

1978-1979
**Graduate
Catalog**
University of Wisconsin
Green Bay

Table of Contents

General Information	3
The University	4
The Graduate Program	4
Costs and Financial Aids	5
Campus Life	6
Opportunities for Study and Support	6
Academic Information	8
Admissions	9
Degree Requirements	9
Progress Toward the Degree	11
MEAS Degree Procedures	11
Commencement Deadlines	12
MEAS Degree Procedures Chart	13
Programs of Study	14
Community Human Services	15
Environmental Administration	17
Environmental Management	19
Environmental Stressors	21
Global Ecology	22
Other Areas of Study	23
Graduate Study for Educators	23
The Kodaly Concept in Music Education	25
Arts in Society	26
Course Descriptions	27
Advising Guide	40
Upper Level Graduate Courses	44
Graduate Faculty	51
Calendar	64
For Other Information	64

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: Marge Engelman, Director, Office of Equal Opportunity, University of Wisconsin-Green Bay, Library Learning Center, Room 830, 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 studies. 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.

GRADUATE STUDY IN THE ARTS AND HUMANITIES: 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 1978-79 academic year are \$440 per semester for residents of Wisconsin and \$1317 per semester for non-residents. Part-time students are assessed a fee of \$49.25 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.

ASSISTANTSHIPS AND FINANCIAL AID

Graduate assistantships are available on a competitive basis. The Graduate Assistantships currently carry a stipend of \$3655. 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.

It is recommended that an application for an assistantship for the fall semester be filed prior to 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, two students can rent the single 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 A-1 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 plenty of 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 Sciences 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.

Recent Funded Research

UWGB faculty members are active in seeking support for research projects. A partial list

of recently funded research projects is as follows:

Thomas Erdman	\$ 1,680	"Bird Colonies of the Green Bay Region," funded by the Wisconsin Department of Natural Resources.
Thomas Hogan	6,000	Evaluation Materials for the Oneida Language Project
Per Johnsen	19,273	"Public Awareness of Water Quality," Funded by the Dept. of Health, Education and Welfare (OE).
William Kaufman	13,276	Study of Thermal Characteristics of Sleeping Bag Insulation, sponsored by Johnson Wax Associates, Inc.
V.M.G. Nair	1,412	"Chemotherapy of Dutch Elm Disease," funded by the Elm Research Institute.
Michael Troyer	9,516	"Model for Community Involvement in Decision Making," funded by the Dept. of Health, Education and Welfare, (OE).
James Wiersma	1,215	"Water Quality Monitoring," for the Brown County Solid Waste Management Board.

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)
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. 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).

2. 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.

3. 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.

4. 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.

5. 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.

Grading and Requirements for Graduation

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.

Academic Discipline

For a student who is unable to complete course requirements in the requisite period, a grade of incomplete (I) may be given at the discretion of the instructor. The work must be completed and a final grade submitted by the instructor before the end of the following semester or Summer Session.

Students must maintain a cumulative GPA of 3.0 to graduate from the MEAS Program. Students failing to do so will be placed on hold status by the Registrar's Office. The Registrar will be informed by the Graduate Office as to whether the student will be allowed to register for the following semester.

In general, graduate students follow the same academic regulations as the undergraduate students. One exception is that graduate students are not permitted to repeat a course.

Use of Special Petition

Requirements may be modified or adapted to take in 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.

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.

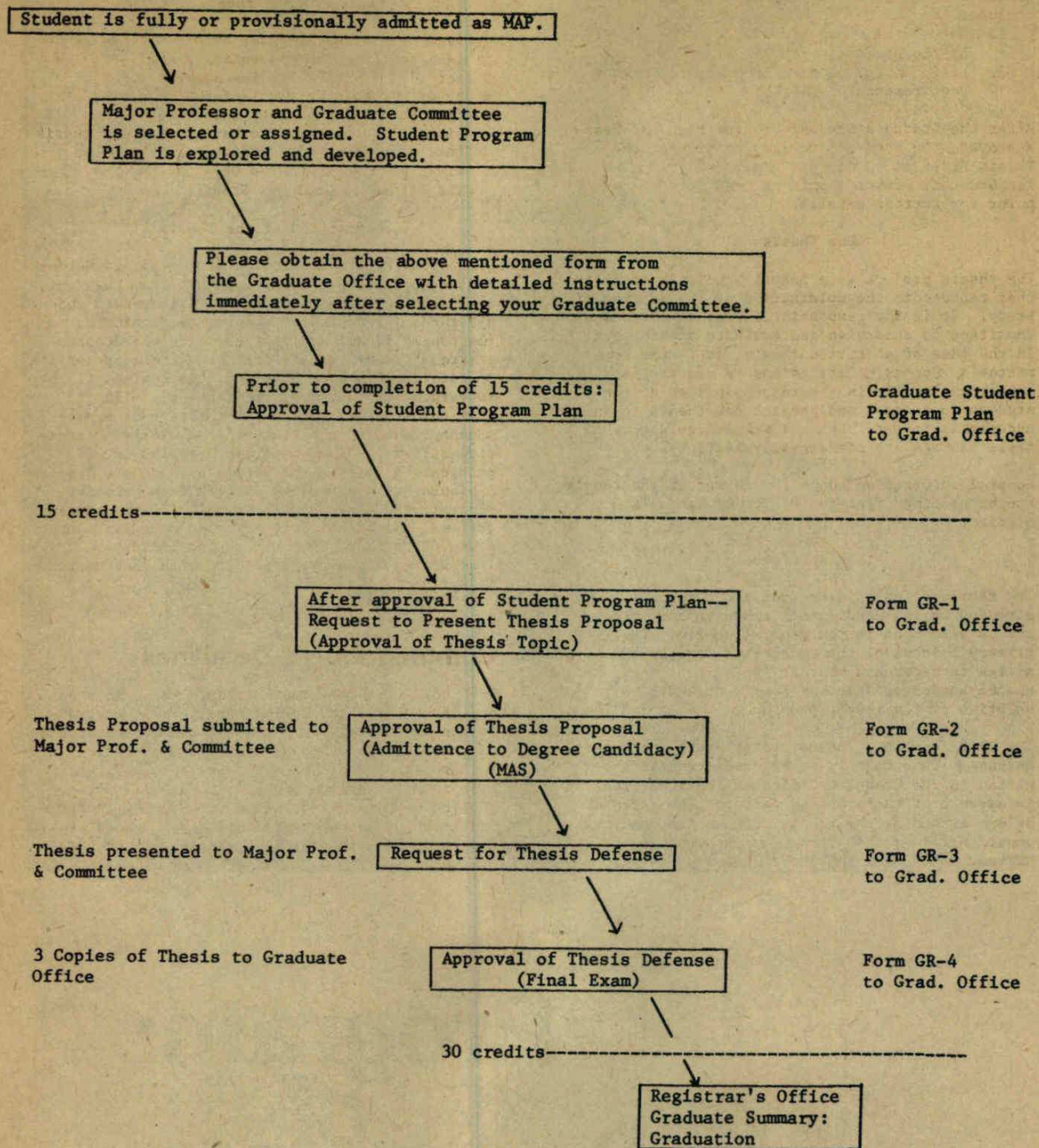
Deposition of the Thesis

Upon satisfactory conclusion of the thesis defense and an acceptable graduate summary from the Registrar's Office, the candidate is expected to supply three (3) 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 permanent record of the student's scholarly or creative activity. The third copy remains in the candidate's file in the Office of Graduate Studies. 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 should be completed prior to December 1. For spring, all requirements should be completed by the first week in May. A blue REQUEST TO GRADUATE form must be completed and turned into the Registrar's Office prior to December 1 and May 1 respectively. For August graduation, these tasks must be completed by the end of the first week of July.

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.

Community Human Services track students study principles of human systems of any kind focusing on those systems which assist, counsel, educate and serve persons, and those that integrate human service agencies. Thus, health agencies, human services planning agencies, mental health organizations, police departments, school systems, welfare agencies, community organizations, and others, receive special attention. The track concerns itself, as well, with personnel policies and issues in groups and organizations involved with a physical product or outcome such as industrial organizations, business offices and environmental programs.

Community Human Services has as its central theses:

1. that we understand human beings most fully and fruitfully when we recognize that they behave in accord with demands and influences of their organizations and environments and their perception of them; and
2. that creating, using, modifying, and integrating systems provide the most efficient and effective ways of helping persons and improving the quality of life.

Through an interdisciplinary course of study and an internship experience, students receive training in the effective and efficient delivery of human services. They study how human services function and about the interplay among these systems and the human beings who comprise, respond to, influence, and are served by them.

Career Possibilities

Career possibilities include planning, research, administration, creating new services, training, and consulting. Employment opportunities have grown in recent years and the combination of system theory, interdisciplinary training, field and administrative experience, and interventionist training available at UWGB offers the graduate a competitive advantage for these new positions over persons with more traditional training.

A student, or graduate of, this program could 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. with a mental health center, establishing a network between traditional mental health workers (psychiatrists, psychologists, and social workers) and "gatekeepers" (police, clergy, and neighborhood helpers), often involving him or herself in 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, but consulting with community groups and systems.

The track receives contributions from persons in many disciplines, both faculty and students. In this, the track takes advantage of the interdisciplinary, ecological, and problem-centered nature of UWGB's mission. In addition, community persons serve advisory and teaching functions. These include planners, business people, and political figures.

Program Requirements

Studies in Community Human Services include core courses, independent study, a seminar involving all students and faculty, an intensive internship, and a thesis. It accommodates both full and part-time students. Part-time students employed in organizations, agencies, or other such settings follow the same program except that they may use their work setting as their internship site, if approved by the student's committee.

All students must complete 16 hours of core courses (of which 13 hours are required courses), 8 hours of assigned study (most of which consist of internship), and 6 hours of thesis (most likely completed at the internship site). These 30 credit hours constitute the minimum requirement. Additional specialized course work exists and faculty expects that students will avail themselves of it.

We prefer that students begin in the fall semester. Normally, the courses in Community Human Services and Human Ecology and Public Policy (or Administrative Theory and Behavior) precede other work.

Full-Time Student Program

Following is a program for a typical full-time student doing an internship in a new setting (considerable variation in this time schedule occurs and is allowed). The number of credit hours appears in parenthesis. Asterisks denote required core courses.

Semester I (fall)

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|---------|---|------|
| 005-537 | Community Human Services
(also offered Summer Session) | (3)* |
| 005-539 | Behavioral Research Strategies | (4)* |

005-553	Administrative Theory & Behavior	(3)*
	or	
005-554	Human Ecology and Public Policy	(3)*
005-598	Assigned Study (independent study)	(3)

Semester II (spring)

005-569	Seminar in Community Human Services	(3)*
005-503	Community Organization and Planning and/or	(3)
005-565	Evaluating Social Programs and/or	(3)
005-502	Principles and Practices of Consultation and/or	(3)
005-536	The Concept of Change and Social Intervention and/or	(3)
005-553	Administrative Theory and Behavior	(3)
005-597	Internship	(5)

Summer

005-599	Thesis (Internship)	(3)
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Semester III (fall)

005-599	Thesis (Internship)	(3)
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Working Professional Program

Employed persons who want to do an internship in their employment site will, considering the time demands of full-time employment, likely enroll as part-time students. They will begin work with Community Human Services and one of the organizational-administrative courses (005-553 or 005-554). The internship may begin after completing these courses.

Regular duties do not qualify for the internship. New programs that arise from the work setting, those that connect the work setting to other settings, research projects, and new training programs are several acceptable internship possibilities. For example, a police officer might design referral and collaborative procedures between the police department and counseling agencies, monitor their effectiveness, and evaluate the results.

Additional Specializations

Specializations will be added as staffing permits. We contemplate the possibility of research and evaluation, community mental health, and community organization programs. Several of these will likely run cooperatively with other graduate program tracks, for example, Environmental Administration.

In each case, after completing the three required courses of the first semester and (or concurrent with) the seminar of the second, interested students will take relevant specialization courses. This provides a common core for all students and permits specialization. The internship would likely occur in a setting specific to the specialization.

Internship

The internship is a variable credit, supervised field placement in a community setting linked in some way to the delivery of human services. Common internship sites include human service agencies (e.g., mental health centers, counseling agencies, and alcohol treatment centers), planning organizations (e.g., United Way, health systems agencies, and community service boards), and personnel departments of local industries.

The following requirements have been established for the internship experience:

Time Requirements

1. Students are expected to spend sufficient time in their internship system to fully analyze it. This analysis must have a major written component. The number of hours spent in the system depends on the student's prior experience and the nature of the system itself. In addition, most systems will have some of their own requirements for the intern (e.g., help with research, clients, etc.) which will be part of the internship.
2. The internship must be of sufficient calendar duration for the student to have extensive contacts with a variety of persons in the organization and at the interface of the system with other organizations or systems. Such duration should permit the development of a network of expanding contacts, the observation of activities over sufficient time to perceive their development and flow, and so on.
3. While the thesis does not have to be done at the internship site, the high likelihood that this will occur increases the amount of time that may be required.
4. It is expected, therefore, that the internship will last at least six months, usually on a part-time basis.

Knowledge Requirements

Students will be expected to demonstrate, in writing, an understanding of the characteristics of the system in which they intern. Areas of examination are likely to include:

1. the power structure of the internship system;
2. the internal and external communication networks of the internship system;
3. the factors related to the system's efficiency and effectiveness;
4. the interaction of the internship system with other helping systems; and,
5. the financial and administrative management of the internship system.

The Thesis Project

All track students are required to 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 and an intervention designed to increase the effectiveness of a board of directors of a human service agency.

What the Track is Not

While there is concern with what many call "mental health," Community Human Services does not train persons to do individual and group psychotherapy, psychodiagnosis, and other traditional clinical activities. The graduate of this program will, however, have some sophistication about such activities. Many graduates will be interested in, and devote energies to mental health systems, but as planners, system analyzers and changers, and organizers, rather than as traditional helpers.

