005-547\* Trends and Issues in Regional Planning
- 005-552\* Environmental Policy and Administration
- 005-557\* Administration of Public Systems
- 005-565\* Evaluating Social Programs
- 005-568\* Multivariate Statistical Analysis
- 005-569\* Seminar in Community Human Services
- 005-570 Scientific and Technical Communicating
- 005-573 Soil-Plant Relationships
- 005-578\* Epidemiology
- 005-583X\* Monitoring Environmental Stressors
- 005-584\* Development of Contemporary Problem-Focused Curricula
- 005-586\* Contemporary Innovations in Education
- 005-595\* Special Topics in the Educational Environment

Summer 1980

- 005-502\* Principles and Practices of Consultation
- 005-506\* Mainstreaming of Exceptional Children
- 005-507\* Outdoor Environmental Education: Philosophy and Practice
- 005-520\* Analysis of Contemporary Literature
- 005-525\* Opera as Drama: An Interdisciplinary Approach
- 005-528\* The Social Functions of the Arts II: Contemporary Issues
- 005-553\* Administrative Theory and Behavior
- 005-582 Educational Research Design and Thesis Problems
- 005-585 Advanced Educational Psychology
- 005-595 Special Topics in the Educational Environment

Fall 1980

- 005-514\* Aesthetic and Perceptual Awareness
- 005-518\* Introduction to Musicology and Research Methods
- 005-521\* Literary Research and Criticism
- 005-527\* The Social Functions of the Arts I: Classic to Modern
- 005-531\* The Psychology of Work
- 005-537\* Community Human Services
- 005-539 Behavioral Research Strategies
- 005-545\* Economic Analysis of Environmental Problems
- 005-553\* Administrative Theory and Behavior
- 005-554\* Human Ecology and Public Policy
- 005-561 Global Environmental Monitoring
- 005-566 Waste Management/Resource Recovery Seminar
- 005-567\* Statistical Design and Analysis of Experiments
- 005-572\* Contemporary Educational Thought
- 005-574 Ecology of Food Production
- 005-583X Interpersonal and Self-Awareness Skills Training
- 005-583X\* Methods for Evaluating Environmental Stressors
- 005-584\* Development of Contemporary Problem-Focused Curricula
- 005-595\* Special Topics in the Educational Environment

January 1981

- 005-504 Discrete Multivariate Analysis

Spring 1981

- 005-503\* Community Organization and Planning
- 005-513\* Historical Dimensions of the Arts
- 005-524\* Hazardous and Toxic Materials
- 005-525\* Opera as Drama: An Interdisciplinary Approach
- 005-528\* The Social Functions of the Arts II: Contemporary Issues
- 005-536\* The Concept of Change and Social Intervention
- 005-538 Global Ecology: International Conservation of Natural Resources
- 005-541\* Land Use Institutions and Policies
- 005-546\* Alternative Social and Political Futures

005-550\* Executive Decision-Making  
 005-552\* Environmental Policy and Administration  
 005-557\* Administration of Public Systems  
 005-564 Survey of Systems Analysis  
 005-565\* Evaluating Social Programs  
 005-568\* Multivariate Statistical Analysis  
 005-569\* Seminar in Community Human Services  
 005-577 Hydrobiology  
 005-583X Behavioral Toxicology  
 005-587\* Analysis and Improvement of Teaching Effectiveness  
 005-590\* Process Dynamics and Leadership Functions  
 005-595\* Special Topics in the Educational Environment

Summer 1981

005-505 Education: Mindstyles and Lifestyles  
 005-506 Mainstreaming of Exceptional Children  
 005-518 Introduction to Musicology and Research Methods  
 005-527\* The Social Functions of the Arts I: Classic to Modern  
 005-540\* The Geography of Settlement  
 005-558\* Problems in Environmental Administration  
 005-581 Environmental Education Processes and Materials  
 005-582 Educational Research Design and Thesis Problems  
 005-583X Special Topics in Contemporary Literature  
 005-585 Advanced Educational Psychology  
 005-595 Special Topics in the Educational Environment  
 005-5XX Interpersonal and Self-Awareness Training

# Advising Guide

The following list of courses may be useful for planning a program of study. The courses are grouped into general topic areas or themes.

The courses listed as undergraduate/graduate are 300 and 400 level courses that have been specifically identified as appropriate for graduate credit with no variation in course assignments from those required of undergraduates enrolled in the courses. No assigned study card is required for registration in these courses. The credits earned can be applied only toward the assigned study component of the student's program of study.

## Environmental Science

### Graduate Courses

- 005-524 Hazardous and Toxic Materials
- 005-538 Global Ecology: International Conservation of Natural Resources
- 005-545 Economic Analysis of Environmental Problems
- 005-559 Coastal Zone Management
- 005-560 Topics in Global Ecology
- 005-561 Global Environmental Monitoring
- 005-566 Waste Management/Resource Recovery Seminar
- 005-570 Scientific and Technical Communicating
- 005-573 Soil-Plant Relationships
- 005-574 Ecology of Food Production
- 005-576 Bioclimatology
- 005-577 Hydrobiology