Faculty Members

Community Human Services faculty members are:

Robert A. Mendelsohn, Ph.D.; Community Human Services Coordinator; Urban Analysis, Psychology
 Ronald K. Baba, Ph.D.; Urban Analysis, Environmental Design
 H. Jack Day, Ph.D.; Science and Environmental Change
 Eric S. Knowles, Ph.D.; Urban Analysis, Psychology
 David Littig, Ph.D.; Urban Analysis, Political Science
 Nicholas P. Pollis, Ph.D.; Urban Analysis, Psychology
 Michael Troyer, Ph.D.; Managerial Systems, Economics

Other Faculty

Several community professionals regularly teach courses or run discussions. These include Weldon Mikulik, Associate Director of Planning of United Way of Brown County, and Daniel Nerad, Social Worker with the Green Bay Public School System.

Environmental Administration

Coordinator: Arthur A. Atkisson Jr., Ph.D., Professor.

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.)
 298-306 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:

005-565 Evaluating Social Programs (3 cr.)
 005-568 Multivariate Statistical Analysis (4 cr.)
 005-545 Economic Analysis of Environmental Issues (3 cr.)
 005-564 Survey of Systems Analysis (3 cr.)
 005-569 Statistical Design and Analysis of Experiments (3 cr.)
 350-460 Public Policy Analysis (3 cr.)
 575-312 Cost Accounting (3 cr.)
 600-251 Computer Science (3 cr.)*
 XXX-XXX Survey Research (3 cr.)
 862-355 Applied Mathematical Optimization (3 cr.)
 005-XXX Public Operations Research (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.)

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

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 experience.

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, 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

- 005-557 Administration of Public Systems
- 005-553 Administrative Theory and Behavior
- 005-550 Executive Decision-Making
- 350-415 Administrative Planning, Programming, and Budgeting Systems
- 350-410 Administration of Local Government I
- 350-411 Administration of Local Government II
- 575-385 Management of the Non-Profit Organization
- 778-400 Intergovernmental Relations
- 820-415 Organization Psychology
- 575-362 Principles of Personnel Management
- 575-463 Labor Legislation and Administration
- 575-336 Collective Bargaining
- 575-464 Cases in Collective Bargaining
- 005-589 Organizational and Occupational Systems
- 005-565 Evaluating Social Programs
- 005-563 The Concept of Change and Social Intervention

Quantitative Analysis and Decision-Making Group

- 005-564 Survey of Systems Analysis
- 005-556 Public Operations Research
- 005-545 Economic Analysis of Environmental Issues
- 005-569 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis

- 862-355 Applied Mathematical Optimization
- 862-460 Resource Management Strategy
- 575-312 Cost Accounting
- 600-251 Computer Science
- 575-411 Financial Information Systems
- 600-260 Elementary Statistics
- 575-316 Governmental and Institutional Accounting
- 298-402 Resource Economics Analysis
- 005-558 Problems in Environmental Administration

Public Policy and Program Planning Group

- 005-552 Environmental Policy and Administration
- 005-554 Human Ecology and Public Policy
- 005-542 Human Population Dynamics and Policy
- 005-559 Coastal Zone Management
- 005-558 Problems in Environmental Administration
- 005-587 Urban Systems I
- 005-588 Urban Systems II
- 350-460 Public Policy Analysis
- 778-426 American Legislative Process
- 350-305 Public Regulatory Process
- 662-400 Environmental Law
- 298-402 Resource Economics Analysis
- 862-460 Resource Management Strategy
- 298-306 Public Finance and Fiscal Policy
- 350-421 Planning Processes and Methods I
- 350-422 Planning Processes and Methods II
- 350-470 Capital Projects Planning and Programming
- 834-356 Environmental Impact Analysis
- 532-403 Recreation Supply and Demand Analysis
- 532-412 Regional Outdoor Recreation Planning
- 532-415 Outdoor Recreation Planning Practicum
- 005-537 Community Psychology and Mental Health

Environmental and Health Sciences Group

- 005-551 Basis of Community Health
- 005-518 Epidemiology
- 005-566 Waste Management/Resource Recovery Seminar
- 600-364 Biometrics
- 779-456 Demographic Methods
- XXX-XXX Survey Research
- 862-312 Mycology
- 204-402 Advanced Microbiology
- 779-412 Principles of Parasitology
- 694-404 Food Science
- 694-421 Community Nutrition I
- 694-422 Community Nutrition II
- 005-571 Physiological and Psychological Effects of Environmental Stresses
- 005-577 Hydrobiology
- 005-561 Global Environmental Monitoring
- 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
- 226-413 Instrumental Analysis
- 862-XXX Water Supply and Pollution Control
- 005-524 Hazardous and Toxic Materials
- 862-XXX Atmospheric Circulation Systems
- 938-353 Community Noise

Environmental Management

Coordinator: Hallett Harris, Jr., Associate Professor.

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.

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

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 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 systems and to the development of 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;

*The credits for this computer science course cannot be counted toward the MEAS degree.

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 resulting 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 wastes 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.

- 005-530 Cross Cultural Approaches
Toward Urbanization and National Development
- 005-534 Science, Structure, Money and Environmental Decision-Making
- 005-541 Land Use Institutions and Policies
- 005-544 Urban Environmental Management
- 005-547 Trends and Issues in Regional Planning
- 005-551 Basis of Community Health
- 005-552 Environmental Policy and Administration
- 005-553 Administration Theory and Behavior
- 005-554 The Urban Ecosystem I
- 005-555 The Urban Ecosystem II
- 005-556 Public Operations Research
- 005-557 Administration of Public Systems
- 005-558 Problems in Environmental Administration
- 005-559 Coastal Zone Management
- 005-565 Evaluating Social Programs
- 005-570 Scientific and Technical Communication
- 005-574 Ecology of Food Production
- 005-577 Hydrobiology
- 005-578 Epidemiology

- 005-589 Organizational and Occupational Systems
- 204-402 Advanced Microbiology
- 255-XXX Survey Research and Data Analysis
- 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
- 005-566 Waste Management and Resource Recovery Seminar
- 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
- 005-524 Hazardous and Toxic Materials
- 938/350-421 Urban Planning I
- 938/350-422 Urban Planning II

Environmental Stressors

Coordinator: Dennis A. Girard, Ph.D., Associate Professor.

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

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 regulations. Evaluation includes interpretation 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.)
005-571 Physiological and Psychological Effects of Environmental Stressors (3 cr.)

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

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: Paul E. Sager, Ph.D., Associate Professor.

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

- 005-574 Ecology of Food Production I
- 005-575 Ecology of Food Production II
- 005-576 Bioclimatology
- 005-573 World Soil Management
- 005-577 Hydrobiology
- 005-558 Coastal Zone Processes
- 005-551 Basis of Community Health
- 005-542 Human Population Dynamics and Policy
- 005-578 Epidemiology
- 005-560 Topics in Global Ecology
- 005-589 Coastal Zone Management
- 005-564 Survey of Systems Analysis
- 005-561 Global Environmental Monitoring
- 005-552 Environmental Policy and Administration
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis

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: Norris M. Sanders, Ph.D.,
Associate Professor.

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

- 005-572 Contemporary Educational Thought
- 005-583 Educational Anthropology
 - *International Comparative Education (2 semesters: one on campus, one abroad)
- 005-585 Educational Psychology
- 005-505 Education: Mindstyles and Lifestyles

Problem-Solving and Research Methodology Processes

- 005-582 Research Design and Implementation in an Educational Environment
- 005-539 Behavioral Research Strategies
- 005-532 Qualitative Research Methods
- 005-567 Statistical Design and Analysis of Experiments

Strategies for Curriculum Development and Change

- 005-584 Development of Contemporary Problem-Focused Curriculum
 - *Issues in Education Technology
- 005-586 Contemporary Innovations in Education
 - *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

- 005-520 Analysis of Contemporary Fiction
- 005-518 Introduction to Musicology and Research Methods
- 005-527 The Social Functions of the Arts I
- 005-534 Public Values and Science Policy
- 005-561 Global Environmental Monitoring
- 005-530 Cross-Cultural Approaches Towards Urbanization and National Development
- 005-531 Psychology of Work
- 005-554 Human Ecology and Public Policy
- 005-563 Mineral Resources: Geology and Economics

Specialized Studies in Education

- 005-526 Application of the Cognitive Developmental Approach to Education
- 005-595 The Teacher and the Law
- 005-581 Environmental Education: Processes and Materials
- 005-507 Outdoor Environmental Education: Philosophy and Practice
- 005-506 Mainstreaming of Exceptional Children
- 302-308 Children's Literature: Contemporary Practices in the Elementary School
- 005-595 Values and Morality in the Schools
- 005-595 Simple Gifts: Teaching the Gifted and Talented
- 005-595 Improving Teacher and Student Morale

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, Research Design and Implementation in an Educational Environment) 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

Norris M. Sanders, Ph.D.; Chairperson of Education.
 Richard A. Bruland, Ph.D.
 Lyle R. Bruss, Ph.D.; Director, School Services Bureau; Director, Facilities Planning and Management.
 Dennis L. Bryan, Ph.D.
 James W. Busch, 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; Director of International Programs; 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.

The Kodaly Concept in Music Education

Advisor: Robert J. Bauer, Professor (music) at UWGB.

Advisor: Sister Lorna Zemke, 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 UW-GB.

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 ensemble performance to meet this requirement.

Core Courses

The programs 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.
005-515	Humanistic and Artistic Resources in the Community	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	3 cr.
005-528	The Social Functions of the Arts II	3 cr.
005-582	Research Design and Implementation in an Educational Environment	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:

005-595	Folk Music Research (at Silver Lake)
005-595	Individualizing Learning
005-595	Mainstreaming the Exceptional Child
005-595	Futuristic Alternatives in Education
005-595	Reading and Study Skills in the Secondary School

005-595 Reading Disability: Reading Problems
& the Problem Reader

005-595 New Approaches to School Learning
and Discipline

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

Chairperson: Richard E. Sherrell, Ph.D.,
Professor.

Students with undergraduate preparation in literature, philosophy, history, social sciences, or in the performing or visual arts may undertake advanced study in Arts in Society. The program offers courses that assist students in the definition and clarification of cultural problems within our society and, in the thesis, develops the skills to analyze the problems and to contribute to their solution. The program particularly serves teachers and people involved in the arts and media, and all those whose intellectual interests and continuing education center on the kinds of questions posed in the Arts in Society curriculum.

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 cr.), assigned study (9-12 cr.), and thesis (6 cr.).

Core Courses: Arts in Society

005-527 The Social Functions of the Arts I
005-528 The Social Functions of the Arts II
005-532 History of Culture

These courses are required for all students and are designed to provide within a seminar format study of the theoretical and historical bases underlying the program as well as research opportunities. In addition, courses are now offered or are under development which deal with such topics as:

Qualitative Research Methods
Popular Culture
The Arts and Money/Management
Comparative Studies of the Arts in Society
Sociology of the Arts
Politics & Literature

Assigned Study

More specialized work will be undertaken in the form of undergraduate courses for graduate credit, independent study under faculty supervision, or graduate courses focusing in areas like literature or music (9-12 cr.).

Thesis

These will usually take one of the following forms:

- 1) Analysis or project work within a cultural agency such as schools, museums, community arts programs, media, etc.
- 2) A critical or historical essay dealing with the role of the arts in a particular social or political theory or setting.
- 3) The examination of works of art, schools or art, or the work of an individual artist seen within the interpretive context of social or political theory or reality.
- 4) Creative work by the student consciously produced and examined within such an interpretive context or setting.



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, and caveats of the consultative 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 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 political events, behavior in specified circumstances, etc. Customarily this leads to two-way cross classifications where the cell entries are counts of subjects, and analysis is by chi-squared. Should 3, 4 or more criteria of classification be used, analysis becomes vastly more complex. This course 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.

005-511 Perception: Models of Reality 3 cr.

A careful study of selected different perceptions of reality. Writers, painters, composers, psychologists, scientists, social 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 a degree 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.

005-513 Human Communications and the Environment

Description not available at time of printing.

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.

005-515 Humanistic and Artistic Resources in the Community

Description not available at time of printing.

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 an artist's attitude, conduct and mode of working that allows him to better fulfill his artistic function?

005-517 Experimental Workshop in Popular Communication Arts 3 cr.

In our era significant human communication comes by way of all the arts and media. The most penetrating impact upon individuals and communities is effected through television, film, radio and the theatre. This course forms a curricular base for the application of these arts and media today. It is designed to develop an experimental workshop for special projects in television, radio, film and theatre. Graduate students, selected advanced undergraduates, and mature and experienced people from the community will train and work together. The objective of this effort will be to create a nucleus of properly trained people to engage in special projects in the arts and media. Its focus, in bringing together a diversity of disciplines and student interests, will be the communication, in the most vital and interesting forms conceivable in these educational-entertainment art media, of a humanistic and socially responsible point of view on issues of profound community concern. Through the arts and media we shall seek to make a socially significant contribution to our community.

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

This course introduces students to the basic areas of musicology, the problems and concerns of each area, and the standard scholarly works and research methods in each field. Principal areas include: historical musicology, theory, aesthetics, pedagogy, physiology and psychology of music, and acoustics. A substantial background in music, particularly in basic theory and history, is required.

005-519 Cultural Seminar with Emphasis on Ethnicity and Career Education 3 cr.

A practical workshop which will produce a wide range of materials relating to ethnicity and career education in French, German, or Spanish. The materials may be prepared by individuals as a group effort and may be presented in many forms: mini-courses, individual study packets, tapes, slide presentations, etc. They will be aimed at immediate use in a classroom situation.

005-520 Analysis of Contemporary Literature 3 cr.

A course designed to acquaint students with some of the major names in contemporary poetry written in English, and to encourage students in the analysis and discussion of this body of work. A probable list of poets would include: W. B. Yeats, W. H. Auden, W. C. Williams, Theodore Roethke, Robert Lowell, John Berryman, besides a number of more recent poets, brought together in anthologies. Emphasis will be placed on historical context, analysis of text and the major differences between the American and British voices; two papers, and some creative work done by the students in the class.

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.

005-523 Criticism and Development of Scientific Thinking 3 cr.

Philosophic exploration and critique of major aspects of the theory and metatheory of formal logic. Topics covered include: development of distinct syntactic and semantic expressions of linguistic and metalinguistic aspects of an abstract language; pure logical grammar, questions of cognitive access presupposed by semantics (viz. "truth"); genetic analysis of logic and its relation to the surrounding world.

005-524 Hazardous and Toxic Materials 3 cr.

The handling, processing, and disposal of materials that 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 hazardous materials to be discussed are volatile compounds and solvents, biocides, toxic metals and non-metals, 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.

005-526 The Cognitive Developmental Approach to Educational Environment 3 cr.

The field of education is currently undergoing a revolution. New programs and innovative curricula are being developed at a tremendous rate. The challenge for teachers is to understand the underlying rationale of these programs so that they can implement them successfully with their children. Educationally valuable programs are based on psychological theories of intellectual growth, and only when teachers are armed with this theoretical knowledge will they be prepared to make significant contributions and modifications in curricula.

This course is designed for all those involved in the teaching of children (i.e., parents, teachers, aides). It will focus on the psychological theory of intellectual growth which underlies the programs referred to as the open classroom, British primary system, discovery learning, etc. Applications of the theory in the teaching of reading, science and mathematics will be presented with particular emphasis on the elementary school environment. The opportunity for reviewing existing curricula and developing new curricula will be provided.

005-527 The Social Functions of the Arts I 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

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.

005-530 Cross-Cultural Approaches Toward Urbanization and National Development 3 cr.

The purpose of the course is to explore the question as to how different cultures react to a specific theme. The theme for the course would be "Urbanization and National Development" which would be interfaced with the colonial cultures in general, and the cultures in South and Southeast Asia in particular.

The course would be comprised of two parts. Part one would be devoted to the discussion of (a) the theme and (b) the conceptual dilemmas and operational difficulties experienced in the implementation of the theme. Part two would deal with different approaches adopted in different cultures with a view to optimize the socio-economic benefits in the national context. The focus of this part would be how different cultures have capitalized on their physical environment by using the vehicle of urbanization to achieve the goal of National Development.

With a view to increase comprehension, different approaches would be illustrated with the help of case studies. Based on the analysis and deliberations of different approaches, the members of the class would be required to select one of the dilemmas for an indepth investigation.

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.

Individuals live out many of their problems in their relationship to work. Invariably maladaptive relationships are established in and to working behavior. Individual working pathologies will be discussed and methods of intervention will be presented. Research needs and possibilities will be stressed.

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. (Guest speaker will be used.)

005-532 Qualitative Research Methods 3 cr.

The course offers the student the opportunity to explore thesis topic possibilities, 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.

005-533 Comparative Socio-Political Systems

Description not available at time of printing.

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 Individual and Social Intervention 3 cr.

Individuals, groups, societies are considered to be organisms. Change is a necessary and required condition of any living organism. The rules, the sequences, the dynamics of transformation from one state to another (changes) are in some fundamental ways the same and alike for individuals, groups, and societies. There are also fundamental dissimilarities in the lawfulness of change among the three. The understanding of both the dissimilarities and similarities of change in individuals, groups, and societies is the first subject of the course.

Planned change, to be referred to as "intervention," introduced into organisms creates situations which may be congruent with, as well as antagonistic to, their functioning. The planned part, if best

may be successful; it may attain its goal. At the same time, there are unintended changes and consequences, unanticipated disturbances which very frequently accompany the best of planned changes. All planned interventions require that the purpose and the goal of the intervention be clearly stated. A theory needs to be available of which, optimally, the planned intervention is a part, or to which it can be linked. Methods of recognizing that the anticipated changes have or have not occurred must be demonstrated. Finally, methods must be available to observe the unanticipated consequences of the intervention.

Three case studies demonstrate the above discussed principles and subject areas: individual (psycho-therapy); group (group-dynamic principles and the encounter-group); society (the special legislation covering the untouchables in India and some of the consequences, intended and unintended).

005-537 Community Human Services (Formerly Community Psychology and Mental Health) 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.

This is a four-credit, laboratory course in research methods and design. The focus of this course is on the conceptual and procedural issues in research. Its aim is to provide you with 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 north-eastern 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.

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 between population processes and such 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.

005-543 Transportation Systems 3 cr.

Transportation, with annual expenditures approximating one-fifth of the nation's gross national product, is a vital factor in all phases of economic activity. Transportation modes are in an era of intense competition and advanced technological development. Fundamental changes are occurring in pricing concepts and techniques, and the nature of public policy for regulation is undergoing significant changes. The rapid development of highways, airports and airways, and waterways represents the largest public works effort ever undertaken in the United States. At the same time public attention is being made increasingly aware that the beneficial operation of transportation brings with it the social costs associated with pollution, congestion, and ecological interaction. Consequently, since the essence of the environmental problem is a recognition of this fact, broad social decisions of the future must be made relative to the environmental-sociological impacts of transportation in conjunction with those made relative to its regulatory-economic control, historical, and developmental aspects.

Accordingly, the course develops an integrative approach to the analysis of transportation problems in order that decisions

are made both more efficiently and with a broader level of understanding. Included are the study of general economic characteristics and government regulations of rail, motor, water, air, and pipeline carriers; the management of public and private transportation; the planning and coordination required for public investment in transportation systems; mass transportation; the ecological aspects in the design and operation of transportation systems; and an intensive study of critical transportation topics of current interest.

005-544 Urban Environmental Management 3 cr.

Course description not available at time of printing.

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, preferable 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.

005-549 Evaluative Research I

Description not available at time of printing.

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 Basis 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.

Constitutional, statutory, institutional, political, and economic constraints on environmental planning and management programs; principal concepts, decision elements, and activity sequences associated with development and enactment of environmental quality criteria and standards, source and area emission standards, criteria and standards for land use; principal activity sequences and inter-institutional relationships associated with above and with ongoing public regulatory processes in the field of environmental planning and management; characteristics and purposes of major U.S. national environment planning and management programs and of representative state programs.

005-553 Administrative Theory and Behavior 3 cr.

Designed in a seminar format, this graduate course involves advanced study of the structure and internal system maintenance processes of formal organizations, with an emphasis on the roles and functions of supervisors, team leaders, executives, managers, and administrators. The major theories and schools of thought in the fields of administrative behavior, organizational theory, and leadership will be examined. Seminar participants will read a variety of theoretical and empirical literature but also will selectively examine relevant biographic, historical, and fictional works.

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.

005-555 The Urban Ecosystem II

Description not available at time of printing.

005-556 Decision Models and Methods for Environmental Administration 3 cr.

Application of major environmental systems models and decision-assisting methods to representative problems associated with the planning and management of environmental quality; distinction between empiric-statistical, physical, analogue, and systems parameter models and their use in prediction of environmental change; examination of principal concepts in risk analysis, including hazard, risk, population at risk, exposure, exposure impact assessment, primary effects, secondary effects, risk-benefit analysis; application of systems analysis, least/cost and cost/benefit techniques to environmental decision problems; examines hazard analysis, exposure analysis, and risk assessment as well as environmental decision-making under conditions of risk or uncertainty; preparation of environmental impact and economic impact statements; data sources and information systems on environmental planning and management.

005-557 Administration of Public Systems 3 cr.

This graduate course focuses on development of knowledge and skill which is operationally useful in the design, evaluation and management of public service delivery systems and organizations. The course reviews the principal characteristics of public administrative institutions, processes, and service delivery systems in the United States and provides detailed examination of: the milieu of the public administrative professional; exogenous and endogenous institutional variables influencing the performance outcomes of public administrative agents; characteristics of major organizational sub-systems in the public sector. The course develops skills necessary for the effective planning and management of public service institutions and delivery systems.

005-558 Coastal Zone Processes and Resources: Problems in Environmental Administration 3 cr.

An introduction to the coastal environment as a dynamic system subject to continuous modification and change induced by natural physical forces, the effects of artificial structures, and coastal land use settlement patterns.
P: Earth Science 202 recommended.

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 biophysical 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 regional coastal zone. A broader geographical perspective of coastal environments is developed through lectures and the use of material (films and readings) acquired from other coastal states. Basic ecological concepts necessary for understanding the biophysical limitations of the coastal zone are presented; demands for resource development in coastal regions and attitudinal differences toward meeting these demands are considered; and legal and institutional frameworks are explored within the context of developing processes in the management of the coastal zone.

005-560 Topics in Global Ecology: Global Energy Systems 1 cr.

A seminary 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, and environmental quality are best observed on a global basis. The course seeks to provide knowledge of scientific monitoring systems, national and international institutions including both governmental and those from the private sector, analytical techniques of evaluation and potential use of global monitoring data in providing advanced warning of issues and problems that require resolution of problems affecting people. NOTE: The general outline of the course is developed around the publication "Global Environmental Monitoring" a report submitted to the United Nations Conference on the Human Environment, Stockholm, 1972.

005-562 Personality, Culture, and Society 3 cr.

Advanced study of approaches, concepts, models, issues, methods, and findings in the field of personality in relation to culture and social structure. Special attention will be given to the comparative (transcultural) study of psychosocial adaptations. A variety of case studies will be used to illuminate key issues, with special attention to the Menominee acculturation and personality study.

005-563 Mineral Resources: Geology and Economics

A survey of the various types of mineral resources: how they were formed, how they are exploited, and economic and political factors which affect mineral resource utilization.

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.

Programs 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 an experimental design, and evaluating 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

The generation, processing, and disposal of municipal, industrial, and agricultural waste materials; technical and economic feasibility of resource recovery.

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 expectation 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 is covered in detail, and for three-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, using desk calculators.

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 non-linear 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.
- Instruction and experience in preparing written and oral reports for both professional and general audiences: emphasis on effective and ethical communications with committees, editorial boards, members of government, etc.
- 005-571 Physiological and Psychological Aspects of Environmental Stresses 3 cr.
- Chemical stresses such as heavy metals, nitrates in drinking water and foods, nitrites as food additives, pesticides and smoking will be examined in terms of their effects upon blood biochemistry, cellular metabolism, and various organ systems, especially the nervous system where appropriate. Both effects on health and on human behavior will be considered. The role of human organ systems in adapting to these physiological stressors by detoxification, excretion or storage of contaminants will be studied with the goal of understanding principles necessary for establishing safe exposure levels and treatments for over-exposure if any. In particular dose vs. duration of exposure, sensitivity of prenatal exposure, animal vs. human responses, and acute clinical vs. chronic subclinical effects will be considered.
- Health effects of noise exposure will be studied from the perspectives of physical characteristics of noise, physiological and perceptual characteristics of hearing, and characteristics necessary to produce hearing loss in both humans and in animals.
- Crowding will be viewed in human and animal communities from the perspectives of demographic and survey data, field and observational studies, and experimental studies. Models of responses to the stress of crowding such as the personal space/territoriality model and the physiological stress/social behavior model will be studied.
- 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 World Soil Management 3 cr.
- Nature, properties, world distribution and potential productivity of major soil groups. Alternative uses for food and fiber production, waste disposal and urban development. Principles and practices for use, protection and conservation of soil resources.
- 005-574 Ecology of Food Production I 3 cr.
- See descriptive material for 005-575
- 005-575 Ecology of Food Production II 3 cr.
- This two-semester sequence integrates subject matter in the areas of food production resources and agricultural ecology. Topics to be considered include global soil resources in terms of productivity, energy and resource requirements for crop production, structure and function of the managed agricultural ecosystem, genetic improvement of crops and livestock to meet food and fiber requirements, pest and disease resistance of crops and products. The relationships among human population factors; nutritional requirements and food preference; and storage distribution and processing of agricultural products are studied. Interactions among the dynamic factors affecting food production ecology will be investigated with emphasis on optimizing production.
P: One course in ecology.
- 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.

Lectures and case histories are used to study the survival and transmission of organisms causing disease. Both plant and animal diseases are considered. Topics include: terminology, communicability of diseases, plant and animal reservoirs of disease organisms, principles of disease control, types of disease vectors, host mechanisms of disease resistance, and routes of transmission and survival factors for disease organisms. The first third of the course consists of formal presentations by the instructors and the rest is devoted to student library research, exercises, and presentations.

005-579 Seminar in Structural Ecology 3 cr.

Patterns of structure in ecological communities as determined by the complex of species interactions and environmental variables. Abundance of species, richness of species, trophic structure and species interactions, stability and organization. Impact of man's activity. Structural properties useful in the analysis of ecological effects of environmental deterioration.

005-580 Special Topics: Experiential Introduction to Helping and Communication Skills 3 cr.

Participants in this course will learn about effective utilization of themselves in a helping situation. Emphasis will be upon understanding oneself, motives, behavior, and needs as they influence our ability to relate to others in a helping session. Experiential, as well as didactic in content, students will be invited to participate in exercises and share personal feelings, experiences, and the problems of those with whom they work. In this manner, participants will have an opportunity to practice the skills they learn. This course is offered at the Blackwell Job Corps Center only.

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 Research Design and Implementation in an Educational Environment

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.

005-583 Educational Anthropology 3 cr.

The aim of this course is to develop practical applications to current educational practice based on anthropological studies of the processes of cultural transmission in our own and other societies. Insights will be generated out of close study of selected cases drawn from other societies as well as from subcultures, such as the Old Order Amish, in our own. Particular attention will be given to a special research technique called On Observing Well, which inservice teachers may apply to the solution of recurrent problems in their own classrooms. Attention will be given to both formal, institutional techniques as well as informal, noninstitutionalized methods of training values, skills, and knowledge. The course will be organized in a workshop-seminar format as well as lecture-demonstrations of technical material.

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 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, on 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 The Urban Ecosystem I

Course description not available at time of printing.

005-588 Problem Analysis and Decision Making

Course description not available at time of printing.

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
Individualizing 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 (also 302-483X-9) Identification of and Teaching Methods for the Gifted

A course for teachers and parents that will enable them to:

- (1) identify children early that have one or more of the characteristics of the Gifted and Talented
- (2) structure or establish the most beneficial learning environment for the child or children identified.

005-597 Internship

005-598 Independent Study

005-599 Thesis (1-6 credits)



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.