### Undergraduate/Graduate Courses

- 226-330 Biochemistry
- 226-331 Biochemistry Laboratory
- 226-405 Electronics for Scientists
- 226-413 Instrumental Analysis
- 226-417 Nuclear Physics and Radiochemistry
- 226-418 Nuclear Physics and Radiochemistry Laboratory
- 862-306 Biophysics
- 862-311 Plant Physiology
- 862-319 Industrial Pollution Control Techniques
- 862-322 Ecosystems Analysis I
- 862-323 Ecosystems Analysis II
- 862-332 Geophysical Fluid Mechanics
- 862-342 Environmental Geology
- 862-350 Meteorology
- 862-351 Synoptic Meteorology Laboratory
- 862-363 Plant and Forest Pathology
- 862-380 Radiobiology
- 862-395 Chemical Ecology
- 862-403 General Limnology
- 862-412 Bioenergetics
- 862-414 Conventional Energy Technology
- 862-415 Solar and Alternative Sources of Energy
- 862-420 Soil Classification and Geography
- 862-422 Environmental Biogeochemistry
- 862-434 Water Chemistry
- 862-450 Air Pollution Chemistry and Meteorology
- 944-353 Community Noise: Effects, Assessment, and Solutions

## Environmental Biology and Human Ecology

### Graduate Courses

- 005-542 Human Population Dynamics and Policy
- 005-551 Bases of Community Health
- 005-571 Physiological and Psychological Aspects of Environmental Stressors
- 005-578 Epidemiology
- 005-XXX Evaluation of Environmental Stressors

### Undergraduate/Graduate Courses

- 204-402 Advanced Microbiology
- 226-330 Biochemistry
- 226-331 Biochemistry Laboratory
- 478-402 Human Physiology
- 478-403 Human Physiology Laboratory
- 478-413 Neurophysiology
- 478-414 Neurophysiology Laboratory
- 478-430 Environmental Physiology
- 478-440 Seminar: Topics in Human Adaptability
- 694-485 Advanced Human Nutrition
- 694-488 Nutrition in Disease
- 779-401 Agricultural Genetics and World Food Production
- 779-402 Population Biology
- 779-412 Principles of Parasitology
- 779-450 Current Topics in Population Dynamics
- 862-380 Radiobiology

## Quantitative Methods

### Graduate Courses

- 005-504 Discrete Multivariate Statistical Analysis
- 005-539 Behavioral Research Strategies
- 005-564 Survey of Systems Analysis
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis

### Undergraduate/Graduate Courses

- 600-309 Systems of Ordinary Differential Equations
- 600-311 Advanced Calculus
- 600-312 Real Analysis
- 600-321 Linear Algebra II
- 600-328 Introduction to Algebraic Structures
- 600-350 Numerical Analysis
- 600-355 Applied Mathematical Optimization
- 600-360 Theory of Probability
- 600-361 Mathematical Statistics
- 600-364 Biometrics
- 600-410 Complex Analysis
- 600-416 Orthogonal Functions and Partial Differential Equations
- 779-456 Demographic Methods

## Arts Environment and Communications

### Graduate Courses

- 005-510 Politics Through Literature
- 005-511 Perception & Models of Reality
- 005-512 Foundations of Knowledge in the Cultural and Natural Sciences
- 005-513 Historical Dimensions of the Arts
- 005-514 Aesthetic and Perceptual Awareness
- 005-515 Social Science Perspectives on the Arts
- 005-516 The Artist in the Community
- 005-517 Culture, the Arts, and Democracy
- 005-518 Introduction to Musicology and Research Methods
- 005-520 Analysis of Contemporary Literature

## Planning Processes and Policy Analysis

### Graduate Courses

- 005-541 Land Use Institutions and Policy
- 005-545 Economic Analysis of Environmental Problems
- 005-546 Alternative Social and Political Futures
- 005-547 Trends and Issues in Regional Planning
- 005-552 Environmental Policy and Administration
- 005-556 Decision Models and Methods for Environmental Administration
- 005-558 Problems in Environmental Administration
- 005-588 Problem Analysis and Decision-Making

### Undergraduate/Graduate Courses

- 005-521 Literature, Research and Criticism
- 005-525 Opera as Drama: An Interdisciplinary Approach
- 005-527 The Social Functions of the Arts I
- 005-528 The Social Functions of the Arts II
- 005-529 The Author and Society: Censorship
- 005-532 Qualitative Research Methods
- 005-535 Innovation and Diffusion: Theory and Practice

### Undergraduate/Graduate Courses

- 242-310 Criticism of the Performing Arts
- 242-320 Communication: Extensions of Consciousness
- 246-321 Sociolinguistics
- 246-322 Modern Linguistics
- 246-324 Psycholinguistics
- 246-325 Applied Linguistics
- 246-430 Mass Media and Society
- 246-443 Advanced Problems in Creative Photography
- 448-480 Problems in Historical Causation
- 493-323 Criticism of the Visual Arts
- 552-302 Fiction Writing Workshop
- 552-303 Poetry Writing Workshop
- 552-323 Approaches to Literature
- 552-490 Seminar in Literature

## Community Environments and Systems

### Graduate Courses

- 005-502 Principles and Practices of Consultation
- 005-503 Community Organization and Planning
- 005-532 Qualitative Research Methods
- 005-536 The Concept of Change and Social Intervention
- 005-537 Community Human Services
- 005-565 Evaluating Social Programs
- 005-569 Seminar in Community Human Services

### Undergraduate/Graduate Courses

None.

### Undergraduate/Graduate Courses

- 350-305 Public Regulatory Processes
- 350-415 Administrative Planning, and Budgetary Systems
- 350-421 Planning Processes and Methods
- 350-422 Planning Processes and Methods
- 350-460 Public Policy Analysis
- 481-435 Developmental Problems and Solutions
- 493-390 Violence, Revolution, War
- 834-420 Regional Planning
- 834-421 Techniques and Methods of Planning
- 862-460 Resource Management Strategies
- 875-400 Environmental Law
- 875-450 Schooling, Education and Environment
- 875-460 Continuity and Change in Society

## Organizational, Institutional, and Management Studies

### Graduate Courses

- 005-531 The Psychology of Work
- 005-550 Executive Decision-Making
- 005-553 Administrative Theory and Practice
- 005-557 Administration of Public Organizations
- 005-565 Evaluating Social Programs
- 005-588 Problem Analysis and Decision-Making
- 005-589 Organizational and Occupational Studies

### Undergraduate/Graduate Courses

- 350-410 Administration of Local Government
- 350-411 Administration of Local Government
- 350-415 Administrative Planning, and Budgetary Systems
- 350-421 Planning Processes and Methods
- 350-422 Planning Processes and Methods
- 350-460 Public Policy Analysis
- 575-385 Management of the Nonprofit Organization
- 575-387 Ethics and Social Issues
- 575-406 Legal Issues in Business
- 575-410 Income Tax Theory & Practice
- 575-414 Advanced Managerial Accounting
- 575-424 Marketing Research
- 575-426 Marketing Management
- 575-429 Marketing Strategies for Business Institutions

- 575-443 Financial Planning and Control
- 575-462 Seminar in Personnel Management
- 575-464 Cases in Collective Bargaining
- 575-489 Problems of Business Management
- 778-400 Intergovernmental Relations in the United States
- 778-426 American Legislation Process
- 778-450 Political Change
- 820-415 Organizational Psychology
- 820-438 Group Dynamics
- 834-401 Regional Economic Analysis
- 875-400 Environmental Law

## Education

### Graduate Courses

- 005-505 Education: Mindstyles and Lifestyles
- 005-506 Mainstreaming of Exceptional Children
- 005-507 Outdoor Environmental Education: Philosophy and Practice
- 005-508 Educational Programs for the Gifted/Talented
- 005-535 Innovation and Diffusion: Theory and Practice
- 005-581 Environmental Education Processes and Materials
- 005-582 Educational Research Design and Thesis Problems
- 005-584 Development of Contemporary Problem-Focused Curricula
- 005-585 Advanced Educational Psychology
- 005-586 Contemporary Innovation in Education
- 005-587 Analysis and Improvement of Teaching Effectiveness
- 005-590 Process Dynamics, Learning and Leadership Functions
- 005-595 Special Topics in the Educational Environment

### Undergraduate/Graduate Courses

- 302-308 Children's Literature: Contemporary Practices in the Elementary Schools
- 302-319 Adolescent Literature in Secondary School Reading
- 302-404 Creative Learning
- 302-405 Individualizing Instruction
- 302-406 Evaluation and Testing in Education
- 302-407 Developing Environmental Education Materials for the Schools
- 302-408 Reading Disability: Diagnosis and Remediation of Reading Problems
- 302-410 Introduction to the Education of Exceptional Children
- 302-411 Nature and Identification of Learning Disabilities
- 481-429 Theories of Personality Development
- 481-431 Cognitive Development
- 481-432 Cultural Impacts on Human Development
- 481-436 Developmental Guidance with Children and Adolescents
- 481-437 Developmental Guidance with Adults and the Aged



# Upper Level Undergraduate Courses

Under certain circumstances, upper division undergraduate courses can be taken to fulfill the assigned study portion of a graduate student program. These circumstances are:

1. The course cannot be remedial. Interdisciplinarity requires an acquaintance with many areas of study rather than only one, but students should not include as part of a master's program a course which, in the judgment of their committee, should have formed part of their undergraduate program.
2. The course must form part of a coherent program directed toward the student's chosen focus of study.
3. Extra work is to be assigned or a superior performance demanded for an equivalent grade, when compared with undergraduates enrolled in the same course. No additional work is assigned in courses identified as undergraduate/graduate (U/G).
4. Prerequisites for the course must be fulfilled, and these may not necessarily carry graduate credit. Entry to undergraduate courses is not guaranteed, but depends on informed consent of the responsible faculty members.

To enroll in an undergraduate course, the student must complete an assigned study card, obtainable from the Graduate Office or the Registrar. NO CARD IS NEEDED FOR COURSES DESIGNATED AS UNDERGRADUATE/GRADUATE (U/G). This card must be signed by the student, his or her major professor, and the instructor of the course. These signatories can withhold consent from the student.

A list of upper division undergraduate courses follows. For course descriptions, consult the undergraduate catalog or timetable. In addition to the courses listed here, a number of 483X courses--experimental courses being taught for the first time--also are available for graduate students.

#### Anthropology

- 156-301 Peoples and Cultures of a Selected Region
- 156-303 Cultural Ecology
- 156-304 Family, Kin, and Community
- 156-310 Culture and Personality
- 156-330 Aesthetic Anthropology
- 156-402 Comparative Social Structures
- 156-405 Anthropology of a Selected Institution

#### Biology

- 204-302 Principles of Microbiology
- 204-303 Genetics
- 204-304 Genetics Laboratory
- 204-306 Ornithology
- 204-315 Biology of Lower Green Plants
- 204-317 The Structure of Seed Plants
- 204-320 Field Botany
- 204-340 Comparative Anatomy of Vertebrates
- 204-341 Ichthyology

- 204-345 Animal Behavior
- 204-347 Developmental Biology
- 204-350 Field Zoology
- 204-355 Entomology
- 204-402 Advanced Microbiology (U/G)