Environmental Science

Graduate Courses

- 005-524 Hazardous and Toxic Materials
- 005-563 Mineral Resources: Geology and Economics
- 005-570 Scientific and Technical Communications
- 005-573 World Soil Management
- 005-574 Ecology of Food Production
- 005-576 Bioclimatology
- 005-577 Hydrobiology
- 005-579 Seminar in Structural Ecology

Undergraduate/Graduate Courses

- 226-405 Electronics for Scientists
- 226-410 Inorganic Chemistry
- 226-413 Instrumental Analysis
- 226-417 Nuclear Physics and Chemistry
- 226-418 Nuclear Physics and Radiochemistry Laboratory
- 862-319 Industrial Pollution Control Techniques
- 862-322 Ecosystems Analysis I
- 862-323 Ecosystems Analysis II
- 862-342 Environmental Geology
- 862-350 Meteorology
- 862-351 Synoptic Meteorology Laboratory
- 862-363 Plant and Forest Pathology
- 862-403 General Limnology
- 862-414 Conventional Energy Technology
- 862-420 Soil Classification and Geography
- 862-433 Environmental Biogeochemistry
- 862-434 Water Chemistry
- 862-450 Air Pollution Chemistry and Meteorology
- 862-XXX Solar and Alternative Sources of Energy*
- 938-353 Community Noise: Effects, Assessment, and Solutions

Environmental Biology and Human Ecology

Graduate Courses

- 005-542 Human Population Dynamics and Policy
- 005-551 Basis of Community Health
- 005-560 Topics in Global Ecology: Global Energy Systems
- 005-561 Global Environmental Monitoring
- 005-571 Physiological and Psychological Aspects of Environmental Stressors
- 005-578 Epidemiology

Undergraduate/Graduate Courses

- 204-347 Developmental Biology
- 204-402 Advanced Microbiology
- 226-330 Biochemistry
- 226-331 Biochemistry Laboratory
- 478-402 Human Physiology
- 478-413 Neurophysiology
- 478-414 Neurophysiology Laboratory
- 694-404 Food Science
- 694-421 Community Nutrition I
- 694-422 Community Nutrition II

*Pending approval of the Academic Affairs Council.

- 694-485 Advanced Human Nutrition I
- 694-486 Advanced Human Nutrition II
- 779-402 Population Biology
- 779-412 Principles of Parasitology
- 862-380 Radiobiology
- XXX-XXX Human Histology

Quantitative Methods

Graduate Courses

- 005-504 Discrete Multivariate Statistical Analysis
- 005-539 Behavioral Research Strategies
- 005-549 Evaluative Research I
- 005-564 Survey of Systems Analysis
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis

Undergraduate/Graduate Courses

- 600-320 Linear Algebra I
- 600-321 Linear Algebra II
- 600-350 Numerical Analysis
- 600-353 Advanced Programming
- 600-355 Applied Mathematical Optimization
- 600-360 Theory of Probability
- 600-361 Theoretical Statistics
- 600-364 Biometrics
- 600-395 Introduction to Applied Graph Theory and Combinatorics
- 600-410 Complex Analysis
- 600-416 Orthogonal Functions and Partial Differential Equations
- 779-456 Demographic Methods

Arts Environment and Communications

Graduate Courses

- 005-511 Perception & Models of Reality
- 005-512 Foundations of Knowledge in the Cultural and Natural Sciences
- 005-513 Human Communications and the Environment
- 005-515 Humanistic and Artistic Resources in the Community
- 005-516 The Artist in his Community
- 005-517 Experimental Workshop in Popular Communication Arts
- 005-518 Introduction to Musicology and Research Methods
- 005-520 Analysis of Contemporary Literature
- 005-521 Literary 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
- 242-311 Criticism of the Visual Arts
- 242-462 Senior Seminar in Aesthetic Awareness

- 246-430 Mass Media and Society
 485-402 Humanistic Seminar: Defining the Quality of Life
 485-406 Humanistic Seminar: Popular, Mass, and High Culture
 552-302 Fiction Workshop
 552-303 Poetry Workshop
 552-323 Literary Criticism
 552-493 Seminar in English Literature
 552-494 Seminar in American Literature
 705-411 Musical Composition I
 705-412 Musical Composition II
 709-361 Playwriting I
 709-362 Playwriting II
 709-403 Seminar in Theater Arts I
 709-404 Seminar in Theater Arts II

Community Environments and Systems

Graduate Courses

- 005-502 Principles and Practices of Consultation
 005-502 Community Organization and Planning
 005-520 Cross-Cultural Approaches Toward Urbanization and National Development
 005-532 Qualitative Research Methods
 005-533 Comparative Socio-Political Systems
 005-536 The Concept of Change and Social Intervention
 005-537 Community Human Services
 005-543 Transportation Systems
 005-544 Urban Environmental Management
 005-555 The Urban Ecosystem II
 005-565 Evaluating Social Programs
 005-569 Seminar in Community Human Services
 005-587 The Urban Ecosystem I

Undergraduate/Graduate Courses

- 426-432 Cultural Impacts on Human Development
 426-438 Lifetime Needs and Environmental Planning
 426-439 Social and Behavioral Implications for Health Care: The Elderly
 485-474 The Native American: Emergence of Pan-Indian Culture
 662-410 Alternative Social Environments from Speculative Fiction
 900-406 Comparative Social Systems
 938-435 Socio-Cultural Aspects of Urban Stress
 938-440 Social Dynamics of Urban Life
 938-479 Concept of Community in American Society
 938-325 Human Living Space I
 938-326 Human Living Space II

Public Problems and Policies

Graduate Courses

- 005-534 Public Values and Science Policy
 005-541 Land Use Institutions and Policy
 005-546 Alternative Social and Political Futures
 005-547 Trends and Issues in Regional Planning
 005-548 Land and Society in the Third World
 005-552 Environmental Policy and Administration

Undergraduate/Graduate Courses

- 298-404 Economics of Developing Areas
 350-460 Public Policy Analysis

- 426-435 Developmental Problems and Deviations
 485-390 War, Violence, Revolution, and Society
 485-402 Humanistic Seminar: Defining the Quality of Life
 662-460 Modernization of the Peasantry and Other Marginal Societies
 736-402 Philosophical Problems in Psychology
 875-450 Schooling, Education and Social Change
 875-460 Continuity and Change in Agrarian Society

Planning Processes and Policy Analysis

Graduate Courses

- 005-541 Land Use Institutions and Policy
 005-545 Economic Analysis of Environmental Problems
 005-556 Decision Models and Methods for Environmental Administration
 005-558 Coastal Zone Processes and Resources: Problems in Environmental Administration
 005-588 Problem Analysis and Decision-Making

Undergraduate/Graduate Courses

- 298-402 Resource Economics Analysis
 350-415 Administrative Planning, Programming and Budgeting Systems
 350-421 Planning Processes and Methods I
 350-422 Planning Processes and Methods II
 350-460 Public Policy Analysis
 834-420 Regional Planning
 834-421 Methods and Techniques in Regional Planning
 862-460 Resource Management Strategy
 862-487 Vegetation Management
 938-421 Urban Planning

Environmental Design and Aesthetics

Graduate Courses

None

Undergraduate/Graduate Courses

- 938-401 Environmental Design Workshop I
 242-471 Environmental Design Workshop II
 938-402 Environmental Design Workshop III
 242-472 Environmental Design Workshop IV
 709-403 Seminar in Theater Arts
 709-404 Seminar in Theater Arts
 736-322 Aesthetics
 862-327 Urban Technological Design
 938-430 Urban Aesthetics

Organizational, Institutional, and Management Studies

Graduate Courses

- 005-553 Administrative Theory and Behavior
 005-557 Administration of Public Systems
 005-589 Organizational and Occupational Systems

Undergraduate/Graduate Courses

156-405 Anthropology of a Selected Institution
298-306 Public Finance and Fiscal Policy
298-406 Comparative Economic Systems and Institutions
350-410 Administration of Local Government
350-411 Administration of Local Government
350-415 Administrative Planning, Programming, and Budgetary Systems
350-421 Planning Processes and Methods I
350-422 Planning Processes and Methods II
350-460 Public Policy Analysis
575-385 Management of the Nonprofit Organization
575-387 Ethics and Social Issues in Business
575-405 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 Non-Business Institutions
575-443 Financial Planning and Control
575-464 Cases in Collective Bargaining
575-489 Problems of Business Management
662-400 Environmental Law
778-400 Intergovernmental Relations
778-426 American Legislation Process
778-450 Political Change
820-415 Organizational Psychology
820-438 Group Dynamics
834-401 Regional Economic Analysis

Education

Graduate Courses

302-483X Identification of and Teaching Methods for the Gifted and Talented
005-581 Environmental Education Processes and Material
005-582 Research Design and Implementation in a Educational Environment
005-583 Educational Anthropology
005-584 Development of Contemporary Problem-Focused Curricula
005-585 Educational Psychology
005-586 Contemporary Innovations in Education

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
426-429 Theories of Personality Development
426-431 Cognitive Development
426-436 Developmental Guidance with Children and Adolescents
426-431 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 judgement 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.
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. 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. It must also be signed by the chairperson of the instructor's concentration.

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 Expressive Culture
- 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
- 204-344 Vertebrate Zoology
- 204-345 Animal Behavior
- 204-347 Developmental Biology

- 204-350 Field Zoology
- 204-355 Entomology
- 204-402 Advanced Microbiology

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 Laboratory
- 226-323 Structure of Matter Laboratory
- 226-324 Advanced Physical Laboratory
- 226-330 Biochemistry
- 226-331 Biochemistry Laboratory
- 226-404 Electricity and Magnetism
- 226-405 Electronics for Scientists
- 226-410 Instrumental Analysis
- 226-417 Nuclear Physics and Radiochemistry
- 226-418 Nuclear Physics and Radiochemistry Laboratory

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
- 242-320 Communication: Extensions of Consciousness
- 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 III
- 242-405 Urban Technological Design
- 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
- 246-321 Sociolinguistics
- 246-322 Modern Linguistics
- 246-324 Psycholinguistics

- 246-325 Applied Linguistics
- 246-333 Advanced Public Speaking and Speech Composition
- 246-343 Creative Photography II
- 246-353 Practicum in Print Journalism II
- 246-402 Television and Radio Internship
- 246-403 Professional Reporting Internship
- 246-430 Mass Media and Society
- 246-443 Advanced Problems in Creative Photography

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 Gemorphic 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
- 302-319 Adolescent Literature in Secondary School Reading
- 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
- 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 & Remediation of Reading Problems
- 302-410 Introduction to the Education of Exceptional Children

- 402-411 Nature & Identification of Learning Disabilities
- 302-451 Field Experience in Environmental Education
- 302-483X Selected Topics in Education

Environmental Administration

- 350-301 Environmental Administration
- 350-305 Public Regulatory Processes
- 350-310 Administrative Leadership
- 350-401 Planning and Management of Public Systems
- 350-415 Administrative Planning, Programming, and Budgetary Systems
- 350-422 Planning Processes and Methods II
- 350-460 Public Policy Analysis

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 Geography of Tension Areas

History

- 448-302 History of American Thought & Culture
- 448-303 History of American Thought & Culture
- 448-305 History of Asian Thought & Culture
- 448-306 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

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, and Senescence
- 478-325 Biological Instrumentation
- 478-333 Biology of Outdoor Living
- 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
- 478-450 Psychological Factors in Human Adaptability

Human Development

- 426-331 Human Development I: Infancy and Early Childhood
- 426-332 Human Development II: Middle Childhood and Adolescence
- 426-333 Observation and Interpretation of Child Behavior
- 426-334 Play and Creative Activities in Childhood
- 426-335 Introduction to Experience with Young Children
- 426-336 Sex Role Development in Contemporary Society
- 426-337 Developmental Tests and Measurements
- 426-429 Theories of Personality Development
- 426-431 Cognitive Development
- 426-432 Cultural Impacts on Human Development
- 426-433 Human Development III: Adulthood and Later Maturity
- 426-435 Developmental Problems and Deviations
- 426-436 Developmental Guidance with Children and Adolescents
- 426-437 Developmental Guidance with Adults and Aged
- 426-438 Lifetime Needs and Environmental Planning
- 426-439 The Elderly: Social and Behavioral Implications for Health Care
- 426-441 History, Philosophy, and Current Programs in Early Childhood Education
- 426-442 Curriculum and Program Development in Early Childhood Education
- 426-444 Advanced Experience with Young Children
- 426-445 Community Projects in Developmental Guidance

Humanistic Studies

- 485-300 Experimental Learning Community Program
- 485-301 HCC Projects in the Community
- 485-302 Human Identity

- 485-303 Action Training Intensive
- 485-307 Other Cultures Through Humanistic Studies I
- 485-308 Other Cultures Through Humanistic Studies II
- 485-310 Criticism of the Performing Arts
- 485-311 Visions of Man
- 485-312 Visions of Man
- 485-313 Man, Machines and the Environment
- 485-315 Theories of Creativity
- 485-325 Western Christianity: Belief and Institutional Structure: From the New Testament to the Reform Era
- 485-331 Geo-Historical Approaches to the Environment
- 485-332 Art, Ideas, Society, and the Quality of Life
- 485-369 Women: Crises in Society
- 485-370 Women: Skills for Change
- 485-374 Wisconsin Indians: Historical and Cultural Perspectives
- 485-375 Wealth, Culture and Society
- 485-376 Human Contrast
- 485-390 Man's Environment of Violent Change and Revolution
- 485-402 Humanities Seminar: Defining the Quality of Life
- 485-406 Humanities Seminar: Popular, Mass, and High Culture
- 485-423 Literary Research and Criticism
- 485-429 Utopia and Antiutopia
- 485-474 The Native Americans: Emergence of Pan-Indian Cultures
- 485-494 Practica in Community Action

Leisure Sciences

- 532-302 Philosophy and Sociology of Leisure
- 532-310 Formulating and Administering Recreation Programs
- 532-315 Philosophy of Work and Leisure
- 532-320 Field Practicum
- 532-403 Water Resources Planning: Problems and Prospects
- 532-404 Public Park and Recreation Systems
- 532-410 Recreation Resource Planning in the Upper Great Lakes Region