#### Chemistry-Physics

- 226-300 Bio-Organic Chemistry
- 226-301 Bio-Organic Chemistry Laboratory
- 226-302 Organic Chemistry I
- 226-303 Organic Chemistry II
- 226-304 Organic Chemistry Laboratory I
- 226-305 Organic Chemistry Laboratory II
- 226-311 Analytical Chemistry
- 226-315 Mechanics III
- 226-320 Thermodynamics and Kinetics
- 226-321 Structure of Matter
- 226-322 Thermodynamics and Kinetics
- 226-323 Structure of Matter Laboratory
- 226-324 Advanced Physical Laboratory
- 226-330 Biochemistry (U/G)
- 226-331 Biochemistry Laboratory (U/G)
- 226-404 Electricity and Magnetism
- 226-405 Electronics for Scientists (U/G)
- 226-410 Inorganic Chemistry
- 226-413 Instrumental Analysis (U/G)
- 226-417 Nuclear Physics and Radiochemistry (U/G)
- 226-418 Nuclear Physics and Radiochemistry Laboratory (U/G)

#### Communication and the Arts

- 242-301 Communication Action Projects in the Community
- 242-302 Action Training
- 242-305 American Documentary Theater I
- 242-306 American Documentary Theater II
- 242-310 Criticism of the Performing Arts (U/G)
- 242-320 Communication: Extensions of Consciousness (U/G)
- 242-323 Language & Human Conflict
- 242-324 Psycholinguistics
- 242-328 Cultural Cross-Communications
- 242-329 Cultural Cross-Communications II
- 242-340 Greek and Roman Art
- 242-341 History of Seventeenth Century Painting
- 242-342 Italian Renaissance Art
- 242-361 Increasing Aesthetic Awareness
- 242-370 Modern American Culture
- 242-372 The Phenomenon of Style I: Traditional Styles
- 242-373 The Phenomenon of Style II: Avant-Garde Styles
- 242-395 The Individual and His Culture: The Film-Maker's View
- 242-395 Photographic Design for Print Media
- 242-401 Designing the Environment
- 242-402 Designing the Environment II
- 242-405 Urban Technological Design
- 242-462 Senior Seminar in Aesthetic Awareness (U/G)
- 242-471 Environmental Design Workshop II
- 242-472 Environmental Design Workshop IV
- 242-495 Styles of Expression: The Arts & Technology, Special Project

### Communication Processes

- 246-303 Specialized Writing
- 246-305 Elements of Electronic Media
- 246-306 Electronic Media II
- 246-320 History of the English Language (U/G)
- 246-321 Sociolinguistics (U/G)
- 246-322 Modern Linguistics (U/G)
- 246-324 Psycholinguistics (U/G)
- 246-325 Applied Linguistics (U/G)
- 246-333 Persuasion and Argumentation
- 246-343 Creative Photography II
- 246-353 Practicum in Print Journalism II
- 246-402 Television and Radio Internship
- 246-405 Professional Reporting Internship
- 246-430 Mass Media and Society (U/G)
- 246-443 Advanced Problems in Creative Photography (U/G)

### Community Sciences

- 225-305 Foundations for Social Research

### Earth Sciences

- 296-302 Geologic Evolution of the Earth
- 296-303 Geologic Evolution of the Earth Laboratory
- 296-310 Paleobiology
- 296-340 Rock and Mineral Resources
- 296-350 Geologic Field Methods
- 296-366 Structural Geology
- 296-380 Geomorphic Processes
- 296-402 Stratigraphy and Sedimentation
- 296-441 Mineralogy
- 296-442 Petrology

### Economics

- 298-302 Intermediate Macroeconomic Theory
- 298-303 Intermediate Microeconomic Theory
- 298-304 Contemporary Labor Markets
- 298-305 Natural Resources Economic Policy
- 298-306 Public Finance and Fiscal Policy
- 298-307 Sources of Contemporary Economic Concepts
- 298-308 Business Cycles
- 298-330 Money and Banking
- 298-401 Regional Economic Analysis
- 298-402 Resource Economics Analysis
- 298-403 International Trade
- 298-404 Economics of Developing Areas
- 298-406 Comparative Economic Systems and Institutions

### Education

- 302-303 Elementary School Teaching Methods in Art
- 302-304 Elementary School Teaching Methods in Music
- 302-305 Elementary School Teaching Methods in Mathematics and Science
- 302-308 Children's Literature: Contemporary Practices in the Elementary Schools (U/G)
- 302-319 Adolescent Literature in Secondary School Reading (U/G)
- 302-320 Teaching Methods in Aesthetic Education
- 302-321 Teaching Styles and Leadership Strategies for Nurses

- 302-355 Theory and Practice of Human Relations Skills
- 302-404 Creative Learning (U/G)
- 302-405 Individualizing Instruction (U/G)
- 302-406 Evaluation and Testing in Education (U/G)
- 302-407 Developing Environmental Education Materials for the Schools (U/G)
- 302-408 Reading Disability: Diagnosis & Remediation of Reading Problems (U/G)
- 302-410 Introduction to the Education of Exceptional Children (U/G)
- 302-411 Nature & Identification of Learning Disabilities (U/G)
- 302-451 Field Experience in Environmental Education
- 302-483X Selected Topics in Education

### Environmental Administration

- 350-301 Environmental Administration
- 350-305 Public Regulatory Processes (U/G)
- 350-310 Administrative Leadership
- 350-401 Planning and Management of Public Systems
- 350-410 Administration of Local Government I (U/G)
- 350-411 Administration of Local Government II (U/G)
- 350-415 Administrative Planning, Programming, and Budgetary Systems (U/G)
- 350-421 Planning Processes and Methods I (U/G)
- 350-422 Planning Processes and Methods II (U/G)
- 350-460 Public Policy Analysis (U/G)

### Geography

- 416-316 Geography of Transportation and Industrial Location (Africa)
- 416-320 Landform Geography - Topics and Regions
- 416-325 Regional Climatology
- 416-341 Urban Geography
- 416-351 Elements of Cartography
- 416-353 Air Photo Interpretation and Use
- 416-355 Introduction to Quantitative Methods of Spatial Analysis
- 416-361 Geography of Africa
- 416-371 Geography of the U.S. and Canada
- 416-372 Analysis of the Great Lakes Region of North America
- 416-376 Geography of Developing Areas
- 416-377 Analysis of Northern Lands
- 416-378 The Geography of Conflict Areas

### History

- 448-302 History of American Thought & Culture
- 448-303 History of American Thought & Culture
- 448-305 History of European Thought & Culture 1500 to the Present
- 448-309 History of Modern Science
- 448-310 American Colonial History
- 448-311 History of Wisconsin
- 448-312 History of the Great Lakes Region (from 1600 to the Present)
- 448-314 The Modernization of Russia 1850-1917
- 448-315 History of Soviet Russia (1917 to Present)
- 448-322 Economic and Business History of the United States
- 448-323 History of American Foreign Relations, 1776-1890

- 448-324 History of American Foreign Relations, 1890 to Present
- 448-325 History of Modern Germany
- 448-343 America's Urban Past
- 448-350 Social History of Europe Since the Industrial Revolution
- 448-352 History of Modern China
- 448-354 History of Modern Southeast Asia
- 448-356 History of Africa (to the colonial invasions)
- 448-357 History of Africa (from colonial invasions and post colonial African history)
- 448-363 Medieval History, 337 A.D. to 1100 A.D.
- 448-364 Medieval History from 1100 to 1453 A.D.
- 448-367 World Wars I and II: The Age of Global and Total Conflict
- 448-402 Political and Social History of Modern Asia
- 448-403 Political and Social History of Modern America
- 448-404 Political and Social History of Modern Europe
- 448-405 History of Technological Advancement
- 448-480 Problems in Historical Causation (U/G)
- Human Adaptability
- 478-301 Adaptive Mechanisms
- 478-302 Comparative Physiology
- 478-303 Laboratory in Comparative Physiology
- 478-309 History of Medicine and Physiology
- 478-313 Brain Functions in Human Behavior
- 478-320 Human Growth, Development, & Senescence
- 478-325 Biological Instrumentation
- 478-333 Biology of Outdoor Living
- 478-402 Human Physiology (U/G)
- 478-403 Human Physiology Laboratory (U/G)
- 478-413 Neurophysiology (U/G)
- 478-414 Neurophysiology Laboratory (U/G)
- 478-430 Environmental Physiology (U/G)
- 478-440 Seminar: Topics in Human Adaptability (U/G)
- 478-450 Psychological Factors in Human Adaptability
- Human Development
- 481-331 Human Development I: Infancy and Early Childhood
- 481-332 Human Development II: Middle Childhood and Adolescence
- 481-333 Observation and Interpretation of Child Behavior
- 481-334 Play and Creative Activities in Childhood
- 481-335 Introduction to Experience with Young Children
- 481-336 Sex Role Development in Contemporary Society
- 481-337 Developmental Tests and Measurements
- 481-429 Theories of Personality Development (U/G)
- 481-431 Cognitive Development (U/G)
- 481-432 Cultural Impacts on Human Development (U/G)
- 481-433 Human Development III: Adulthood and Later Maturity
- 481-435 Developmental Problems and Deviations (U/G)
- 481-436 Developmental Guidance with Children and Adolescents (U/G)
- 481-437 Developmental Guidance with Adults and Aged (U/G)
- 481-438 Lifetime Needs and Environmental Planning
- 481-439 The Elderly: Social and Behavioral Implications for Health Care
- 481-441 History, Philosophy, and Current Programs in Early Childhood Education
- 481-442 Curriculum and Program Development in Early Childhood Education
- 481-444 Advanced Experience with Young Children
- Humanistic Studies
- 493-300 Experimental Learning Community Program
- 493-301 HCC Projects in the Community
- 493-302 Human Identity
- 493-303 Action Training Intensive
- 493-307 Other Cultures Through Humanistic Studies I
- 493-308 Other Cultures Through Humanistic Studies II
- 493-310 Criticism of the Performing Arts
- 493-311 Perspective of Human Values I: The Classical World
- 493-312 Perspective of Human Values II: Renaissance to Rationalism
- 493-313 Man, Machines and the Environment
- 493-315 Theories of Creativity
- 493-323 Criticism of the Visual Arts (U/G)
- 493-325 Western Christianity: Belief and Institutional Structure: From the New Testament to the Reform Era
- 493-329 Utopia and Anti-Utopia I
- 493-330 Utopia and Anti-Utopia II
- 493-331 Geo-Historical Approaches to the Environment
- 493-332 Art, Ideas, Society, and the Quality of Life
- 493-369 Women: Crises in Society
- 493-370 Women: Skills for Change
- 493-374 Wisconsin Indians: Historical and Cultural Perspectives
- 493-375 Wealth, Culture, and Society
- 493-376 Cultural Conflict
- 493-390 Violence, Revolution, War & Society (U/G)
- 493-402 Humanities Seminar: Defining the Quality of Life
- 493-406 Humanities Seminar: Popular, Mass, and High Culture
- 493-423 Literary Research and Criticism
- 493-474 The Native Americans: Emergence of Pan-Indian Cultures
- 493-494 Practice in Community Action
- Literature and Language
- 552-302 Fiction Writing Workshop (U/G)
- 552-303 Poetry Writing Workshop (U/G)
- 552-304 Advanced Expository Writing
- 552-310 Major English Drama
- 552-313 Major English Prose Fiction
- 552-314 Major English Poetry
- 552-323 Approaches to Literature (U/G)
- 552-330 Major American Drama
- 552-331 Major American Prose Fiction
- 552-332 Major American Poetry
- 552-333 Literary Themes
- 552-335 Literary Eras
- 552-350 Major Foreign Drama
- 552-351 Major Foreign Prose Fiction