Literature and Language

- 552-302 Fiction Writing Workshop
- 552-303 Poetry Writing Workshop
- 552-304 Advanced Expository Writing
- 552-310 Major English Drama
- 552-313 Major English Prose Fiction
- 552-314 Major English Poetry
- 552-330 Major American Drama
- 552-331 Major American Prose Fiction
- 552-332 Major American Poetry
- 552-333 Literary Themes
- 552-334 Literary Isms
- 552-335 Literary Eras
- 552-350 Major Foreign Drama
- 552-351 Major Foreign Prose Fiction
- 552-352 Major Foreign Poetry
- 552-423 Literary Research and Criticism
- 552-431 Shakespeare
- 552-434 A Major British Writer (or Writers) Exclusive of Shakespeare
- 552-435 A Major American Writer (or Writers)
- 552-493 English Seminar
- 552-494 Seminar in American Literature

Managerial Systems

- 575-305 Business Law I
- 575-306 Business Law II
- 575-312 Cost 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 Organization
- 575-386 Small Business Management
- 575-387 Ethics and Social Issues in Business
- 575-395 Practicum in Financial Statement Analysis
- 575-410 Income Tax Theory and Practice
- 575-411 Financial Information Systems
- 575-412 Auditing Standards and Procedures
- 575-422 Principles of Retailing
- 575-423 Principles of Advertising
- 575-424 Marketing Research
- 575-425 Promotional Strategy
- 575-426 Marketing Management
- 575-427 International Distribution and Marketing
- 575-428 Consumer Behavior
- 575-429 Marketing Strategies for Non-Business Institutions
- 575-442 Problems of Investment
- 575-443 Financial Planning and Control
- 575-445 International Finance
- 575-463 Labor Legislation and Administration
- 575-464 Cases in Collective Bargaining
- 575-466 International Labor Relations
- 575-485 Managerial Economics
- 575-486 Small Business Feasibility Analysis
- 575-489 Problems of Business Management
- 575-495 Budgetary Control: Theory and Practice

Mathematics

- 600-309 Systems of Ordinary Differential Equations
- 600-311 Advanced Calculus
- 600-312 Analysis I
- 600-321 Linear Algebra I
- 600-328 Introduction to Algebraic Structures
- 600-350 Numerical Analysis
- 600-351 Data Structures, Storage & Retrieval
- 600-353 Advanced Programming
- 600-360 Theory of Probability
- 600-361 Mathematical Statistics
- 600-362 Methods of Statistical Analysis
- 600-364 Biometrics
- 600-382 History of Mathematical Thought
- 600-385 College Geometry
- 600-410 Complex Analysis

- 600-416 Orthogonal Functions and Partial Differential Equations
- 600-472 Systems Simulation

Nutritional Sciences

- 694-302 Nutrition and Culture
- 694-303 Food Science
- 694-312 Quantity Food Production and Service
- 694-328 Principles of Nutritional Biochemistry
- 694-329 Nutritional Biochemistry Laboratory
- 694-421 Community Nutrition I
- 694-422 Community Nutrition II
- 694-485 Advanced Human Nutrition
- 694-486 Advanced Human Nutrition
- 694-488 Nutrition in Disease

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
- 709-341 Shakespeare and Poetic Drama
- 709-342 Shakespeare and Poetic Drama
- 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
- 778-363 Politics of Developing Systems
- 778-400 Intergovernmental Relations in the United States
- 778-403 Foundations and Problems of International Politics
- 778-404 American Foreign Economic and Military Policies
- 778-405 American Executive Behavior
- 778-426 American Legislative Process
- 778-450 Political Change
- 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
- 779-402 Population Biology
- 779-412 Principles of Parasitology
- 779-450 Current Topics in Population Dynamics
- 779-456 Demographic Methods
- 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
- 820-416 Psychology of Intergroup Relations
- 820-417 Thinking and Problem Solving
- 820-438 Group Dynamics
- 820-450 Psychological Stress and Adaptation

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
- 834-385 Land Resources and Man Laboratory
- 834-392 Regional Analysis of South Asia
- 834-395 Seminar: Transportation Systems in Wisconsin
- 834-401 Regional Economic Analysis
- 834-412 Outdoor Recreation Resource Planning
- 834-420 Regional Planning
- 834-421 Techniques & Methods of Regional Planning
- 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
- 862-306 Biophysics
- 862-308 Ecology of Invasions
- 862-310 Plant Taxonomy
- 862-311 Plant Physiology
- 862-312 Mycology
- 862-313 Mechanics I
- 862-314 Mechanics II
- 862-316 Mechanics of Materials
- 862-317 Electromagnetic Radiation
- 862-318 Engineering Systems and Automatic Control
- 862-319 Industrial Pollution Control Techniques
- 862-320 The Soil Environment
- 862-321 The Soil Environment Laboratory
- 862-322 Ecosystems Analysis I
- 862-323 Ecosystems Analysis II
- 862-327 Urban Technological Design
- 862-330 Hydrology
- 862-331 Introduction to Oceanography
- 862-332 Introduction to Geophysical Fluid Mechanics
- 862-342 Environmental Geology
- 862-350 Meteorology
- 862-351 Synoptic Meteorology Laboratory
- 862-355 Applied Mathematical Optimization
- 862-363 Plants and Forest Pathology
- 862-380 Radiobiology
- 862-395 Ecology of Fire
- 862-403 General Limnology
- 862-412 Bio-Energetics
- 862-420 Soil Classification and Geography
- 862-422 Environmental Biogeochemistry

- 862-424 Ecosystems Analysis III
- 862-434 Water Chemistry
- 862-445 Planning in a Simulated Environment
- 862-450 Air Pollution Chemistry and Meteorology
- 862-460 Resource Management Strategy
- 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
- 875-410 Alternative Social Environments from Speculative Fiction
- 875-415 Development, Technology and Environmental Quality
- 875-450 Schooling, Education and Social Change
- 875-460 Continuity and Change in Agrarian Societies
- 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

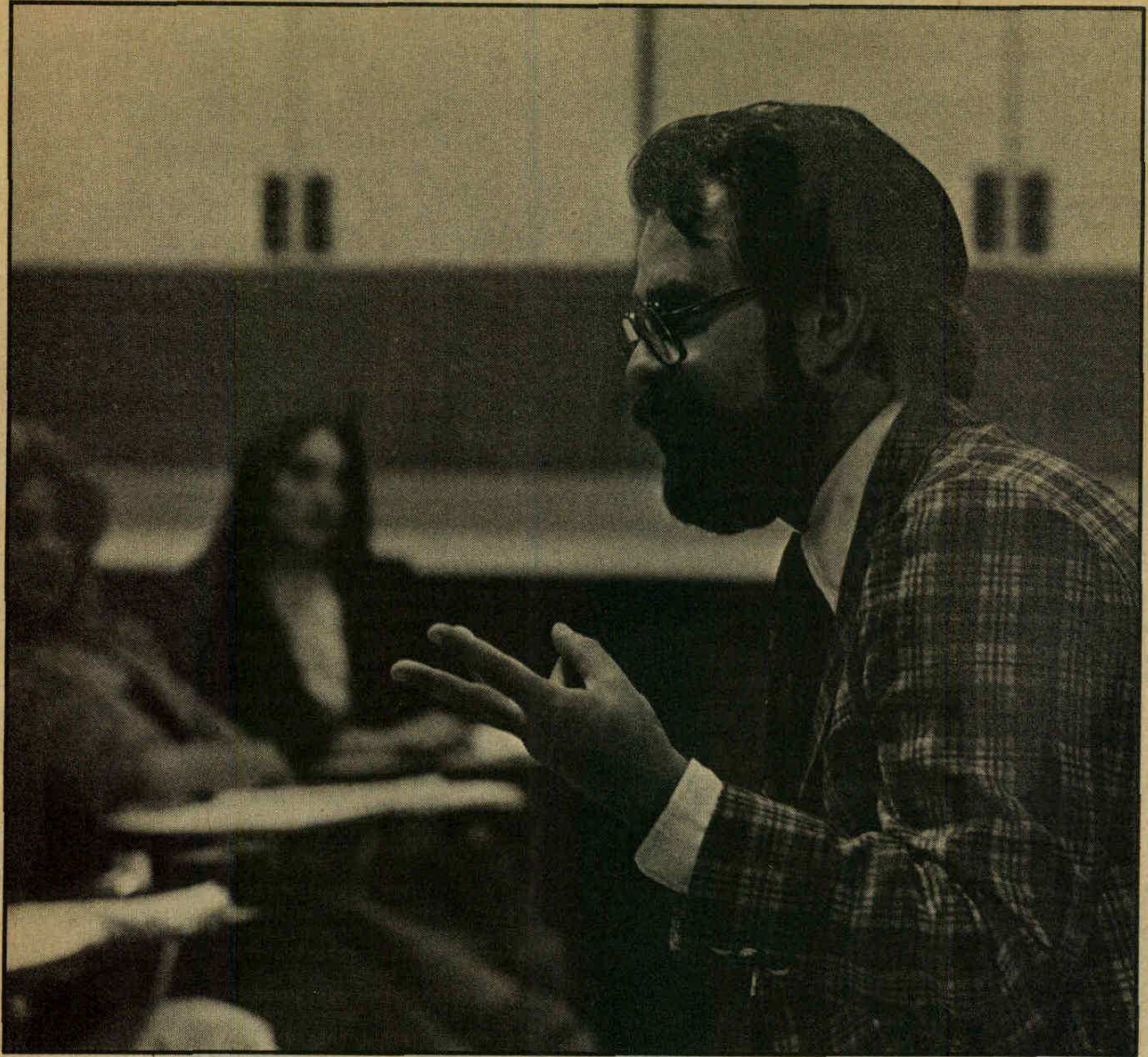
- 900-304 Deviant Behavior
- 900-307 Social Theory
- 900-311 Collective Behavior
- 900-312 Social Change
- 900-356 Social Demography
- 900-404 Criminology
- 900-405 Rural Urban Interaction
- 900-406 Comparative Social Systems
- 900-407 Complex Organizations
- 900-446 Juvenile Delinquency

Urban Studies

- 938-310 Studies in Urban Culture
- 938-311 Studies in Urban Resources
- 938-312 Studies in Urban Social Organization
- 938-313 The City Through Time and Space
- 938-325 Human Living Space I
- 938-326 Human Living Space II
- 938-330 Migration and Adaptation to an Urban Setting
- 938-335 On Aggression
- 938-336 Research on Aggression
- 938-350 The City as Habitat
- 938-351 Transportation and the City
- 938-370 Police in Modern Society
- 938-395 Advocacy Planning
- 938-414 The Self in the Urban Setting
- 938-421 Urban Planning I
- 938-422 Urban Planning II
- 938-430 Urban Aesthetics
- 938-432 Evolutionary Roots of Urban Behavior
- 938-435 Socio-Cultural Aspects of Urban Stress
- 938-440 Social Dynamics of Urban Life
- 938-444 National Issues and Community Reform
- 938-460 The Corporation and the City
- 938-479 The Concept of Community in American Society

Visual Arts

- 957-303 Watercolor Painting
- 957-304 Watercolor Painting
- 957-305 Graphic Arts: Relief Printing
- 957-306 Graphic Arts: Relief Printing
- 957-307 Graphic Arts: Intaglio Printing
- 957-308 Graphic Arts: Intaglio Printing
- 957-311 Painting II
- 957-312 Painting III
- 957-321 Sculpture II
- 957-322 Sculpture III
- 957-331 Ceramics II
- 957-332 Ceramics III
- 957-341 Textiles: Fiber Construction
- 957-342 Textiles: Fabric Applique
- 957-343 Creative Photography II
- 957-351 Art Metal and Jewelry Design I
- 957-352 Art Metal and Jewelry Design II
- 957-361 Life Drawing and Anatomy I
- 957-362 Life Drawing and Anatomy II
- 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 Artist
- 957-443 Advanced Problems in Creative Photography



Graduate Faculty

ABBOTT, Clifford E., Assistant Professor of Communication and the Arts (linguistics); B.A. (1969), Tufts; M.A., M.Phil. (1972), Ph.D. (1973), Yale.

Iroquoian languages, especially Oneida, transformational generative grammar; the derivation of infinitive complements. Modern semantic theory. Psychology of Language, perception of speech, and language acquisition. Grammatical properties of sign language.

ABRAHAM, Jerome B., Associate Professor of Communication and the Arts (music), B.M. (1957), M.M. (1965), UW-Madison.

How policy reorientations affect political-economic and structural changes in modern life. Economic and social considerations of the quality of life on national and international levels. Mythology, ideology, and rational criteria in problem formulation and policy-making. Special emphasis on themes of continuity and change in American, economic, and international history. U.S. history, diplomatic, 20th century economics.

ALBERT, Dorothea L., Assistant Professor of Communication and the Arts (performing arts: theater), B.A. (1971), Earlham College; M.F.A. (1974), Northwestern University.

Theater costume and scenic design.

ARMSTRONG, Forrest H., Associate Professor of Urban Studies (political science), and Associate Dean; B.A. (1965), Yale; M.A. (1966), Ph.D. (1970), Michigan.

- 1) The American electoral system: structure, performance, and implications; includes material relating to political parties, elections, voting behavior, and representation.
- 2) The role of the city in American life, as revealed through literature.
- 3) Models of higher education.

ATKISSON, Arthur A., Professor and Chairperson of Environmental Administration (public administration), B.S. (1958), Lewis and Clark College; D.P.A. (1973), Univ. of Southern California.

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

BABA, Ronald K., Associate Professor of Urban Studies and Environmental Design, Ph.D., University of Texas.

Social Ecology: Decision-making systems relating to the quality of the urban environment; social impact of the planning process; migration and metropolitan development in the United States. Environmental Design: impact of the designed environment on human health and well-being; creativity systems and complex problem solving.

BAKER, Bela O., Associate Professor of Social Change and Development (psychology); B.A. (1950), San Jose State; Ph.D. (1961), UC-Berkeley.

Personality assessment, especially biographical and case study techniques. Program evaluation methods. Innovations in higher education. Cultural and individual variations in temporal perspectives. Social psychology, social change, motivation and thinking.

BARGER, John E., Assistant Professor of Humanistic Studies (mathematics); B.S. (1952), Washington; M.S. (1953), UW-Madison.

Non-associative finite dimensional algebra. Rings and fields. Linear algebra with computer applications. Statistics, analysis, geometry.

BAUER, Robert J., Professor and Chairperson of Communication and the Arts, Director of Bands, (music); B.S. (1954), M.A. (1965), University of Minnesota.

Flute, bands, music education.