- 552-352 Major Foreign Poetry
- 552-431 Shakespeare
- 552-434 A Major British Writer (or Writers)  
Exclusive of Shakespeare
- 552-435 A Major American Writer (or Writers)
- 552-490 Seminar in Literature (U/G)

Managerial Systems

- 575-305 Business Law I
- 575-306 Business Law II
- 575-312 Managerial Accounting
- 575-313 Financial Accounting: Theory and  
Practice I
- 575-314 Financial Accounting: Theory and  
Practice II
- 575-316 Governmental and Institutional Accounting
- 575-322 Basic Marketing
- 575-324 Merchandise Management for Retail  
Wholesale Operations
- 575-325 Principles of Public Relations
- 575-326 Principles of Purchasing
- 575-327 Selling and Sales Management
- 575-343 Corporation Finance
- 575-345 Principles of Risk Management
- 575-346 Public Finance and Fiscal Policy
- 575-362 Principles of Personnel Management
- 575-366 Collective Bargaining
- 575-382 Principles of Management
- 575-384 Industrial Management
- 575-385 Management of the Non-Profit Organi-  
zation (U/G)
- 575-386 Small Business Management
- 575-387 Ethics and Social Issues in Business (U/G)
- 575-395 Practicum in Financial Statement  
Analysis
- 575-406 Legal Issues in Business (U/G)
- 575-410 Income Tax Theory and Practice (U/G)
- 575-411 Financial Information Systems
- 575-412 Auditing Standards and Procedures
- 575-414 Advanced Managerial Accounting (U/G)
- 575-422 Principles of Retailing
- 575-423 Principles of Advertising
- 575-424 Marketing Research (U/G)
- 575-425 Promotional Strategy
- 575-426 Marketing Management (U/G)
- 575-427 International Distribution and Marketing
- 575-428 Consumer Behavior
- 575-429 Marketing Strategies for Non-Business  
Institutions (U/G)
- 575-442 Problems of Investment
- 575-443 Financial Planning and Control (U/G)
- 575-445 International Finance
- 575-462 Seminar in Personnel Management (U/G)
- 575-463 Labor Legislation and Administration
- 575-464 Cases in Collective Bargaining (U/G)
- 575-466 International Labor Relations
- 575-485 Managerial Economics
- 575-486 Small Business Feasibility Analysis
- 575-489 Problems of Business Management (U/G)
- 575-495 Budgetary Control: Theory and Practice

Mathematics

- 600-309 Systems of Ordinary Differential  
Equations (U/G)
- 600-311 Advanced Calculus (U/G)
- 600-312 Real Analysis (U/G)
- 600-320 Linear Algebra I
- 600-321 Linear Algebra II (U/G)

- 600-328 Introduction to Algebraic  
Structures (U/G)
- 600-350 Numerical Analysis (U/G)
- 600-351 Data Structures, Storage & Retrieval
- 600-353 Advanced Programming (U/G)
- 600-355 Applied Mathematical Optimization (U/G)
- 600-360 Theory of Probability (U/G)
- 600-361 Mathematical Statistics (U/G)
- 600-362 Methods of Statistical Analysis
- 600-364 Biometrics (U/G)
- 600-382 History of Mathematical Thought
- 600-385 College Geometry
- 600-410 Complex Analysis (U/G)
- 600-416 Orthogonal Functions and Partial  
Differential Equations (U/G)
- 600-472 Systems Simulation

Nutritional Sciences

- 694-302 Nutrition and Culture
- 694-312 Quantity Food Production and Service
- 694-328 Principles of Nutritional Biochemistry
- 694-329 Nutritional Biochemistry Laboratory
- 694-404 Food Science (U/G)
- 694-421 Community Nutrition I
- 694-422 Community Nutrition II
- 694-485 Advanced Human Nutrition (U/G)
- 694-488 Nutrition in Disease (U/G)

Performing Arts: Music

- 705-302 Piano for Elementary Teachers
- 705-315 Choral Arranging
- 705-316 Instrumental Arranging
- 705-317 Orchestration
- 705-318 Choral Literature
- 705-321 Bach and his Contemporaries
- 705-331 Choral Conducting
- 705-332 Instrumental Conducting
- 705-341 Woodwind Techniques
- 705-342 Brass Techniques
- 705-343 String Techniques
- 705-344 Choral Techniques
- 705-345 Percussion Techniques
- 705-346 Keyboard Accompanying I
- 705-347 Keyboard Accompanying II
- 705-351 Literature and Styles of Music III
- 705-352 Literature and Styles of Music IV
- 705-353 Advanced Musicianship III
- 705-354 Advanced Musicianship IV
- 705-402 Creating Contemporary Music
- 705-411 Composition
- 705-412 Composition
- 705-417 Arranging for Jazz Ensemble
- 705-422 Music of the Twentieth Century
- 705-423 Seminar in Music Literature

Performing Arts: Theater

- 709-309 Theater History I
- 709-310 Theater History II
- 709-321 Scene Design
- 709-322 Costume Design
- 709-323 Stage Lighting
- 709-324 Stage Properties
- 709-325 Stage Make-Up
- 709-331 Acting V
- 709-332 Acting VI
- 709-335 Theatre Performance in the Community
- 709-337 Dance V

- 709-338 Dance VI
- 709-351 Directing I
- 709-352 Directing II
- 709-361 Playwriting I
- 709-362 Playwriting II
- 709-403 Seminar in Theatre Arts
- 709-404 Seminar in Theatre Arts
- 709-405 Theatre Management
- 709-423 Advanced Stage Lighting
- 709-424 Advanced Technical Practices

#### Philosophy

- 736-301 The Criticism of Values
- 736-302 History of Philosophy I
- 736-304 American Philosophy
- 736-310 Philosophy of Mind
- 736-314 History of Philosophy II
- 736-315 Philosophy of Work and Leisure
- 736-322 Aesthetics
- 736-324 Contemporary Philosophical Movements
- 736-325 Marxist Humanism
- 736-326 Philosophy, Politics and Law
- 736-404 Major Philosophic Figures
- 736-405 Major Philosophic Issues
- 736-406 Philosophical Problems in the Sciences

#### Political Science

- 778-302 Community Political Behavior
- 778-303 Elections and Voting Behavior
- 778-304 Comparative Political Systems
- 778-307 Concepts in Political Theory
- 778-320 Law, The Constitution, and American Development
- 778-350 Political Conflict and Urban Policy
- 778-360 Foundations and Problems of International Politics
- 778-363 Politics of Developing Systems
- 778-400 Intergovernmental Relations in the United States
- 778-404 American Foreign Economic and Military Policies
- 778-405 American Executive Behavior
- 778-426 American Legislative Process (U/G)
- 778-450 Political Change (U/G)
- 778-472 Parties and Pressure Groups

#### Population Dynamics

- 779-310 Introduction to Human Genetics
- 779-312 Evolutionary Processes
- 779-318 Vertebrate Reproduction
- 779-320 Introduction to Population Dynamics
- 779-330 Biological History of Wisconsin
- 779-342 Human Evolution
- 779-356 Social Demography
- 779-364 Human Variability
- 779-365 Human Resources and Economic Growth in Poor Countries
- 779-395 Biological Microtechnique
- 779-401 Agricultural Genetics and World Food Production (U/G)
- 779-402 Population Biology (U/G)
- 779-412 Principles of Parasitology (U/G)
- 779-450 Current Topics in Population Dynamics (U/G)
- 779-456 Demographic Methods (U/G)
- 779-480 Biogeography

#### Psychology

- 820-306 Psychology of Perception
- 820-309 Psychology of Motivation
- 820-320 Personnel Psychology
- 820-335 Psychology of Attitude and Public Opinion
- 820-337 Social Behavior Dynamics
- 820-338 Psychology of Learning
- 820-415 Organizational Psychology (U/G)
- 820-416 Psychology of Intergroup Relations
- 820-417 Thinking and Problem Solving
- 820-438 Group Dynamics (U/G)
- 820-450 Psychological Stress and Adaptation

#### Recreation Resources

- 827-310 Formulating and Administering Recreation Programs
- 827-315 Philosophy of Work and Leisure
- 827-320 Field Practicum

#### Regional Analysis

- 834-315 Regional Demographic Analysis
- 834-320 Introduction to Regional Analysis
- 834-321 Land Use Controls: Zoning and Sub-division Regulations
- 834-325 Human Living Space
- 834-326 Human Living Space II
- 834-331 Geo-Historical Approaches to the Environment
- 834-335 Transport Systems in Selected World Regions
- 834-340 Economics of Land Use
- 834-356 Environmental Impact Analysis
- 834-357 Field Methods in Regional Analysis
- 834-362 The Great Lakes Region of Africa
- 834-372 Analysis of the Great Lakes Region of North America
- 834-377 Analysis of Northern Lands
- 834-382 Regional Analysis of Northwestern Europe
- 834-385 Land Resources and Man
- 834-386 Land Resources and Man Laboratory
- 834-392 Regional Analysis of South Asia
- 834-395 Seminar: Transportation Systems in Wisconsin
- 834-401 Regional Economic Analysis (U/G)
- 834-412 Outdoor Recreation Resource Planning
- 834-420 Regional Planning (U/G)
- 834-421 Techniques & Methods of Regional Planning (U/G)
- 834-427 Man in Thinly Populated Regions
- 834-428 Man in Thinly Populated Regions-- Field Seminar and Research
- 834-472 Senior Seminar in Regional Analysis

#### Science and Environmental Change

- 862-302 Principles of Ecology
- 862-303 Conservation of Natural Resources
- 862-308 Ecology of Invasions

#### Science and Environmental Change

- 862-302 Principles of Ecology
- 862-303 Conservation of Natural Resources
- 862-306 Biophysics (U/G)



862-308 Ecology of Invasions  
 862-310 Plant Taxonomy  
 862-311 Plant Physiology (U/G)  
 862-312 Mycology  
 862-313 Mechanics I  
 862-314 Mechanics II  
 862-316 Mechanics of Materials  
 862-317 Electromagnetic Radiation (U/G)  
 862-318 Engineering Systems and Automatic Control  
 862-319 Industrial Pollution Control Techniques (U/G)  
 862-320 The Soil Environment  
 862-321 The Soil Environment Laboratory  
 862-322 Ecosystems Analysis I (U/G)  
 862-323 Ecosystems Analysis II (U/G)  
 862-327 Urban Technological Design  
 862-330 Hydrology  
 862-331 Introduction to Oceanography  
 862-332 Geophysical Fluid Mechanics (U/G)  
 862-342 Environmental Geology (U/G)  
 862-350 Meteorology (U/G)  
 862-351 Synoptic Meteorology Laboratory (U/G)  
 862-363 Plant and Forest Pathology (U/G)  
 862-380 Radiobiology (U/G)  
 862-395 Ecology of Fire  
 862-395 Chemical Ecology (U/G)  
 862-403 General Limnology (U/G)  
 862-412 Bio-Energetics (U/G)  
 862-414 Conventional Energy Technology (U/G)  
 862-415 Solar and Alternative Sources of Energy (U/G)  
 862-420 Soil Classification and Geography (U/G)  
 862-422 Environmental Biogeochemistry (U/G)  
 862-424 Ecosystems Analysis III  
 862-434 Water Chemistry (U/G)  
 862-445 Planning in a Simulated Environment  
 862-450 Air Pollution Chemistry and Meteorology (U/G)  
 862-460 Resource Management Strategy (U/G)  
 862-495 Mathematical Political Science