BREMER, Sidney H., Assistant Professor of Urban Studies; B.A. (1966), Stanford; M.A. (1967), UC-Berkeley; Ph.D. (1971), Stanford.

The development of the urban novel, especially in late-nineteenth-century America. Images of the city in America's intellectual tradition and cultural environment. Images of women in American literature. Sexual, racial, and social stereotypes as elements in social discrimination, interpersonal relations, and cognitive processes. American cultural myths of freedom, individualism, and community.

BRICKLEY, Julie R., Associate Professor of Social Change and Development; B.A. (1948), UW-Madison, M.S. (1967), UW-Milwaukee, Ph.D. (1975), Union Graduate School.

Mythology and the relationship between language and myth. Literature, philosophy, the creative process, particularly in the areas of education and writing, women's studies.

BRULAND, Richard A., Associate Professor in Education; B.A. (1958), M.A. (1963), Western Washington; Ph.D. (1970), Syracuse.

Developmental reading and reading disability at elementary and secondary levels; children's literature, graduate curriculum and research design courses.

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

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

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

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

BURNETT, William G., Assistant Professor of Communication and the Arts (performing arts: theater), B.A. (1967), UW-Madison; M.F.A. (1972), Ohio University.

Acting, directing, voice, speech.

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

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

CHAO, Winston, Assistant Professor in the School of Professional Studies--Social Services; B.A. (1971), York Univ., Toronto; M.A. (1975), Univ. of Toronto; M.S.W. (1975), Univ. of California-Berkeley.

Community organization, social service administrative sociology.

CHAVEZ, Trinidad J., Associate Professor of Communication and the Arts (music); B.M.E., Eastern New Mexico; M.M.E. (1965), Wichita State, and Director of choral activities, chairperson of Performing Arts: Music.

Choral music: methods, techniques, and literature. Conducting: instrumental and choral. Music education: secondary choral emphasis, vocal ensembles.

CHURCHILL, Thomas, Associate Professor of Humanistic Studies (literature); M.A., Ph.D., Washington.

Presently involved in writing fiction based upon research into real people and incidents. Study of the labor struggle in Centralia, Wash., 1919, led to a novel; research into the life of Lillian Leitzel Pelikan will form the basis of a novella of circus life. Also, for American Documentary Theater, researched and wrote a play concerning the Menominee people. Faculty adviser for the "Sheepshead Revue." Creative writing, fiction, literature.

CLARK, Orville W., Associate Professor of Humanistic Studies (philosophy); B.A. (1958), M.A. (1964), Oklahoma; Ph.D. (1968), Penn State.

Aesthetics and philosophy of arts. Specialty in German philosophy of 19th century. Development of 20th century thought in relation to current ecological crises.

Native American culture and the Indian view of nature.

CLIFTON, James A., Professor of Humanistic Studies (anthropology); Ph.B. (1950), Chicago; M.A. (1957), San Francisco State; Ph.D. (1960) Oregon.

Individual identity processes, cultural dynamics, innovation and diffusion, and community adaptations to a changing social-environmental universe. Cultural anthropology, ethno-history, North American Indians, personality and culture, religion, myth & folklore.

COHRS, Arthur L., Professor of Communication and the Arts (music); B.Mus. (1959), UW-Madison; M.Mus. (1961), Rochester.

Keyboard literature of all periods. Piano literature and performance practice from 1750 to present. Relationship to historical/cultural setting, music theory.

COLE, Clarence B., Assistant Professor of Communication and the Arts, (visual arts), M.F.A., (1973), University of Illinois-Urbana.

The art and technique of the intaglio print; photographic intaglio; photo-engraving; etching and lithography. Oil painting; collage, mixed media and the traditional art of Africa. African religion and philosophy. Painting, graphic arts.

CONLEY, William C., Assistant Professor of Managerial Systems; B.A. (1970), Albion College; M.A. (1971), Western Michigan; M.S.C. (1973), Univ. of Windsor; Ph.D. (1976), Univ. of Windsor.

Computer science, algebra, quantitative methods.

COOK, Robert S., Associate Professor of Science and Environmental Change (biology); B.S. (1951), UW-Stevens Point; M.S. (1958), Ph.D. (1966), UW-Madison.

Problems involving wildlife ecology, especially habitat, recreational planning, disease, ornithology and management aspects. Present research involves waterfowl, recreational land-use planning and avian migration patterns.

CRANDALL, Coryl, Associate Professor of Humanistic Studies (literature); B.A. (1956), M.A. (1960), Ph.D. (1966), Illinois.

American, English and world drama, English renaissance literature, Shakespeare, playwriting and production, humanistic study and cultural relevance.

CRONAUER, Gail A., Assistant Professor of Communication and the Arts (theater); B.A. (1971), Antioch College; M.F.A. (1973), Case Western Reserve University.

Acting, movement.

DAMKOEHLER, David L., Assistant Professor of Communication and the Arts; B.S., UW-Oshkosh; M.F.A. (1970), Kent State.

Visual arts; sculpture and design; graphics; environmental design, drawing.

DANIELS, Thomas E., Professor of Humanistic Studies (literature); B.S. (1959), M.A. (1960) Utah State; Ph.D. (1968), Washington.

Literature, history, philosophy, and general social patterns of American writers of the first half of the 20th century. Publications are mostly concerned with writers like F. Scott Fitzgerald, Thomas Wolfe and others. Concerned with criticism and the problems involved particularly with the intentional fallacy and textual-critical questions. American studies, literary criticism.

DAY, Harold Jack, Professor of Science and Environmental Change, B.S. (1952), M.S. (1953), Ph.D. (1963), UW-Madison.

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

DEESE, Dawson C., Associate Professor and Chairperson, Nutritional Sciences (chemistry); B.S. (1952), North Carolina A & T; M.S. (1954), Tuskegee; Ph.D. (1961), UW-Madison.

Biochemical problems of ecosystems in nutritional sciences, especially environmental effects on enzyme systems controlling metabolism of the macronutrients--proteins, carbohydrates and activities of nucleic acid components; nutrition education and consumerism applied to nutrition and food in developing community public health; curricular development of chemistry as applied to the nutritional problems of human beings throughout the human lifespan.

DEL COLLETTI, David G., Assistant Professor of Communication and the Arts (performing arts: theater), B.A. (1973), M.A. California State Univ. (1975).

Theater technical director and producer.

DURHAM, Norris M., Associate Professor of Human Biology, Chairperson of Anthropology and Curator of collections and exhibits (physical anthropology); B.S. (1958), West Chester State; M.A. (1967), New York; Ph.D. (1974), Pennsylvania State.

Naturalistic behavior of nonhuman primates, particularly those of South America. Ecological influences on social organization. The relationship of biology and culture. Museum technology. Animal behavior. Biological anthropology, evolutionary theory, primate behavior studies, South American culture area.

DUTCH, Steven I., Assistant Professor of Science and Environmental Change (Earth Science--geology); B.A. (1969), University of California-Berkeley, M.Phil. (1974), Columbia Univ., Ph.D. (1976), Columbia Univ.

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

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

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

FLEURANT, Kenneth J., Associate Professor of Humanistic Studies (literature and language); A.B. (1966), Holy Cross; M.A., Ph.D. (1972), Princeton. Literature as a social force. Normal and abnormal behavior from a humanistic perspective. Historical and theoretical relationship between irrationality and reasoned discourse. Creativity. Individual freedom and social responsibility. Literature and philosophy of the European Enlightenment, the Romantic era, surrealism, existentialism, and "absurdism" generally with French emphasis. French language and culture. Problems of cultural identity in Quebec. Relationship between literature, philosophy, psychology, anthropology, sociology and the nonverbal arts, especially with respect to the above issues. French-Canadian studies, comparative literature.

FRISCH, Jack E., Associate Professor of Communication and the Arts (theater; communication processes) and Chairperson of Performing Arts: Theater; B.A. (1957), M.A. (1959), Ph.D. (1965), UW-Madison.

Theater as an art form and as a means of communication. Dramatic literature/theater history of various periods, especially late 19th century and 20th century continental drama. Contemporary American group-theater work. Theater in education. Interpersonal communication, and integration of such areas in humanistic psychology with theatrical creation/performance.

GALATY, David H., Associate Professor of Humanistic Studies (history) and Chairperson of Social Services; B.A. (1964), Trinity; Ph.D. (1971), Johns Hopkins.

History of science and technology, epistemology, history of human impact on environments, implications of modern physics for other disciplines. Human values, value implications of the social services, African science. Social service theories and applications, environmental problems.

GALT, Anthony H., Associate Professor and Chairperson of Social Change and Development (anthropology); B.A. (1966), UC-Berkeley; Ph.D. (1972), UC-Riverside.

Geographic area: the European Mediterranean, especially southern Italy. Peasant society. Network theory and patron-client relationships. Cultural ecology of land tenure and inheritance patterns. Demography. Social change theory. Expressive culture--the art, music, and folklore of non-European and little tradition European peoples. Social and cultural anthropology, social change, pre-history South American and European culture areas.

GANDRE, Donald A., Professor and Chairperson of Regional Analysis (geography); B.S. (1956), Arizona State; M.S. (1961), Illinois; Ph.D. (1965), UW-Madison.

Inter-city transportation in the United States. Water transportation--Great Lakes region. Economic activities in Great Lakes region.

GARDNER, Gilbert, Assistant Professor of Social Change and Development and Chairperson of Sociology; A.B. (1969), Univ. of Missouri-St. Louis; M.A. (1971), Ph.D. (1976), Univ. of Missouri-Columbia.

Sociology, marxism, health care, development of action-oriented research methods, community action, power structure research, minority group problems.

GAWOREK, Norbert H., Associate Professor of Humanistic Studies (history) and Chairperson of History; B.A. (1959), M.A. (1964), Diploma, Russian Area Studies (1965), Ph.D. (1970), UW-Madison.

Modern European history, specialization in central and eastern Europe (emphasis on Russia and the Soviet Union) and related area studies; Soviet-Western relations, especially Soviet-U.S. economic and political relations; modernization and social systems analysis.

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

Applications of statistics in the life sciences with emphasis in the area of environmental contaminants, econometric modelling in energy demand related problems, statistical computing, stochastic modelling, complex and Fourier analysis, biometrics, multivariate statistical analysis, linear algebra analysis, graph theory.

GOEMANS, Robert C., Assistant Professor in Physical Education Program; B.S. (1957), M.S. (1959), UW-Madison.

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

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

GORDER, Lyle D., Assistant Professor of Regional Analysis (geography); B.S. (1948), M.S. (1949), UW-Madison.

The Lake Michigan shoreline in north-eastern Wisconsin, ice-age trails, coastal zone, the Netherlands, manufacturing logistics. Economics, regional geography (Europe, the Soviet Union), coastal zones, economic geography.

GRAHAM, Curtis C., Professor and Chairperson of Managerial Systems (accounting and finance); B.S. (1958), Central Missouri State University, M.A. (1964), Ph.D. (1968), Univ. of Oklahoma.

Accounting as a primary information source for management decisions involving allocation of economic resources, employee motivation, and operating controls. Research interests relate to the creation and utilization of accounting information for the

identification of problems in resource allocation, and their employment. Also business financial management, including; the management of working capital, the securing of long-term funding, and capital sources.

GREENBERG, Martin H., Associate Professor of Social Change and Development; B.A. (1962), Miami; M.A. (1965), Ph.D. (1969), Connecticut. Social Change and development in the Middle East; the international relations of the Middle East; political characteristics of the Middle East and Latin America; science fiction as a tool of analysis for the social sciences; the political philosophy of science fiction; bureaucratic and organizational behavior.

GREIF, Gary F., Associate Professor of Humanistic Studies (philosophy); B.A. (1959), M.A. (1960), Spokane; Ph.D. (1965), Toronto. Chairperson of Philosophy.

Implications for freedom in shifting conceptions of individuality in Western culture. Work and leisure as these affect the quality of human life in post-industrial society. Humanistic and behavioral psychology and their contributions to understanding and effecting significant trends in contemporary society. Social and political philosophy.

GRIFFITH, Agnes E., Assistant Professor of Human Development; A.B. (1953), Wheaton; M.S. (1956), Oregon State; Ph.D. (1969), Purdue.

Child development, observation techniques, children's play, early childhood education.

GRIMES, Bruce A., Professor of Communication and the Arts (visual arts) and Director of Intercollegiate Athletics, Intramural, Recreation, and the Physical Education Program; B.F.A. (1961), Millikin, M.F.A. (1964), Ohio.

Exhibited in over 200 national, regional, and area exhibitions. Extensive work in Raku, high-fire reduction, salt-glazing, and kiln construction, ceramics.

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

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

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

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

HARDEN, Donald F., Associate Professor of Community Sciences and Assistant Chancellor; B.A. (1956), M.A. (1961), Ph.D. (1969), Michigan State.

History, philosophy and sociology of higher education; principles of administration.

HARRIS, Hallett, Jr., Associate Professor of Science and Environmental Change; Ph.D. (1969), Iowa State, Curator of the Natural Science Collection.

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

HAVENS, Elmer A., Professor of Humanistic Studies; B.A., Cornell College; B.D., Drew; M.A., Ph.D. (1965), UW-Madison.

American literature; English literature of the 19th century.

HERRSCHER, Walter J., Associate Professor of Humanistic Studies (literature and language); B.A. (1955), Elmhurst; M.A. (1961), Northwestern; Ph.D. (1969), UW-Madison.

Modern American literature, especially the short story. American nature writing. Environmental issues in American literature. Expository writing.

HEUER, Curtis P., Assistant Professor of Communication and the Arts; B.A. (1971), Valparaiso University; M.A. (1974), M.F.A. (1978), Northern Illinois University.

HOGAN, Thomas P., Lecturer of Education; Director of Educational Testing Center; Co-Director, Wisconsin Assessment Center; B.A., John Carroll; M.A., Ph.D. (1970), Fordham.

Educational and psychological measurement. Program evaluation and research methodology.

HUGHES, Fergus P., Associate Professor of Human Development (psychology); B.A. (1968), St. John's (New York); M.A., Ph.D. (1972), Syracuse.

Intellectual development in children and adolescents. Cognitive aspects of perceptual development, particularly the development of the child's concepts of space. Intelligence and intelligence testing. Life span, human development.