#### Social Change and Development

875-301 Action Projects in the Community  
 875-311 The Role of Punishment in Society  
 875-320 Law, The Constitution, and American Development  
 875-325 Law in Society  
 875-333 Social Change in a Selected Area  
 875-340 Woman as Worker: Problems in Employment and Unemployment  
 875-342 Women, Myth and Identity  
 875-360 Models and Social Change  
 875-361 Historical Perspectives on Social Change  
 875-365 Human Resources and Economic Growth in Poor Countries  
 875-371 Motivation and Social Change  
 875-378 Drug and Alcohol Use in Society  
 875-385 Dynamics of Revolutionary Change  
 875-390 Racism and Social Change  
 875-400 Environmental Law (U/G)  
 875-410 Science Fiction: Alternative Social Futures  
 875-415 Development, Technology and Environmental Quality  
 875-450 Schooling, Education and Social Change  
 875-460 Continuity and Change in Agrarian Societies (U/G)  
 875-470 Senior Seminar in Social Change and Development

#### Social Services

892-302 Social Service Issues: Public Welfare, Aged & Infirm, Drug Abuse, Probation & Parole, Child Welfare  
 892-303 Social Welfare Programs of the National, State and Local Governments  
 892-320 Introduction to Principles of Social Service Methods  
 892-330 Basic Concepts of the Social Services I  
 892-331 Basic Concepts of the Social Services II  
 892-350 Concepts of Group Therapy and Group Counseling  
 892-355 Theory and Practice of Human Relations Skills  
 892-360 Social Service Delivery Systems and Cultural Differences  
 892-402 Field Experience in a Social Service Agency I  
 892-403 Field Experience in a Social Service Agency II  
 892-407 Clinical Approaches to Institutional Change I  
 892-408 Clinical Approaches to Institutional Change II  
 892-410 Principles of Social Service Methods I  
 892-411 Principles of Social Service Methods II  
 892-412 Principles of Client Intervention II

#### Sociology

900-302 Social Stratification  
 900-303 Theories of Societal Development and Change  
 900-304 Deviant Behavior  
 900-307 Social Theory  
 900-311 Collective Behavior  
 900-312 Social Change  
 900-356 Social Demography  
 900-404 Criminology  
 900-405 Rural Urban Interaction  
 900-406 Comparative Social Systems  
 900-407 Complex Organizations  
 900-446 Juvenile Delinquency

#### Urban Studies

944-310 Studies in Urban Culture  
 944-311 Studies in Urban Resources  
 944-312 Studies in Urban Social Organization  
 944-313 The City Through Time and Space  
 944-325 Human Living Space I  
 944-326 Human Living Space II  
 944-330 Migration and Adaptation to an Urban Setting  
 944-335 On Aggression  
 944-336 Research on Aggression  
 944-350 The City as Habitat  
 944-351 Transportation and the City  
 944-353 Community Noise: Effects, Assessment, and Solutions (U/G)  
 944-370 Police in Modern Society  
 944-395 Advocacy Planning  
 944-414 The Self in the Urban Setting  
 944-421 Urban Planning I  
 944-422 Urban Planning II  
 944-430 Urban Aesthetics  
 944-432 Evolutionary Roots of Urban Behavior  
 944-435 Socio-Cultural Aspects of Urban Stress  
 944-440 Social Dynamics of Urban Life  
 944-444 National Issues and Community Reform

944-460 The Corporation and the City  
944-479 The Concept of Community in American  
Society

Visual Arts

|         |                                 |         |  |
|---------|---------------------------------|---------|--|
| 957-303 | Watercolor Painting             | 957-331 | Ceramics II                                  |
| 957-304 | Watercolor Painting             | 957-332 | Ceramics III                                 |
| 957-305 | Graphic Arts: Relief Printing   | 957-341 | Textiles: Fiber Construction                 |
| 957-306 | Graphic Arts: Relief Printing   | 957-342 | Textiles: Designing with Fabrics             |
| 957-307 | Graphic Arts: Intaglio Printing | 957-343 | Creative Photography II                      |
| 957-308 | Graphic Arts: Intaglio Printing | 957-351 | Art Metal and Jewelry Design I               |
| 957-311 | Painting II                     | 957-352 | Art Metal and Jewelry Design II              |
| 957-312 | Painting III                    | 957-361 | Life Drawing and Anatomy I                   |
| 957-321 | Sculpture II                    | 957-362 | Life Drawing and Anatomy II                  |
| 957-322 | Sculpture III                   | 957-409 | Materials Workshop for the Designer          |
|         |                                 | 957-410 | Materials Workshop for the Painter           |
|         |                                 | 957-411 | Materials Workshop for the Sculptor          |
|         |                                 | 957-412 | Materials Workshop for the Ceramist          |
|         |                                 | 957-413 | Materials Workshop for the Textile<br>Artist |
|         |                                 | 957-443 | Advanced Problems in Creative<br>Photography |