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

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

IVES, Lovell G., Associate Professor of Communication and the Arts (music); B.S. (1957) UW-Stevens Point; M.M.E., Vandercook College of Music.

Arranging composition and analysis in the field of jazz and contemporary band and vocal music. Development of the jazz ensemble and improvisation techniques, trumpet.

JAECKEL, Wayne Al, Associate Professor of Communication and the Arts (performing arts: Music); B.S. (1959), UW-Stevens Point; M.M. (1961), Michigan State.

Woodwinds, jazz, music theory.

JOHNSEN, Per K., Associate Professor of Urban Studies and Chairperson of Urban Studies; B.S., Ph.D. (1971), Washington.

Psychology, environment and behavior, design and uses of outdoor recreation areas, social and behavioral consequences of design, human spatial behavior, privacy and territoriality.

JOWETT, David, Professor of Science and Environmental Change; B.Sc. (1956), University College of North Wales; Ph.D. (1959), Wales.

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

KANGAYAPPAN, Kumaraswamy, Associate Professor of Social Change and Development (economics); B.A. (1956), Madras (India); M.S. (1958), Annamalai (India), M.A., Ph.D. (1968), UW-Madison.

Economic development, social change, and poverty (national and global levels). Macroeconomic policy, monetary economics and policy and banking. Comparative economic systems.

KAUFMAN, William C., Professor of Human Biology (biology); B.A. (1948), Minnesota; M.S. (1952), Illinois; Ph.D. (1961), Washington.

Human and environmental physiology. Temperature regulation and the peripheral circulation as a thermoregulatory function. Evaluation and design of cold-weather clothing. Evolution and the origin of life, inter-relationships of science and society.

KAZAR, Michael R., Professor of Communication and the Arts (art and education) and Associate Director of Arts, UW-Extension; B.S. (1939), Milwaukee State Teachers College; M.S. (1952), UW-Madison.

Ecological and humanistic bases for art and aesthetic education; impact on teacher preparation. Problems of communication beyond the conventional systems of symbolic interaction, verbal or nonverbal. Painting; exploring all aqueous media and relationship between sympathetic and fugitive pigments and papers.

KELLOGG, Peter J., Associate Professor of Urban Studies; B.S. (1960), Davidson; M.A. (1963), Ph.D. (1971), Northwestern.

Recent United States history, Afro-American history, urban affairs, ethnicity in American life, American culture and values particularly those of urban population groups. The development of white interest in the status of black Americans and the possibilities of American reform traditions. Social and political history.

KERSTEN, Frederick I., Professor of Humanistic Studies (philosophy); B.S. (1954), Lawrence; M.A. (1959), Ph.D. (1964), the New School for Social Research.

Research and publication in the areas of phenomenology, ontology, value theory,

aesthetics, foundational problems in the social and natural sciences, the philosophy of Husserl, humanities.

KERSTEN, Raquel, Associate Professor of Humanistic Studies (literature and language); B.A. (1952), Habana; M.S., Ph.D. (1964), New York University.

Cross-Cultural communication of the culture of Spain, Latin America, and Spanish-speaking North Americans; baroque, romantic and 20th century Spanish literature.

KNOWLES, Eric S., Associate Professor of Urban Studies and Chairperson of Psychology; B.A., Antioch; Ph.D. (1971), Boston.

Psychology, social psychology, environmental psychology, personality psychology. Proxemics and social space, risk taking, perception of neighborhood. Survey design, research design, statistics. Community development and change, social influence.

KRAFT, Michael E., Assistant Professor of Public and Environmental Administration; A.B. (1966), UC-Riverside; M.A. (1967), Ph.D. (1973), Yale.

Political science, public policy, politics of population and environmental problems, congressional behavior and legislative processes.

KUEPPER, William G., Associate Professor of Regional Analysis (geography); Ph.D. (1968), UW-Madison.

Regional climatology of the tropics and subtropics; low-latitude environments with particular reference to eastern and southern Africa; effects of British colonial policy on resource utilization and development in Africa; economic and environmental implications of big game utilization, especially sport hunting. Settlements, migration.

LAATSCH, William G., Associate Professor of Regional Analysis and Chairperson of Geography; B.S. (1960), Carroll; M.S. (1966), Oklahoma; Ph.D. (1972), Alberta.

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

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

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

LARMOUTH, Donald W., Associate Professor of Communication and the Arts (linguistics); B.A. (1962), Minnesota; M.S., Ph.D. (1972), Chicago.

Sociolinguistics, particularly bilingualism and retention of immigrant languages, recovery of immigrant and native American languages, and social dialectology. Applied linguistics, especially design of programs in initial reading, English as a second language, and developmental/remedial composition. Linguistic theory, especially as related to language acquisition in children and adults.

LAUTER, Estella, Associate Professor of Communication and the Arts; B.A. (1961), Ph.D. (1966), Rochester.

Interpretation of modern poetry; inter-relationships of the arts; aesthetic experience and evaluation; myth as a symbolic form and a mode of thought; imagination as a human resource; the possibility of changing images of the human being (particularly of women); humanistic psychology (including Jung's analytical psychology). Women and the arts.

LINDEM, J. Curtis, Assistant Professor of Environmental Science and Director of Physical Plant; B.S. (1958), M.S. (1960), UW-Stout.

LITTIG, David M., Assistant Professor of Urban Studies and Chairperson of Political Science, and Co-Director of Local Government Systems Program; B.A. (1960), Indiana; M.A., Ph.D. (1974), UW-Madison.

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

LOCKARD, Craig A., Assistant Professor of Social Change and Development (history), B.A. (1964), University of Redlands; M.A. (1967), University of Hawaii (Honolulu); Ph.D. (1973), UW-Madison.

Asian and third world history, social history, Southeast and Eastern Asia history and culture area, revolutionary change, migration patterns.

LOGAN, Richard D., Associate Professor and Chairperson of Human Development (anthropology and psychology); A.B. (1965), Harvard; Ph.D. (1972), Chicago.

Cross-cultural study of human development, especially the comparative study of the socialization of high achievement in children and the cross-cultural study of cognitive development. The development of children's conceptions of social institutions. The importance of role-taking in intellectual development. Middle childhood and adolescence, personality theory, psychology of adaptation, coping and survival, psychological anthropology, African culture area.

LOOMER, Allison P., Associate Professor of Science and Environmental Change (mathematics); B.A. (1933), M.A. (1935), Acadia.

Algebra and analysis, history, geometry.

MAIER, Robert H., Professor of Science and Environmental Change and Public and Environmental Administration (soils chemistry); B.S. (1951), Miami; M.S. (1952), Ph.D. (1954), Illinois.

Development, appraisal, and/or implementation of management science techniques for improved effectiveness and efficiency in environmental administration. Chemistry of soil-plant-animal-human relationship with the environment with emphasis on food production, distribution and trace element nutrition, biochemistry, and health. Planning and management of higher education, public sector enterprises, administrative leadership, styles in public organizations.

MATTER, Charles F., Associate Professor of Urban Studies (psychology) and Associate Dean; A.B. (1966), Lycoming; Ph.D. (1972), Washington.

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

MATULIS, Anatole C., Associate Professor of Communication and the Arts; B.A., Detroit Institute of Technology; M.A., Wayne State, Ph.D. (1963), Michigan State.

Linguistics and psychology; German and Lithuanian language; Russian language.

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

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

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

Soils, agronomic systems, biogeochemical cycles, especially nitrogen, remote sensing. Agricultural land management.

MENDELSON, Robert A., Associate Professor of Urban Studies and Psychology and Coordinator of Community Human Services Track; B.A. (1954), Cornell University; M.A. (1958), Ph.D. (1963), University of Michigan.

Community psychology and community mental health; social psychology; environmental psychology; social planning; social problems, professional-community relations; police and police-social scientist interaction; social perception and interpersonal processes. Social psychology of human service delivery.

MEHRA, Anjani K., Associate Professor of Science and Environmental Change (chemistry-

physics); B.S. (1962), M.S. (1964), Allahabad (India); Ph.D. (1967), I.I.T., Kanpur (India).

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

MORAN, Joseph M., Associate Professor of Science and Environmental Change (earth science), and Chairperson of Earth Sciences; B.A. (1965), M.S. (1967), Boston; Ph.D. (1972), UW-Madison.

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

MORGAN, Michael D., Associate Professor of Science and Environmental Change and Chairperson of Biology; B.S. (1963), Butler; M.S., Ph.D. (1968), Illinois.

Relationships between climatic change and plant distribution and production. Ecological relationships during late Pleistocene. Plant phenology. Interactions between plants and air pollutants.

MORRIS, Princess, Assistant Professor of Communication and the Arts (dance), A.A. (1964), B.F.A. (1967), Stephens College (Columbia, Missouri), M.F.A. (1970), University of Oklahoma.

Dance and movement.

MURPHY, Michael W., Associate Professor of Humanistic Studies (English) and Chairperson of Literature and Language; B.A. (1960), Marquette; M.A. (1961), Ph.D. (1971), UW-Madison.

Modern English and Irish and American literature, especially James Joyce and Dylan Thomas. Literature as a reflection of historical ideas and cultural values. Development of instructional media resources and alternative educational methods.

MURRAY, James M., Professor of Regional Analysis and Secretary of the Faculty (economics), B.S. (1956), M.A. (1958), North Dakota; Ph.D. (1962), Oregon.

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

NAIR, V.M.G., Associate Professor of Science and Environmental Change (forest and plant pathology, mycology) and Director of International Programs; B.A., Madras; M.S. Aligarh; Ph.D. (1964), UW-Madison.

International quarantine and disease control programs of plant-forest tree diseases. Weedicide-Silvicide applications in the establishment of exotic tree species in developing countries and their after effects on wildlife and fishes. Host parasite interactions of vascular wilt pathogens. Electron and three-dimension electron microscopy.

NESBERG, Lloyd S., Assistant Professor of Communication and the Arts (visual arts); B.A. (1967), Nigeria; M.F.A. (1972), Illinois.

Learning theory: theoretical and applied, reproachment--behavioristic and cognitive theories, conditions for creativity. The psychology of stress: factors that produce and alleviate stress, relationship between cognition, stress and anxiety, the question of man's adaptability to his environment. The role of punishment as an instrument for social change, alternatives to punishment.

NORMAN, Jack C., Associate Professor of Science and Environmental Change (chemistry-physics); B.S. (1960), New Hampshire; Ph.D. (1965), UW-Madison.

Nuclear and radio-chemistry; environmental radioactivity. Distribution and cycling of natural and artificial radionuclides in the environment. The use of radionuclides to investigate environmental problems, especially cycling of nutrients and toxic substances.

NULL, Gilbert T., Assistant Professor of Humanistic Studies (philosophy); B.A. (1967), Santa Cruz; M.A. (1970), Ph.D. (1973), New York.

History of philosophy (western), theory of science and reality in the context of Husserlian phenomenology. Problems of contemporary epistemology, the problem of abstraction in theory construction. Metaphysics, ontology, philosophy of logic and mathematics, philosophy of natural and cultural science.

OBERBERGER, Robert W., Associate Professor of Managerial Systems; Ph.D. (1974), Louisiana State.

Consumer behavior, consumerism, marketing and nonbusiness/nonprofit institutions, marketing and its environment, marketing theory, promotional strategy, marketing management.

O'BRIEN, Dean W., Associate Professor of Communication and the Arts (mass communication); B.S. (1954), M.S., Ph.D. (1963), UW-Madison.

Public understanding of education and other professional or specialized fields. Development of alternative public media of communication, journalism.

O'GRADY, Terence J., Assistant Professor of Communication and the Arts (music); B.M. (1968), M.S. (1972), Ph.D. (1975), UW-Madison.

Special research interests involve the social function of arts in society and criticism of popular music. Music theory and history.

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

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

OSTRAND, Janice E., Assistant Professor of Communication and the Arts (art history); B.A. (1970), UW-Madison; M.A. (1972), Ph.D. (1975), University of Missouri-Columbia.

Renaissance and baroque art, particularly painting and sculpture in the areas of Belgium and Holland. Renaissance and reformation history, Italian humanism in the renaissance and reformation.

PETRAKOPOULOS, Nikitas L., Associate Professor of Science and Environmental Change (mathematics) and Chairperson of Senior Seminars; B.A. (1964), Columbia; M.S. (1966), Ph.D. (1971), New York.

Applications of mathematics to concrete models of the socio-cultural and biophysical systems. Applications of the mathematical methods in modern culture plan to the undergraduate and graduate curriculum. Interested in students who wish to learn and/or apply mathematical methods to their fields of study. Theories of physical systems in the normal, superfluid, and superconducting states. Applications of statistical mechanics to large-scale bio-physical and socio-cultural systems. Theoretical work on the Hamilton-Jacobi-Einstein equations connecting analytical dynamics, quantum mechanics and general relativity.

PFELFFER, Egbert L., Assistant Professor of Education; B.S. (1949), University of Illinois; M.S. (1968), Butler University; Ph.D. (1973), Purdue University.

Child development and family life. Origin of personality; special education (U.D.), psychology.

POLLIS, Carol A., Associate Professor of Social Change and Development (sociology); B.A. (1963), M.A. (1964), Oklahoma; Ph.D. (1968), Oklahoma State.

Intimacy, friendship, and social structure. Changing family structures in American society. Models in the analysis of collective behavior. Post-secondary alternative learning programs and social change. Sex-roles.

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

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

POWERS, John E., Associate Professor of Managerial Systems and Recreation Business Management Specialist, UW-Extension; B.S. (1951) M.S. (1965), Ph.D. (1971), UW-Madison.

Environmental, economic, and legal constraints to small business feasibility and

- management. Market determination and buyer behavior analysis for small business feasibility and management. Community and regional recreation industry development. Economic and social impact of the recreation industry.
- PRANGE, W. Werner, Professor of Creative Communication and Senior Adviser to the Chancellor; Abitur, Paedagogium Bad Godesburg; Ph.D. (1955), Bonn (Germany).
English and American philosophy and ethnology. German language and literature.
- PRESNELL, Richard W., Associate Professor of Education; B.A. (1958), M.A. (1961), Iowa; Ph.D. (1971), Cornell.
Teaching-learning communication, processes and students' environments in elementary and secondary schools. Problem-solving education. Ecological education and outdoor environmental education processes.
- PREVETTI, William F., Professor of Communication and the Arts (visual arts) and Curator of Art; B.S. (1954), UW-Milwaukee; M.S. (1958), M.F.A. (1963), UW-Madison.
Printmaking as an expressive and communicative media in satire, social commentary, and political expression as well as possibilities of illustration for the story, the poem, etc. Drawing and relief printing.
- PUM, Robert J., Associate Professor of Communication and the Arts (visual arts and art education) and Chairperson of Visual Arts; B.S. (1958), M.S. (1963), UW-Madison, Ed. D. (1971), Ball State.
Creative research in visual arts primarily in art metal: jewelry designs and techniques, and in drawing imagery with varied aesthetic awareness education and art education methodology in the public schools.
- RHYNER, Charles R., Associate Professor of Science and Environmental Change (physics), and Director of Graduate Studies; B.S. (1962), M.S. (1964), Ph.D. (1967), UW-Madison.
Applied physics including radiation dosimetry, electronic instrumentation, and acoustical noise. Primary research interest is in modelling solid waste management systems. Radiological physics.
- RAHMAAN, Anis-Ur-, Assistant Professor of Regional Analysis; B.Sc. (1951), Punjab (Pakistan); M.Sc. (1961), Illinois, Ph.D. (1976), UW-Madison.
Regional and community planning.
- RANDALL, Sterling P., Assistant Professor of Science and Environmental Change (chemistry-physics); B.S. (1948), St. Norbert; M.S. (1950), Ph.D. (1968), UW-Madison.
Energy conversion and storage, especially solar energy. Classical and statistical thermodynamics. Infra-red spectroscopy and molecular structure. High temperature chemistry. Physical and inorganic chemistry.
- REED, John F., Professor of Environmental Sciences (botany); A.B. (1933), Dartmouth; M.A. (1935), Ph.D. (1936), Duke.
Design and operation of institutions for international environmental planning and research. Plant ecology. Rocky Mountain botany. Botany-plant anatomy.
- RODESCH, Jerrold C., Associate Professor and Chairperson of Humanistic Studies (history); B.S. (1960), UW-Madison; M.A., Ph.D. (1971), Rutgers.
Intellectual and cultural history; 18th and 19th century United States; the arts and social thought. History of Wisconsin.
- ROSENBERG, Daniel M., Assistant Professor of Social Change and Development (anthropology); B.A. (1969), Goddard College; C.P.H., University of Minnesota; Ph.D. (1977), University of Minnesota.
Cultural anthropology, socio-political change, socialist societies, drugs and society, contemporary American culture, Siberian culture area.
- RUPP, George E., Professor of Humanistic Studies, and Dean for Academic Affairs; A.B. (1964), Princeton University; B.D. (1967), Yale Divinity School; Ph.D. (1971), Harvard University.
Comparative religion; Christian theology; Buddhist studies; Western intellectual history; religion and the social sciences.
- SAGER, Dorothea B., Assistant Professor of Human Biology (population dynamics) and Chairperson of Medical Technology; B.A. (1959), Lawrence; M.S. (1961), Iowa; Ph.D. (1968), UW-Madison.
Physiology of reproduction: hormonal controls. Developmental and reproductive effects of environmental contaminants. Sociological/biological factors in family planning. Reproductive physiology, zoology, embryology.
- SAGER, Paul E., Associate Professor of Science and Environmental Change (biology); B.S. (1959), Michigan; M.S. (1963), Ph.D. (1967), UW-Madison.
Ecology of aquatic communities including nutrient studies in the phytoplankton of freshwater lakes. Eutrophication of lakes. Ecological effects of nutrient enrichment and water quality deterioration. Limnology.
- SANDERS, Norris M., Associate Professor and Chairperson of Education; B.S. (1948), M.S. (1952), Ph.D. (1959), UW-Madison.
Curriculum development in public and alternative schools. Ecological education, value clarification, conceptual instruction, affective education, inquiry strategies, cognitive levels of understanding in elementary and secondary schools. Environmental design of school buildings. Assessment in education. Remodelling of teacher education. Social studies education.
- SCHWARTZ, Leander J., Associate Professor of Science and Environmental Change (biology); B.S. (1957), UW-Plattville; M.S. (1959), Ph.D. (1963), UW-Madison.
Aquatic microbiology--impact of chlorination. Recovery of useful products from organic wastes via microbial conversions. Effects of ultraviolet radiation on microbes, especially fungi. Plant physiology.

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

Physical and solid state chemistry. Gas-solid interactions. Surface studies. Industrial dust pollution control techniques. Dust return to rotary cement kilns. Industrial energy conservation by raw material and waste recycling and reclamation.

SHARIFF, Ismail, Associate Professor of Regional Analysis (economics); M.A. (1960), Ph.D. (1965), UW-Madison.

Economic development and policy. Economic developmental models of developing nations, especially India and southern Asian countries. International trade, business cycles, cooperative economic principles and descriptive methods of regional analysis, economic theory.

SHERRELL, Richard E., Professor of Communication and the Arts (theater); B.A. (1952), Pomona; B.D. (1955), Chicago; Ph.D. (1965), Claremont.

Theater history and criticism. Comparative arts. Theater and theology. Religion and myth as shapers of values and culture. Innovative higher education and institutional change, aesthetic awareness.

SIMONS, Roger A., Associate Professor of Science and Environmental Change (mathematics); B.S. (1964), UCLA; M.S. (1966), Ph.D. (1972), UC-Berkeley.

Mathematical logic. Boolean algebras of sentences of formal languages. Computational algorithms for digital computers. Mathematical and computer modelling. Gaming simulations for educational and decision-making applications. Computer applications in the undergraduate curricula, geometry.

SMITH, Larry J., Associate Professor of Social Change and Development (economics); B.S. (1966), Oklahoma State; M.A. (1969), Ph.D. (1973), Chicago.

Theory and practice of community, prospects for deurbanizing society, economic and ethical aspects of modernization, natural and human resource allocation and conservation, and the economics of the family. Agricultural economics, economic history and social change, technological innovation and adaptation. Monetary history and theory.

SMITH, William M., Professor of Regional Analysis; B.A., UCLA; M.S., Ph.D. (1964), George Washington.

Environmental psychology, social psychology, northern lands. Effects of housing and community design on human behavior, health and welfare. Effects of regional location on human well-being.

SONNENFIELD, Irwin C., Professor of Humanistic Studies (music); B.M. (1950), Stetson; M.M. (1952), Florida State; Ph.D. (1962), UW-Madison. Composition. The nature of artistic creativity and the aesthetic experience. Rela-

tionships of the aesthetic experience in the various art forms and how such experience may be understood in historical, cultural, and psychological contexts. Interdisciplinary approaches to the humanities: music, art, film and literature.

SORCE, James F., Assistant Professor of Human Development (psychology); B.S. (1970), Canisius; M.S. (1972), Denver; Ph.D. (1974), SUNY-Buffalo.

Cognitive development during infancy and early childhood, especially symbolic functioning. The effects of socio-emotional factors on cognitive functioning. Perceptual development with particular interest in the role of facial cues in developing a concept of racial awareness and in the recognition of familiar faces. Intellectual development applying cognitive theories and research in education.

SPIELMANN, Daniel J., Assistant Professor of Managerial Systems and Special Assistant to the Chancellor; B.A. (1972), J.D. (1974), UW-Madison.

Consumer protection laws in the U.S. and how they affect business organizations and transactions. Dispute resolution outside the legal system. Collective bargaining in the public sector.

STAMBLER, Peter L., Assistant Professor of Humanistic Studies; B.A. (1966), Yale; M.F.A. (1968), Carnegie-Mellon University; Ph.D. (1974), Syracuse University.

Creative writing, poetry, English renaissance literature, playwriting and theater literature.

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

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

STEVENS, Richard J., Associate Professor of Human Biology (human adaptability-neurophysiology); B.S. (1963), Rochester; M.S. (1965), Ph.D. (1969), Illinois.

Neurophysiology and biophysics. Neurophysiological and pharmacological processes in vision and vision-related behavior. Microelectrode techniques. Human pain perception, risks to fetal development from prenatal exposure to environmental chemicals, biomedical ethics, brain death and visual processing in the brain. New strategies for teaching undergraduate biology.

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

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

STOLPER, Daniel W., Assistant Professor of Managerial Systems; B.S. (1972), B.A. (1973), J.D. (1976), UW-Law School.
Law.

TASCH, Thomas J., Associate Professor of Humanistic Studies; B.F.A. (1963), Illinois; M.A. (1965), Kansas State.

Research includes metal casting using various methods including traditional and modern techniques, casting and laminating of thermo-setting resins, and the investigation of mold materials for casting both metal and plastic. Visual arts, sculpture, drawing.

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

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

THRON, E. Michael, Associate Professor of Humanistic Studies (literature); B.A. (1959), M.A., Ph.D. (1968), Nebraska.

Shakespeare, the English romantic poets, literary criticism. The relationships of authors and literary works to the political and social world.

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

Health economics and the delivery of health services, management and financial management of nonprofit organizations, human services administration, health planning, business ethics, social responsibility, and resource economics and public finance.

TRUNKHILL, Marlys R., Assistant Professor of Communication and the Arts (music); B.A. (1961), Milton College (Milton, WI); M.M. (1964), Manhattan School of Music (New York).
Voice.

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

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

WALLACH, Martha K., Associate Professor of Humanistic Studies; B.A., M.A., Ph.D. (1972), Washington.

German literature and language; intellectual culture of German-speaking countries; social and political aspects of German literature; German Romantic literature;

women's studies; cultural identity of German and Polish immigrants in the United States; Polish culture.

WALTER, Lynn E., Assistant Professor of Social Change and Development; B.A. (1967), University of Illinois (Urbana); Ph.D. (1976), UW-Madison. Social anthropology, socioeconomic organization and change, women in the third world, cultural anthropology, women studies, South American culture area.

WEIDNER, Edward W., Chancellor and Professor of Community Sciences; Ph.D. (1946), Minnesota. Problem oriented higher education. Environmental education at the university level. Innovations in higher education. The development process in various countries around the world, and its relationship to higher education.

WENGER, Robert B., Associate Professor and Chairperson of Science and Environmental Change (mathematics); B.S. (1958), Eastern Mennoite; M.A. (1962), Penn State; Ph.D. (1969), Pittsburgh.

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

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

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

WHITE, Rolfe E., Assistant Professor in Social Services; B.A. (1961), M.S.W. (1967), Case Western Reserve University; Ph.D. (1978), Laurence University, Santa Barbara, California. Group work, organizational change evaluation of services, counseling and therapy.

WIERSMA, James H., Associate Professor of Science and Environmental Change (chemistry), M.S., Ph.D. (1968), Missouri-Kansas City.

Assessment of effects of water pollutants and water pollution abatement procedures on aquatic ecosystems. Development of new analytical chemical methods with emphasis on techniques applied to environmental problems. Water chemistry.

WITHERELL, Louise R., Professor of Humanistic Studies (French); B.A. (1940), Toledo; M.A. (1941), Ph.D. (1948), UW-Madison.

Twentieth century French language and literature; Malraux, Claudel; multi-media theatrical development; French culture as contrasted with American culture; French Canada; French-Belgian heritage in Wisconsin; methods of teaching foreign languages and literature.

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

Environmental policy and administration, particularly water resource use and coastal zone management. Comparative political systems. Public policy analysis. Political theory. Urban environmental management. The political novel, policy sciences.

ZEHMS, Karl M., Associate Professor of Managerial Systems (accounting); B.S. (1964), M.B.A. (1965), Ph.D. (1970), UW-Madison.

Accounting theory with a particular emphasis on how various alternative accounting alternatives affect operating results and financial condition. Nonprofit accounting systems, particularly as contrasted with profit accounting systems.

Calendar

FALL SEMESTER	1978-79	1979-80	1980-81
Registration and new student period (or register by mail earlier)	Aug. 28-31	Aug. 27-31	Aug. 25-29
Classes begin	Sept. 5	Sept. 4	Sept. 2
Thanksgiving recess	Nov. 23-26	Nov. 22-25	Nov. 27-30
Classes end	Dec. 13	Dec. 12	Dec. 10
Final examinations	Dec. 14-20	Dec. 13-19	Dec. 11-17
Commencement	Dec. 17	Dec. 16	Dec. 14
Holiday recess	Dec. 21-Jan. 1	Dec. 20-Jan. 2	Dec. 18-Jan. 4
 JANUARY INTERIM PERIOD			
Begins	Jan. 2	Jan. 7	Jan. 5
Ends	Jan. 26	Feb. 1	Jan. 30
 SPRING SEMESTER			
Registration and new student period (or register by mail earlier)	Jan. 22-25	Jan. 30-Feb. 1	Jan 28-30
Winter recess	Jan. 27-Feb. 4	Feb. 2-10	Jan. 31-Feb. 8
Classes begin	Feb. 5	Feb. 11	Feb. 9
Spring recess	Apr. 14-22	Apr. 5-13	Apr. 18-26
Classes end	May 18	May 23	May 22
Final examinations	May 21-26	May 27-31	May 25-30
Commencement	May 19	May 24	May 23
 SUMMER SESSION			
Registration and new student period (or register by mail earlier)	June 7-8	June 12-13	June 11-12
Classes begin	June 11	June 16	June 15
Independence Day (holiday)	July 4	July 4	July 4
Classes end (finals)	Aug. 3	Aug. 8	Aug. 7

For Other Information

(Area Code for all numbers is 414)

Graduate Office Charles R. Rhyner, Director	465-2484	Academic Advising Office Paul Hensen, Coordinator	465-2362
Admissions & Orientation Myron Van de Ven, Director	465-2111	Student Housing Off-Campus On-Campus: Bay Apartments	465-2400 465-0374
Dean of Students Gerald H. Olson	465-2152	Student Life Programs Richard Christie, Director	465-2400
Financial Aids Office Myron Van de Ven, Director	465-2075	Student Development Office Dick Jansen, Director	465-2343
Registrar's Office Ronald Dhuey, Registrar	465-2055	UWGB Information Center	465-2293

For offices not listed, please call the University operator at 465-2121.